

By Clare Pierson

Finding the Silver Lining

L.A. County finds that a PVC grade pipe liner meets its needs and has 'green' advantages

The L.A. County Department of Public Works (DPW) maintains 5,000 miles of sewer pipe that serves roughly 2.5 million people. Within the past decade, California has enacted a waste discharge permit for sewer owners and operators that requires a proactive management of their collection and distribution systems. This has made it more imperative for the county to maintain its pipes properly, spending about \$2.5 million per year.

Pipe Rehab

In the mid-1980s, the DPW started a survey of all of its collection systems' pipes. The survey found that it had 130 miles of cement pipe sewer that was showing the effects of hydrogen sulfide and deterioration. The department immediately began to prepare an extensive program to rehabilitate its pipes.

The DPW began experimenting with lining in the form of cured-in-place pipe (CIPP) and fold-and-form pipe in 1987. "This kind of pipe performed well, and we had no significant issues with it, other than the sewer flow had to have been temporarily diverted during installation," said Keith Lehto, P.E., sewer and maintenance division, L.A. County.

In 2000, the county came across the company RePipe—now called Inland Pipe Rehabilitation (IPR)—that manufactured a product called RibLoc. IPR encouraged the county to use the product after demonstrating its advantages, put the lowest bid down and won the contract with the DPW.

The RibLoc Expanda system is a structural liner made from pipe grade PVC; fits diameters from 150 to 750 mm; and is made for gravity-flow sanitary sewer and storm water pipelines. When installing it, there is no sewer bypass necessary and multiple pipes can be lined in one day, said Mark Neumann, project manager at RePipe/IPR. Neumann said the product is ideal because its installation uses a small working area, low odor levels and little noise.

IPR considers its product green because it lacks any resins or chemicals inherent with other CIPP methods. It lessens the diameter of the pipe after lining; however, because of its smooth surface, there is less friction loss and the pipe can then hold the same amount of flow with a smaller diameter.

"Lining sewer pipe in general saves the cost of having to open up the street," Lehto said. "It's more convenient to the public because there are no big detours and we can get it done a lot faster. We also have not seen any deterioration with the liner that's been installed, and we assume it will have the same shelf life as the clay pipe, which is 50 years."

Overview

Since 2000, 90% of L.A. County's sewer pipe rehab—roughly 60 miles—has been done with RibLoc. Eighty percent of the pipes being rehabbed have a 6-in. diameter; only a few areas of the county's system use 10-, 12- and 15-in. diameter pipe.

"We have been doing about five to six lining projects per year," Lehto said. "We are also televising our pipes and finding cracked and clay pipe that we are lining as well."

The biggest challenge for municipalities in doing pipe rehabilitation is usually funding. L.A. County charges a sewer fee to all of its customers, which usually covers the bill for the year's various projects.

"There is more quality control with RibLoc because the pipe is manufactured at a plant and comes to you on a roll," Lehto said. "There is more potential for errors and more risk with CIPP. With RibLoc, there is no shrinkage and no movement of the pipe." wwd

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ARTICLE SUMMARY

Challenge: County collection system surveys showed pipe damage and deterioration. The DPW needed to launch an extensive rehabilitation program.

Solution: DPW staff contracted with IPR to utilize the RibLoc Expanda system, a structural liner made from pipe grade PVC.

Conclusion: Funded by user sewer fees, L.A. County conducts an average of five or six lining projects annually and televises its pipes.

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