

CASE STUDY



NEW YORK STATE BEST MANAGEMENT PRACTICES FOR GOLF COURSES

Irrigation System Upgrades for Water Conservation



Interactive map of every sprinkler head on the golf course. The user can select a sprinkler head to run or can visualize which ones will run. The highlighted white dots are heads that are within an instant program created just for high sides of fairways, which need more water than the flat surfaces.

Project Details

- **Golf Course Profile:**
Location: Cortland Manor, NY
Annual rounds of golf: 18,000
Staff: 18-23 during peak season
Acreage: 180
Public or Private: Private
- **BMP Implementation:** Irrigation system upgrade, including software, controllers, and weather station installation.
- **Budget Total:** \$21,000

Project Summary

The Hollow Brook Golf Club utilized Best Management Practices (BMP) irrigation guidelines to upgrade the irrigation system, including upgrades to the central irrigation software and the main control components in the field, along with installation of a weather station.

Details

The newer version of irrigation software allows greater control of irrigation in specific areas of the course. Prior to the upgrade, whole areas of the course (fairways, tees, greens, etc.) would be irrigated at night. Now, programs can be created that run certain heads within these areas. With a few clicks of the mouse instant programs can be created to irrigate only those areas that need water.

In order to achieve this precision irrigation, upgrades had to be completed to some of the major components, as well as the software. TPC in Connecticut assisted in the switch

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over of existing data to the new software and acquisition of the parts for eleven controllers in the field that needed to be updated. Installation was completed by Hollow Brook staff. Staff also attended a class at a cost of \$660 to learn how to use the new control system.

Hollow Brook also installed a weather station that the course had bought when it was first built. The weather station allows more accurate monitoring of the weather, especially rainfall. The weather station is directly linked to and interacts with the irrigation central control. The entire irrigation system is set to automatically shut down in the middle of the night when rainfall exceeds .10" or more.

Program	#	Δ	On	Auto Cycle	Last RT	Next RT	Adj. RT	Last Amt.
Greens	1		✓	✓	9	9	5/12	0.05/0.36
Tees	2		✓	✓	10	10	3/14	0.04/0.46
Fairways	3		●	✓	10	10	2/8	0.07/0.18
Surrounds	4		●	✓	10	10	1/7	0.07/0.42
Roughs	5		●	✓	10	10	3/11	0.09/0.29
Approaches	6		●	✓	10	10	4/11	0.13/0.18

The irrigation software allows for easy visual analysis of irrigation schedules and amounts. These features make it less likely for excess water to be applied and become runoff.

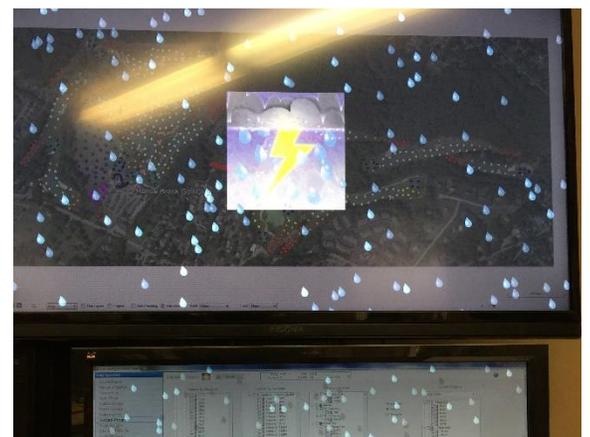
Cost Information

The total cost estimate for the upgrades and weather station installation was \$21,000.

Benefits

According to Guy Gurney, Hollow Brook Golf Course Superintendent, while it is difficult to determine cost savings due to these upgrades due to ever changing weather patterns from year to year. However, the benefits outweigh the costs:

- ability to be a great deal more specific with water applications
- saves time when programming the water cycle for nights each afternoon.
- protecting water resources and not wasting water by controlling output



The screen saver function shows irrigation schedule or rain hold, depending on prevailing conditions, providing quick updates.