



# CASE STUDY



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## NEWARK, DE CASE STUDY

### LOCATION:

Newark, DE

### PROJECT SCOPE:

Artesian Water Company's system integration connecting two sides of the Chesapeake & Delaware Canal

### APPLICATION:

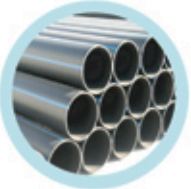
Installed 5,000 feet of 24-inch High-density polyethylene (HDPE) pipe with two 2,500-foot drills

### PROJECT DATES:

January through June, 2004

### KEY CONTACTS:

Adam Gould, project manager  
Larry Anderson, contractor, Spring & Associates  
Bill Cesanek, AICP, vice-president for CDM, Cambridge, MA



## SUMMARY

A key component of Artesian Water Company's commitment to providing a reliable source of quality water to its customers was a system integration connecting two sides of the Chesapeake & Delaware Canal. According to officials at Artesian, it was a complex process requiring detailed evaluation and assessment of materials and resources – and they chose high-density polyethylene (HDPE) pressure-application water pipe.

The Chesapeake & Delaware Canal is 14 miles long, 450 feet wide and 35 feet deep. It runs across Maryland and Delaware, joining the Delaware River with the Chesapeake Bay and the Port of Baltimore. Artesian has more than 70,000 metered customers, providing water service to about 231,000 residents, approximately 28 percent of Delaware's total population. Artesian's ability to successfully navigate the C&D Canal with 5,000 feet of 24-inch HDPE pipe enabled it to integrate previously separated portions of its supply system.

The 5,000 feet of HDPE pipe was installed with two 2,500-foot directional drills. The proactive project was implemented to maintain water supply reliability and connected Artesian's northern New Castle County system to their southern New Castle County system, adding redundancy to its potable water and fire protection service capacity. It also significantly improved the hydraulics of Artesian's overall system.

"Our standard water pipe material for crossing large bodies of water or for use in corrosive soils is HDPE," said Adam Gould, project manager on the C&D Canal job. "This was the biggest project of its kind we've done, and because of its flexibility, HDPE was the only pipe we would have used to do it."

Contractors faced the added challenge of a 150-foot drop in elevation from the water main on land to a depth of 50 feet below the canal bottom. Larry Anderson of Spring & Associates said a 50-foot to 70-foot drop is normal. CDM's engineers, Artesian project managers and the Army Corps worked together to finish the project ahead of deadline. "The directional drilling with HDPE pipe is conducive to minimizing disturbances during the project," said Bill Cesanek, AICP, vice-president for CDM.

To read more, go to the Newark, DE PPI article in the Case Studies section at [www.pepipe.org](http://www.pepipe.org)

*Please do not hesitate to contact the Alliance with any questions or comments.  
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