



## FIELD REPORT

# Pompano Beach Uses HDPE for Golf Course Irrigation, Redesign

## BACKGROUND

The city of Pompano Beach is located in Eastern Florida. To boost tourism and increase revenue, the city decided to upgrade its 18-hole municipal golf course to a signature course designed by Greg Norman. Greg Norman is an Australian professional golfer and golf course designer. His company, Greg Norman Golf Course Design, has completed more than 100 golf courses across 34 countries and six continents. Part of his redesign for the city of Pompano Beach golf course included a new irrigation system.

## HDPE FOR GOLF IRRIGATION

Greg Norman consulted with Aqua Turf International, based out of Jupiter, FL regarding the best pipe for the irrigation system. Aqua Turf suggested high-density polyethylene (HDPE) pipe, which became the pipe of choice. The city then hired contractor QGS Development, based out of Lithia, FL, to install the new irrigation system.

HDPE pipe is ideal for golf course irrigation due to its resistance to water hammer, or a sudden water and air surge inside a piping system. A common cause



of golf irrigation pipe system failure results from water hammer. When exposed to water hammer, breaks and leaks occur at the weakest points of conventional pipe systems, the joints. A system made up of HDPE pipe is more durable and can withstand

surges in water pressure. HDPE pipe's flexibility allows it to bend to a radius 25 times its diameter, meaning fewer 90 degree bends overall. The flexibility lessens the chance for water hammer to damage the pipe and also lessens the chance for leaks.

The key to the strength of an HDPE-based pipe system is in the fusion process. Over time, even the smallest leaks from pipe joints can add to the cost of maintaining a golf irrigation system. HDPE pipe does not require joints. Instead, the HDPE pipe sections are butt-fused together using fusion equipment to become one continuous pipe, eliminating the need for joints. As a result, HDPE pipe has a zero-leak rate because the fused sections create a uniform, monolithic system. An HDPE piping system that is zero-leak saves on costs both in real-time and in the long run.

ISCO's Bryan Fletcher worked with regional distributor Hector Turf, based in Deerfield Beach, FL, to provide the necessary HDPE materials and products for the irrigation project. Hector Turf sold the piping materials directly to the city. ISCO supplied 55,000 feet of two-inch to 18-inch diameter 4710 HDPE pipe, McElroy fusion machines and fusion services. In addition to the two McElroy T412 fusion machines the QGC Development already owned, ISCO supplied a McElroy Polyhorse and two additional McElroy 28 fusion machines.

## INSTALLATION

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QGS Development had a short time frame to complete the irrigation system's installation. They had to fuse several thousands of feet of pipe, two weeks worth of pipe fusion, in just one week. ISCO's Fletcher worked with the contractor's crew for two days to provide fusion start-up services, which included fusion training. In addition to the fusion training, Fletcher helped the contractor implement McElroy fusion efficiency equipment. All this helped the contractor complete the pipe fusions in time.



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PAUL COPE  
MANAGER OF GOLF, QGS DEVELOPMENT

"We were thoroughly impressed with ISCO and the McElroy efficiency tools," said Paul Cope, manager of golf for QGS Development. "In two days they enabled us to fuse together 5,000 linear feet of six- and eight-inch pipe and in two weeks we fused 80 percent of the stick pipe together."

After the pipe was fused, QGS Development used open cut and plowing methods to install the irrigation system. The project is now 50 percent complete and the first phase should be complete before the end of the year.

## CONCLUSION

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The redesigned and renovated Greg Norman Signature Pines Course opened on January 1, 2013 to rave reviews. It serves as an enhanced tourist attraction for the city of Pompano.

