

CASE STUDY

NEW YORK STATE BEST MANAGEMENT PRACTICES FOR GOLF COURSES



Conserving Water by Installing Quick Couplers



Project Details

- **Golf Course Profile:**

Location: Bedford Hills, NY
Annual rounds of golf: ~10,000
Staff: 23
Acreage: 160
Public or Private: Private

- **BMP Implementation:** In the past 5 years, GlenArbor has installed 40 quick couplers, saving an estimated 810,000 gallons of water annually.

Budget Total: \$256.50 per valve installed

Project Summary

The GlenArbor Golf Club utilized Best Management Practices (BMP) irrigation guidelines to significantly reduce its water usage. This low cost effort not only reduces water usage, it has the added benefit of also reducing pesticide usage.

Estimated Water Savings

40 quick couplers were installed, replacing 40 irrigation heads. To estimate water savings, the first step is to compare water usage every time the quick coupler is used to water a hot spot as opposed to putting the head up:

- one 690 irrigation head dispenses 60 gallons/minute; running for 3 minutes, it distributes a total of 180 gallons of water
- one quick coupler and hose dispenses 30 gallons/minute and only runs for 1 minute, distributing a total of 30 gallons of water

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Therefore, at GlenArbor the estimated savings of replacing one irrigation head with one quick coupler and hose is approximately 150 gallons of water. Note: water savings will vary at other courses depending on head types, soils, irrigation needs, etc.

During the five month growing season, the water savings per quick coupler were estimated as follows:

- 450 gallons of water/day conserved based on the need to use the heads 3 times/day
- using an estimate of 45 days of irrigation during the growing season, each quick coupler conserves approximately 20,250 gallons
- 40 quick couplers installed x 20,250 gallons water savings per coupler = 810,000 gallons of water saved total



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Detailed Cost Information

The total cost per valve installation was \$256.50, broken down in the tables below.

Budget	
Swing Joint	\$70
Coupler Valve	\$87
Tee	\$14
Nipple	\$ 1.50
Box	\$12
Total	\$184.50

Labor	
4 hours @ \$18/hr	\$72

Benefits

Implementing irrigation BMPs like this has a number of environmental and cost savings benefits:

- significant reduction in water usage
- eliminates watering of non-target areas
- by eliminating the irrigation of non-target areas, reduced disease pressure and consequently reduced pesticide applications in those areas
- can use a hose with a wetting agent pellet dispenser in hydrophobic areas, thus reducing the number of “hot spots” throughout the property while further reducing water usage

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