

# Water & Wastewater NEWS

## Case Study: Seawall System Used to Retain Earthen Walls

By [Michael Kennedy](#) Sep 03, 2009



Ten-foot assembled sections of Truline, a cast-in-place modular wall system, are being set in place to prevent soil erosion.

When the [Pima County Regional Flood Control District](#) in Tucson, Ariz., experienced the collapse of a 410-foot protection wall following severe flooding in 2007, staff began researching alternative methods of earth-to-earth retention.

Soil had receded from the bank line in Canada del Oro Wash so much that a 6-foot deep tow had degraded to a mere 18 inches, causing the collapse. With 4.5 feet of scour, staff members knew they would have problems containing the soil during the next rainy season.

A similar situation existed in another area the year before and replacement of that wall cost \$800,000. The district, which is responsible for minimizing flood and erosion damages for residents, property, and infrastructure, needed to find a viable alternative that cost less.

While researching retention walls and sheet piling on the Internet, one of the district's project managers discovered a cast-in-place modular seawall system that combines the strength of concrete with the durability of vinyl. "While Truline was developed as an earth-to-water product, we felt there was no reason the product couldn't adapt to an earth-to-earth application," Todd Hoffman, general manager of the company, told the district.

According to reports from the Pima County, the solution minimized the need for heavy equipment and a large crew. The 5-person crew dug a trench and then drove 10-foot sheets rigged for installation in 10-inch-wide sections. The product's u-channel shape allowed the crew to pour concrete directly into place. The job, which began Feb. 27, 2008, took about three weeks from start to completion, according to Chris Albright of KE&G Construction.

The solution, which came in at 25 percent of the cost of the other wall repair method, allowed the district to maintain the footprint of the existing bank protection. And, because the solution is less invasive than other repair techniques, environmental permitting for the job was much simpler, according to the district.

In response to a question about how the structure is holding up, Albright said that there has been some rain but no serious [flooding](#) to test it. Otherwise, the solution is intact.

### About the Author

Michael Kennedy, president of MKA Marketing, serves as a consultant to several firms, including Truline. He can be reached at 239.514.7067.

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