Consumer Illinois Water Completes First HDPE Installation

Danville, IL

Consumers Illinois Water Company (CIWC), based in Danville, Illinois, recently completed its first high-density polyethylene (HDPE) water line project. Using directional boring, the major Illinois utility installed a 12-inch HDPE ductile iron pipe size (DIPS) line under a finger of Lake Vermilion in Danville. The proven technology of directional boring to install the HDPE line pipe significantly reduced installation time, saving dollars and eliminating headaches in the process.

"This project allowed us to demonstrate the effectiveness of HDPE," says Garry Bouvet, Regional Sales Engineer in the Springfield, Illinois, office of ISCO Industries. Based in Louisville, Kentucky ISCO Industries offers several stocking locations and McElroy fusion equipment and fabricates additional pipe products and fittings.

HDPE pipe has performed reliably and safely in the natural gas industry for years. The material's properties also are well-suited to the demands and conditions of water transmission, and engineers across the country are increasingly specifying this synthetic material in water projects.

"We had been looking for the proper application," says Jerry Connolly, Operations Manager for CIWC. "[When] this particular project was being planned in 1996, we thought it would be an excellent pilot project."

The 4,000-foot long Lake Vermilion project used HDPE for 1,500 feet. Drilling approximately 900 feet under an inlet of the lake confirmed for CIWC that HDPE would be the preferred material. In addition to its high C factor and the zero leakage of butt-fused joints, HDPE pipe is corrosion-resistant and very flexible.

With directional boring, the contractor bores a "pilot line" – basically, a tunnel – through the soil, then pulls the HDPE pipe back through the pilot line using a "pull back" head. This method eliminates the costs and time associated with digging a trench, and the rotating drill head of directional bore allows for precise maneuverability.

"We consider the installation a great success," says Connolly.

O'Neil Brothers Contractors of Danville butt-fused 50-foot sections of pipe on-site to fabricate the 1,500-foot line. "We used electrofusion to attach the fittings to the HDPE pipe due to space limitations, and it made for an easy connection," says Bouvet. ISCO representatives trained O'Neil Brothers and CIWC personnel in the fusion process.

CIWC's Connolly sees long-term advantages to using HDPE pipe. As their service area continues to grow, the utility wants to complete jobs cost-effectively and efficiently. "We have upcoming projects where we plan to utilize HDPE pipe," he says. "We're in various planning stages on three new subdivisions and are currently looking at the logistics and economics for the distribution of mains and service taps for these subdivisions using HDPE."

Craig M. Cummings, CIWC Executive Vice President and General Manager, also sees HDPE in the utilities long-term future. "We are pleased to utilize this emerging technology in the Danville area," he says. "As a company, we are always striving to find the highest quality and least cost methods to provide service to our customers. This particular project was the perfect fit for the use of directional boring and high density polyethylene water main material."

ISCO is committed to continued development of innovative application of HDPE to water service providers. As ISCO CEO Jimmy Kirchdorfer notes, "Further implementation of HDPE pipe, both traditional and innovative methods, for water service providers is certain to keep expanding and just as certain to draw rave reviews."