

Bathroom BREAK

Lee Terry turned to solar-powered, waterless restroom facilities to troubleshoot a pressing problem at Denver's Pinehurst Country Club.

BY MIKE ZAWACKI

It's a fact of life. People need to use the bathroom and golfers are no exception when it comes to "taking five" at the ninth hole.

But how do you provide ample restroom facilities for a 27-hole golf course?

It's a problem Lee Terry needed to fix.

Terry is the superintendent at Pinehurst Country Club, a private, member-owned club in Denver that features 27 holes – the par-70 Maxwell 18 and the par-36 Pfluger 9. Terry operates with an annual maintenance budget of about \$1.5 million.

In the middle of its Maxwell course, Pinehurst features a ninth-hole diner with a full-service restroom, but it wasn't enough capacity to meet club members' needs.

To some people, this problem has an obvious solution: strategically place a few plastic silo-style portable restrooms around the course. Terry says the club's membership expected better accommodations.

Then why not build a few, full-service restroom facilities around the course? This solution wasn't practical, either, Terry says, because no utilities run through the course, which was built in 1958.

"In one scenario we would have had to run a half-mile of sewer lines through the golf course and it would have crossed five different holes," Terry says. "It would have cost us more than \$300,000 to bring in the utilities – sewer, water and power – through the golf course and to any new restroom facilities. It could have been done, but the expense and the disruption would have been there."

Instead, Terry turned to Fort Collins, Colo.-based Biological Mediation Systems, which provides prefabricated, custom restroom facilities. To meet its needs, Pinehurst settled on a pair of waterless, solar-powered restrooms.

Operationally, each unit is fairly simple. A bacterial and enzyme solution breaks down the waste in a cement basin underneath the building, and a solar-powered ventilation fan minimizes odor. Other than periodic cleanings, they require very little maintenance.

From the outside, the restrooms look like nondescript buildings. They're sided, painted and feature a rock frontage as well as landscaping. Each building has separate men's and women's facilities.



The addition of solar-powered, waterless bathrooms allowed Pinehurst Country Club to address the restroom needs across its 27-hole golf course.

"We had to dig the holes and put the cement basins in underneath each unit," Terry explains. "Since each building is a kit, we contracted (with a third party) to stick frame the building and add the siding and the roof. The whole thing, from start to finish, took less than a week."

Following construction, Terry installed foam hand washers and added carpet to the floors of the two buildings.

The first unit went up on the Maxwell course about three years ago and is located between two lakes. The club added a restroom unit to the Pfluger about a year ago.

"From where each is located they can service more than one hole," Terry says. "You should be able to go no more than three holes without finding a bathroom."

With everything included, each unit has a price tag of about \$60,000. But compared to the cost of running utility lines through the two courses, the waterless restroom facilities were a substantial savings in time, money and course disruption for the club.

"They're environmentally friendly and require very little service," Terry says. "They've worked out very nicely for us, especially when you consider the cost factors of what we would have had to do to place them in the middle of the courses." **GCI**



LESS WATER, big savings

Bonnie Briar Country Club's superintendent quenched his course's thirst for costly Big Apple water with wetting agents. BY MIKE ZAWACKI

Dependent on water from nearby New York City, the private, 18-hole Bonnie Briar Country Club, located in Larchmont, N.Y., in southern Westchester County, needed to find a way to curb its water costs, which have increased 25 percent the last three years. In 2005, for example, the club used more than 23.6 million gallons of water to irrigate its course at a cost of \$93,000.

When superintendent Nick Lerner came on board in 2003, his first order of business was to address water consumption. He started by

fine tuning the course's irrigation system, then he sought other ways to use less water.

"I knew whatever I could cut back on would make a huge difference," he says. "Also, with the financial crisis my budget has been cut. I don't have any legroom to make mistakes. Water is an area that, if I can use less of, then I may develop a surplus and can use that money elsewhere on the course. Also, I knew I could save on electricity because if I could reduce the amount of water that I use, then my electric bill will be lower."

Bonnie Briar's rocky topography creates some turf challenges and an ideal environment for the use of wetting agents.



PRODUCT FOCUS

WETTING AGENTS

Lerner operates with an annual maintenance budget of between \$1.35 million and \$1.4 million, and he oversees two assistants, a mechanic and 13 grounds employees. Bonnie Briar's tees are primarily all bentgrass, the fairways and the greens are a mix of several varieties of bentgrass and *Poa annua*.

To troubleshoot the amount he spent on water, one thing Lerner did was turn to wetting agents, which he first used in the 1990s as a college intern. In total, Lerner uses five different Aquatrols wetting agents. The wetting agents work through the soil and allow water to become more available to plant roots.

Built in 1921, Bonnie Briar's course features a number of beautiful rock and ledge formations. Many of these formations remain under the fairways and areas of turf, creating a challenging scenario. "There are a number of areas that are basically rock with soil overtop," Lerner says. "As the soil warms those rocks get warmer, making it difficult for the turf to thrive. A lot of time the turf will go dormant due to these conditions and the areas will brown out, which is not what we want to see." Lerner uses the soil surfactant Aqueduct to overcome this challenge. "I used to spend a lot of time hand watering these trouble spots," he says, adding the product is applied every

two to three weeks. "I go out now and apply this product, which allows the soil and plant roots to utilize water better and helps the turf get through those tough times. I used it last year for the first time and it made a big difference."

In addition to improving the effectiveness of watering on the course, it also improves pesticide absorption. For example, Lerner applies Dispatch with a spray rig – at a rate of about 24 to 26 ounces per acre – to get better performance out of his crabgrass and grub treatments. "Not only am I using it to get effective watering, but I'm also using it to increase the effectiveness of products that need to be watered into the soil," he says.

And wetting agents are effective off the course, as well. "I use an absorbant called SuperSorb, which you use in flower beds," Lerner says. "You add it to the soil and it allows the soil to hold more water. It cuts down on watering and does wonders for annuals, which require a lot of watering."

While Lerner is fond of using the Aquatrols family of wetting agents, he advises other superintendents to try any number of similar products on the market.

"Every site is different and every golf course is different," he says. "It's important

to consider trying a number of these products because until you try them on your site you really don't know what to expect."

Lerner spends between \$7,000 and \$8,000 annually on wetting agents. The water savings gained from using wetting agents more than justifies the expenditure, he says.

And while it's difficult to attribute an exact cost saving in reduced water use due to using wetting agents in 2006, 2007 and 2008, the course only used 11.7 million gallons of water last year, at a cost of \$66,000. "It's very difficult to quantify a savings and usage reduction over my tenure," he says. "The timing of rain events as well as the overall weather are reasons for not being able to provide an accurate cost savings. I would say that wetting agents are great tools for superintendents and using these products would definitely help in using less irrigation water, as well as improve the effectiveness of rainfall and irrigation water going into the soil."

The result is better looking turf, Lerner says. "I'm doing what I can to prevent us from spending more," he says. "These products help the overall soil conditions and help prevent wilting and stress, which occurs from May through mid September. You can see the difference." **GCI**

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