



Green Section

BEST MANAGEMENT PRACTICES CASE STUDY



Utilizing both PVC and HDPE pipes allowed the new irrigation system to be installed during winter when there would be less disruption to play.

HYBRID IRRIGATION PIPING FACILITATES OFF-SEASON INSTALLATION

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ISSUE

Irrigation efficiency and uniformity were ongoing issues for both golf courses at The Ohio State University Golf Club due to an aging irrigation system. Playability and turf health were frequent concerns during prolonged periods of heat and drought because water could not be properly distributed in a reasonable amount of time.

An irrigation consultant was hired to perform a complete evaluation of the system. The assessment confirmed that the pump station lacked the capacity to irrigate all 36 holes in an efficient timeframe. Additionally, uniformity was poor throughout both golf courses due in large part to the 87-foot spacing

between sprinklers. Replacing both the pump station and irrigation system was recommended so both golf courses could be properly irrigated.

ACTION

A new irrigation system was designed to correct the pumping capacity and uniformity issues that were experienced with the old system. A timeline was proposed for installation to begin in the fall of 2015 and finish in the spring of 2016. Working during fall and winter would minimize impacts on the golf season. However, installing the irrigation system during winter would require special considerations on pipe selection.

For all of the mainline pipes – i.e., 4-inch pipes and larger – PVC pipe would be installed by digging open trenches. For all lateral lines – i.e., 3-inch pipes and smaller – HDPE pipe would be pulled in with a vibratory plow. The decision to install HDPE pipe for the laterals made it possible for the project to continue during winter. Work would otherwise have been suspended during cold weather because the solvent weld cement used to connect PVC pipes has temperature restrictions for when it can be used effectively.

The installation of the system went smoothly and the contractor did an excellent job. However, some leaks were revealed when the system was charged. It was determined that a defect in the compression fittings was the cause. An agreement was reached with the manufacturer and the defective parts were replaced. After the repairs were completed, the system has been working without any significant issues.

RESULTS

Both irrigation uniformity and efficiency have improved since the new irrigation system was installed. The ability to pump water at 3,000 gallons per minute makes it possible for both golf courses to be irrigated in less than 8 hours. Turf health and overall playing conditions have improved and golfers that are attempting to play an early morning round or squeeze in a few holes before dark are no longer inconvenienced by sprinklers running.

The first full season with the new system provided the opportunity to learn the ins and outs of how the new components function. Additional fine tuning to address the irrigation requirements for microclimates throughout the golf courses will be necessary each season.