



## Sewer spelunkers

A New Jersey maintenance team saves taxpayers \$80,000 a year by bringing inspection in-house.

The 80 miles of sewer line serving North Bergen Township, N.J., runs through terrain that's second only to San Francisco in terms of peaks and valleys. And that terrain is dense: 60,000 residents rub elbows in an area that measures just 5.6 square miles.

For several decades the township's public works department outsourced the inspection of these pipes, some of which date to the 1880s and lie up to 20 feet underground. Its four-person maintenance crew would then fix sags, cracks, and other potential failures based on data gathered and provided by the contractor. All four crew members were on call 24 hours a day, seven days a week.

Since the advent of video inspection 25 years ago, prices have dropped and the technology has become easier to manage. The department decided it was time to save the township money by inspecting and repairing the sewers with in-house resources.

The department bought a 2006 GMC Workhorse truck retrofitted to support the ROVVER 125 robotic, steerable pipeline crawler with forward-view capability and portable QuickView zoom camera. Both machines are made by Randolph, N.J.-based EnviroSight LLC.

At 12 inches in length, the 125 was the first steerable crawler on the market to inspect pipes from 6 to 60 inches in diameter, ideal for navigating the steep twists and turns of North Bergen Township's 8- to 24-inch-diameter pipes. As the crawler moves, its reel automatically feeds or retracts cable.

The QuickZoom camera, on the other hand, allows crew members to inspect sewers without having to insert anything—either themselves or the crawler—into the slick, slimy pipes. A crew member lowers the portable camera into manholes from street level and can see at a glance whether or not a pipe needs a full cleaning or closer inspection.

Due to heavy traffic on many streets, the crew inspects most pipelines and manholes at night. Most inspections can be completed in about half an hour. With the in-house equipment, inspections can be done on an as-needed basis, rather than having to work around an outside contractor's schedule. Additionally, several inspections can be performed each week, as opposed to once or twice a month with outsiders.

After the inspection, the crew archives the footage using EnviroSight's WinCan V7 software for the staff of nearby Boswell McClave Engineering to review. The software allows engineers to sort flaws by location, type, or severity. Disc and VHS copies of the inspections can be made for others to review.

"We were aiming for self-sufficiency, cost savings, better performance, and the ability to respond quickly and efficiently in emergency situations," says North Bergen commissioner Frank Gargiulo. "With the new crawler, inspection truck, and commitment from our staff, the township residents and officials couldn't be happier."

The public works department has proven that, with the proper equipment, its employees can handle sewer inspections and emergen-

cies without turning to outside contractors. While the crew is still on 24-hour call, the in-house gear minimizes delays in performing inspections and making repairs. Therefore, the township is better able to comply with state environmental regulations, and standard practices recommended by other agencies. The sewer crew's job is much easier, and the township is getting more work completed more efficiently at a lower cost to taxpayers.

"Our biggest problem lately was coming face to face with a rabid raccoon," says 19-year employee Greg Longo. **PW**

— Richard Lindner is president of Randolph, N.J.-based EnviroSight LLC.



The sewer crew of North Bergen Township, N.J., upgraded their video-inspection equipment by adding a tilt/pan zoom camera, giving them even more flexibility and latitude. Photo: EnviroSight LLC