

Lakeland Crews Capitalize on Smart Repairs

by Keith Gribbins

Finding an economical route to repair is a priority for cities like Lakeland, Fla. Being attentive to how and where city funds are implemented can lead to smart choices that save money and often create superior results.



Lakeland, Fla., city crews, from the left Drew Adcock, Horace Taylor, Thomas Bryson, George Bennefield and Nelson Ramirez, have been completing spot repairs since May 2000.

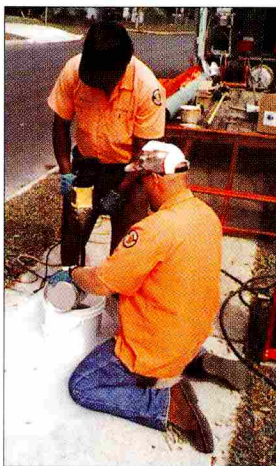
So when Lakeland began to re-evaluate its sewer systems in 1995, initiating the city's Accelerated Sewer Rehab Program, smart choices became a city initiative. Employing the help of Infrastructure Repair Systems Inc., out of St. Petersburg, Fla., water utilities officials utilized the company's patented point repair system as one of their rehab options to help trenchlessly rehabilitate their aging infrastructure.

"Overflows and high wet weather flows were part of the driving forces for our rehab program. Through completion of 60 percent of the systematic cleaning and televising of the sewer system, we've identified \$14.4 million in work that needs to be done," explained Alan O'steen, manager of wastewater collection for the city.

"We have been doing insitu-point spot repair since 1996, prior to May of 2000, contractors were used to complete the work," O'steen added.

"But after seeing a presentation using repair kits for spot repairs, we developed a pilot program to evaluate the cost and found that it was more economical to go in-house versus having to outsource it to a contractor."

Since May 2000, Lakeland has been using its own crews to deal with point repairs, saving the city money and ensuring the reliability and structural integrity of the municipality's sewer systems without digging up streets. Lakeland crews have completed 162 repairs using the repair kits, compared to the 59 spot repairs that were installed by contractors between 1996 and 1999.



The Infrastructure Repair Systems Inc. repair kit consists of a fiberglass/polyester liner mixed with epoxy.

Upon completion of certification training, the city has adopted Infrastructure Repair Systems' Infrastructure Point Repair System as their standard for insitu repair systems.

With the ability to insert a short liner at a specific section of the host pipe, this new technology, according to company representatives, gives the city the choice to simply reline the area that needs repair instead of relining an entire pipe section via a manhole-to-manhole or open-cut application.

"Cities have more options. Historically, you could dig up a piece of pipe or use manhole-to-manhole lining. This gives them a third



Using spot repair, crews are able to work in a small site area and reduce disruption associated with open-cut.

option for short sectional repair. We think cities need to look at their systems and best select the process that works for their particular project," said Bill Higman, president of Infrastructure Repair Systems.

The liner, constructed using fiberglass, a highly absorbent felt and a protective mesh, combined with a resin, yields a structural repair for damaged, cracked or broken gravity flow systems.

The installation entails first the cleaning and inspecting of the pipeline to be repaired. Next a cured epoxy must be mixed from two components. Once mixing is



After cleaning and inspecting the pipe, the liners are lowered into a manhole and pulled into place.

complete, crews impregnate the fiberglass/polyester liner with sufficient epoxy to compensate for the migration of the epoxy into the defects in the pipe. This migration of the epoxy will effectively prevent the intrusion of water and soil while retaining its integrity.

The system is formulated to provide a 20-minute window for installation, although O'steen said

his crews generally get the liner into place in about seven minutes after wet-out of the liner. Once placed, it takes about two hours to cure.

O'steen stated that the entire process is pretty simple, and the kit format that the repair patches come in contain everything needed down to the gloves and overalls the workers need to protect themselves.

"This system includes everything you need to install a product package with the exception of a carrier TV system and a vac truck. The nice part about our program is that everything needed to complete the project as far as protecting the ground, people or utilizing the products is there. And at the end of it, you can wrap it up, put in back in the box and dispose of it," said Higman.

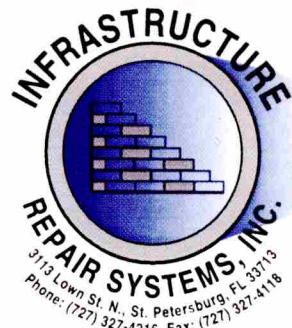
The central benefit of the point repair system is cost. "Putting in the patches thus far, we've saved in the neighborhood of \$170,000 by doing it in-house," stated O'steen.

Other benefits included in the application are the variety of diameters and lengths with which the kits can be used, its durability and the fact that it is environmentally friendly.

"There is no annular space between the host pipe and the new pipe and you have no water infiltration. The product is chemical resistant, so there is no deterioration from the normal products in the sewer system. It's also responsible for structural repair because of the fiberglass in the product. It basically makes a new pipe within a pipe," explained Higman.

Lakeland has a four-person crew that was certified through Infrastructure Repair Systems in a week-long program that included classwork and in-the-field training. The capital cost to start the program was recovered within the first few months of installations, stated O'steen.

Keith Gribbins is assistant editor for Trenchless Technology.



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