Patterson & Wilder And Michels Team Up To Complete Record HDD Crossing

On May 6, 2006, Patterson & Wilder Construction Co., Inc. of Birmingham, AL, and their subcontractor, Michels Directional Crossings of Brownsville, WI, successfully completed a record 8,400-foot horizontal directional drill of Choctawhatchee Bay for the Okaloosa Gas District in South Florida.

The bay crossing is an integral part of Phase I of the 22.8 mile Walton County pipeline expansion project, which will provide natural gas services to Freeport, FL and surrounding areas. As proposed and installed by Patterson & Wilder and Michels, this drill set a record for an HDD without an intersect in the middle. The drill was designed by Patterson & Wilder and Michels to eliminate any possible environmental disturbances to the delicate bay ecosystem.

Patterson & Wilder prepared temporary work areas for Michels to set up their drilling rigs on the south and north sides of the bay. Due to the narrow right-of-way space available along the causeway, the high volume of fast moving highway traffic, and the proximity to the Bay Bridge, concrete barriers and crash barrels were needed to provide a safe work space. The drill pipe was to be strung on the north side of the bay, but a second, yet significantly smaller, bridge crossing complicated the limited work space. Patterson & Wilder crews had to string three separate 2,800 foot sections of 10-inch diameter, 0.365-inch wall steel pipe. The sections were then welded, visually inspected, x-rayed, and coated to ensure the integrity of the line before being installed.

Patterson & Wilder also successfully completed an eight-hour pre-test of the line to 2,950 psig.

Unique intersect

To complete the intersect, Michels mobilized 15 employees and placed a 1.2 million lb rig on the south side of the bay and a 220,000 lb rig on the north side of the bay. After four days of concurrent drilling from both sides of the bridge, Michels precisely hit one end of the pilot hole with the other pilot hole bit without any redundant overlap drilling required, a feat not previously achieved.

The project proved to be almost a textbook case. An exception was when the south side drill string became stuck and the north side rig was used to push across and assist in freeing the string. This resourceful solution saved valuable time and a potentially catastrophic loss of tools.

Michels was also able to maintain drilling fluid circulation over the entire length of the drill, another achievement unprecedented in drills of this length.

Pipe pullback

The day of the pipe pullback, Patterson & Wilder provided a 15-man support crew to guide the drill strings into the pilot hole and complete the final welding and coating. After 16 continuous hours, the 8,400 feet of pipe was successfully installed. ■