Zebra Mussel Problem Resolved With Pipeline Solution

The North Texas Municipal Water District uses water from Lake Texoma to serve its 1.6 million residents. In the midst of a drought and population boom in 2009, the district was forced by federal regulation (the Lacey Act of 1900) to stop its pumping operations after zebra mussels, an invasive species, were discovered in the Red River Basin.

In September 2011, the district hired Freese and Nichols to research alternative ways to access its raw water capacity in Lake Texoma. The $305-million pipeline project from the Lake Texoma outfall was chosen as the most feasible means to deliver water directly to the Wylie Water Treatment Plant, allowing any present zebra mussels to be eradicated during the treatment process.

The project team chose the program through the construction manager at risk (CMAR) project delivery method to expedite delivery. Garney Construction was selected in January 2012 and was responsible for project oversight, management and scheduling, as well as portions of the construction. "By implementing design requirements balanced by operational efficiency and budgetary requirements, the CMAR delivery method provides the operating entity with the best overall product," says David Burkhart, senior project manager with Garney.

The project was taken from concept to delivery in less than 26 months, including design and construction phases. It included 253,500 linear ft of 96-in. and 84-in. steel pipe, and 6,000 linear ft of 108-in. to 126-in. hand-mined liner plate tunnels. ■

Pipeline connecting structures at the Wylie Water Treatment Plant include a 240-million-gallon balancing reservoir, five ground storage tanks, new metering vaults, blending structures (pictured), chemical feed systems, and electrical, SCADA and security system upgrades.

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