

Contact: Al Tenbusch, President
Tenbusch, Inc.
Telephone: 972-221-2304
Fax: 972-221-2498
info@tenbusch.com

2009 Project Achievement Award Winner

CMP replacement the first use of tunneling and pipe jacking in DelDOT's history

LEWISVILLE, TX – Tunneling was used in September 2008 to replace a 48-inch diameter corrugated metal pipe (CMP) culvert that had been in service for 25 years on Route 4 in New Castle County, DE. This was the first use of tunneling and pipe jacking of storm sewer in the history of the Delaware Department of Transportation (DelDOT). The project proved to Delaware Department of Transportation that tunneling and jacking using reinforced concrete pipe is a cost-saving construction alternative to the open cut method.

DelDOT was notified in April that that it was the 2009 recipient of the American Concrete Pipe Association's Project Achievement Award. The Project Achievement Award of the ACPA is based upon public involvement and education, use of new materials or large diameter concrete pipe or precast boxes, use of new technologies, innovation, complexity, cost effectiveness and environmental benefits.

In the summer 2008, upon award of the contract, Eastern States Construction of Wilmington DE, contacted Tenbusch, Inc. of Lewisville, TX, to explore the cost and availability of equipment to tunnel the job. Eastern States submitted a Value Engineering Proposal to replace the existing CMP with 54-inch-diameter RCP, as originally specified, by tunneling instead of open cut. The cost savings to the state was approximately 30 percent of the original contract amount.

Tenbusch supplied Eastern States Construction with a tunneling shield and a 250-ton hydraulic jacking unit. Rinker Materials – Concrete Pipe Division (CEMEX) supplied the concrete pipe. The tunneling shield protected the men as they removed the existing CMP and excavated as necessary to accommodate the new RCP. As the tunnel was excavated, the hydraulic jacking unit provided the necessary force to jack the 54-inch RCP column under the roadway. The contract allowed 75 days to complete the project. Eastern States took only 15 days to tunnel the culvert.

Al Tenbusch, President of Tenbusch, Inc. was a pipeleine, boring/tunneling contractor with first-hand experience with pipe materials and installation methodologies. He says, "The problems associated with the lowest cost and short service life products chosen for culverts and sewers in years past are beginning to escalate. Tunneling with long service life products can provide states, counties, and cities with a less-expensive option to rehabilitate or replace deteriorating culverts with minimal disruption to motorists."

DelDOT and the Route 4 tunneling project were honored during a special breakfast held by the ACPA in conjunction with the AASHTO Bridge and Structures Subcommittee meeting in Louisiana, July 5 to 9.