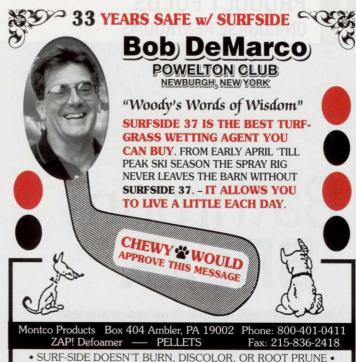


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Bathroom BREAK

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

BY MIKE ZAWACKI

t'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 restrooms 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 ninthhole 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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Read about how Roney investigated options to reduce costs in the Online Extras section at golfcourseindustry.com.

TOURNEY PREP AT SAUCON VALLEY

im Roney, superintendent for Saucon Valley Country Club in Bethlehem, Pa., is four years into a master-planned renovation of three golf courses. Just for "fun," he and Saucon Valley's Old Course will host the 2009 U.S. Women's Open Championship in July. I asked Jim what his concerns and goals are as he prepares for his first major championship.

When you arrived at Saucon Valley four years ago what was your impression and what did you address first?

After reviewing our 850-acre facility my first goal was to immediately improve the environmental growing conditions of our turfgrass. Our property is heavily treed; many are evergreen species that limit air movement and sunlight penetration. The club is located in the lowest point of the valley, which decreases air movement, morning sunlight penetration and surface water drainage. The tree population needed to be reduced.

The club reviewed all the options of scientific, non-partisan tree removal evaluations, including my proposal for clearing by our staff at a lesser cost. The committee allowed me to proceed with the in-house removal plan. I hired a qualified arborist and proceeded.

The second concern was drainage. We are the lowest point in the valley with the Saucon Creek running through the middle of property. Drainage is severely limited and with an event approaching, moving water off site quickly is vital. In addition, located close by are the now defunct New Jersey zinc mines, which when active used an incredible amount of water, leaving our property dry. This is no longer the case. We have increased our budget for specialty drainage projects and creek work throughout the property to quickly move the excess water away from high-play areas.

Our club is 87 years old and we have traditional soil green profiles that are pitched for surface drainage only and did not drain. My plan was to increase the downward movement of water through vigorous coring, deep drilling, regular sand topdressing and the inclusion of the internal drainage systems provided by the TDI and XGD drain-lines in all our greens.

During the first four years we used the drill-and-fill method two times per season with regular coring to remove and replace the soil with sand topdressing. Each drill-and-fill, followed by standard coring, allowed us to incorporate 160 tons of sand into the profile.

Finally, with the internal soil profile improved we decided to regrass to the current species of bentgrass, which is a combination of Penn A1/4. However, before the regrassing process was to begin, the USGA elected to award Saucon Valley with the 2009 U.S. Women's Open Championship.

What was your reaction when you learned of the upcoming major championship to be played on the Old Course at Saucon Valley Country Club?

A I was ecstatic and a little nervous. However, this is the goal to which many of us in the industry aspire. The event also gave the club an opportunity to review many of the issues that affected play, such as the need to regrass putting surfaces. We reviewed the design features so they would become relevant to today's equipment, player strengths and overall game improvements.

With the notice of the championship, it gave me the needed push to organize a priority list for the upcoming golf course review. Working with the committee, we established the following agenda:

• Organize, execute and complete the proposed regrassing of the Old

Course putting greens to bentgrass. This began in 2005.

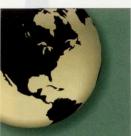
- Have the course stand up to the best women players' efforts, while playing fair and making par a good score.
- Establish a multiple variety nursery with samples of each putting green turf species variety under consideration.
- Establish a 10-year master plan for all golf course renovation projects.
- Determine a course closing period, which would allow us ample time to properly complete the projects, review all design enhancements needed, establish a proper stand of turf to provide the best possible putting surfaces for the championship without impacting the event. The Old Course closed in 2007 for the renovation.
- Hire a golf course architect with classic golf course renovation experience. The club chose Fazio Design.
- Begin the process of educating and communicating to our members.
 Many were new members who did not know or fully understand Saucon Valley's golf history and tradition.

The event also brought attention to the need to upgrade the overall golf course beyond the greens to meet the expectations of the membership. This included an architectural review of teeing grounds, bunkers, fairway contours and infrastructure items such as cart paths/service roads, irrigation needs, additional drainage and more tree removal for turf health, gallery and tenting needs.

One vital addition to this project was hiring an archivist to organize the massive collection of club history, including numerous pictures, diagrams and original architectural notes. Organizing our history really assisted the club, our architect and the USGA in the completion of this renovation project. Our goal was to follow the original design intent of Herbert Strong. **GCI**



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 38-year, life member of the GCSAA. He can be reached at terrybuchen@earthlink.net.



Travels With **Terry**

Globetrotting
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Terry Buchen visits
many golf courses
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relating to maintenance
equipment from the golf
course superintendents
he visits — as well as
a few ideas of his own
— with timely photos
and captions that
explore the changing
world of golf course
management.

Economical greens roller

ric Kulaas, equipment manager, at the Renaissance Vinoy Resort & Golf Club in St. Petersburg, Fla., mounted an EastHof Roller (with an angle iron roller scraper mounted on hinges) on the back of a Toro Sand Pro. EastHof Rollers are manufactured by Liquid Ed Inc. The roller is mounted where the cultivator bar or spiker is normally attached with four bolts and one pin for the hydraulic cylinder, which produces down pressure as needed while still keeping the tires on the ground. Since the roller is used primarily on greens to increase the speed and to smooth them out, Kulaas mounted 12-inch diameter wheels and turf tires from a Club Car Carryall so the turfgrass surface would not be adversely disturbed. The roller also features a separately installed brush attachment, including two 5-foot-long brushes, one coarse bristle brush that floats for working in topdressing and a fine bristle brush for overseeding with adjustable hydraulic downpressure. Kulaas, who recently received the 2008 Edwin Budding Award from the International Golf Course Equipment Managers Association (IGCEMA) during BIGGA's Harrogate Week 2009, can add up to 300 pounds of additional "tractor-type weights" to the roller framework for additional down-pressure if needed. The roller costs \$2,790; the separate brush unit costs about \$595 and the labor to attach the roller and to mount the wheels and tires was less than an hour and a half.





Alternative greens roller

he TurfAce Alloy with its Giliberti Roller/Brush Lifting System is normally mounted on an electric Club Car Carryall Turf 1. Eric Kulaas, equipment manager, at the Renaissance Vinoy Resort & Golf Club in St. Petersburg, Fla., removed the entire roller assembly and mounted it on a gasoline engine version of the same model turf vehicle after the engine exhaust and hydraulic hitch mount were modified. This roller has a friction drive system where the rear roller is lowered by flipping a switch to activate the 12-volt electric linear actuator, incrementally, and then the turf vehicles drive wheels are raised off of the ground to move the vehicle forward with the tires rubbing against the roller. The rear roller is made of a hard HDPE-type plastic and strips of a non-slip adhesive tape were added to control slippage against the turf tires. By raising the rear wheels off the ground, additional weight can be placed in the turf vehicle's bed for more down-pressure as needed. A dual topdressing brush assembly with a unique brush-lifting system is included. It took Kulaas about eight hours to remove and remount the roller/brush attachment and to make the modifications. A new roller/brush assembly mounted on the electric turf vehicle by the manufacturer cost about \$13,500. A new bolt-on roller/brush attachment for an existing turf vehicle costs about \$8,000. GCI





FEEDBACK

(continued from page 10)

opposed. It's the "weekend warrior" that keeps golf alive, not the guys who take helicopters to the course.

How many other sports give you one-onone time with your son or daughter when life's lessons like self-reliance, creativity, discipline and honor can be taught in the same afternoon? The politicians should be telling people to get off the couch and take a walk on a golf course and enjoy the sunshine and fresh air.

Thank you again for a great editorial. I fear you're preaching to the choir, but that doesn't mean that those of us in the robes don't enjoy the words.

Scott C. Sweeney President Seago International Hickory, N.C.

"All in the family" in the April issue is a great article (Parting Shots, page 90).

I've known the Connellys for many years and they are the best! Kip has always had the best for the industry in mind and pushed ideas that have helped the industry. You've just got to love this guy!

Family-owned companies like the Connellys' really do provide a superior value to their customers and many times are taken for granted. Your column was a timely reminder of the great service they offer and how important they are to this industry.

Thanks again for giving this wonderful family a little limelight.

Bill Vogel CEO Spring Valley Jackson, Wis.

Thanks to Pat Jones for the great article about independent distributors (April, Parting Shots, page 90). He couldn't have picked a better bunch of people to write about than the Connellys. They are as passionate about this business as anybody around. Pat's written or spoken highly about us independents for years. It's greatly appreciated.

Roger Ogalla President BTSI Frankfort, III.

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Pat Jones is president of Flagstick LLC, a consulting firm that provides sales and marketing intelligence to green industry businesses. He can be reached at psihawk@cox.net or 440-478-4763.

GOLF'S REALITY SHOW

oy oh boy, has my phone been ringing. Everyone from superintendents to owners to distributorship presidents to CEOs is asking me pretty much the same questions:

"Will my facility be OK?" "How many courses will close?" "Is the golf market as bad as we think?" "When will things rebound?" "Who will win 'American Idol'?"

Well, I can't answer the last one since I lost track of "Idol" as soon as the new season of "Deadliest Catch" started. (Hmm...Simon Cowell and Paula Abdul vs. crab fishing in Alaska? No contest.)

But you probably won't be shocked to hear that I'm willing to take a crack at guessing - and I mean guessing - about the other questions people are asking.

I've been doling out more free consulting advice than an urologist at a bachelor party to those folks who've been calling me lately, so it only seems fair to share it with all of you. Thus, allow me to shine up my crystal ball and give you my semi-educated prediction about the next three years.

2009, THE YEAR OF LIVING DANGEROUSLY

There were about 15,800 courses in the U.S. as of the end of 2008. I think we'll end up with a tad fewer than 15,000 before the serious bleeding is over in three years. We could and should close a hell of a lot more based on supply-and-demand factors, but I don't think we will.

First, golf courses are complicated bits of real estate. Sheer size is one factor, but covenants, restrictions, permitrelated greenspace promises, homeowners' association contracts and other legal factors will prevent many poorly conceived facilities from closing.

Second, when a bad course does fail, there are an astounding number of schmucks who think they can run it better than the last guy.

Third, the vast majority of courses probably 80 percent - are doing OK and will get through on their own.

This will be a year of struggling and ignoring reality for the most seriously cash-strapped facilities. Maybe 250 courses will actually close, but many more will hold on valiantly pretending the inevitable won't come and stretching the limits of their financing. Creditors, particularly turf and food vendors, will go unpaid for months and months.

Also in 2009, as my good friend Frans Jager of the distributor co-op Primera-Turf observes, cash-poor operations may have a profound impact on the entire supply chain. Quite a few facilities

There were about 15,800 courses in the U.S. at the end of 2008. I think we'll end up with a tad fewer than 15,000 in three years.

that purchased substantial amounts of chemicals, soft goods, food, liquor, etc., under early-order programs in late 2008 may have a difficult time making their deferred payment this summer.

DON'T EVEN THINK ABOUT 2010

Next year could be a painful but necessary bloodbath with 400 or so courses closing as banks call the notes on stupid loans made to idiotic developers to build lavish clubhouses or to underwrite ownership liens for other failed businesses.

The financial institutions simply won't have the time or inclination to try to rescue bankrupt golf courses that have lousy business plans, lousy locations and lousy prospects. You'll see a lot of fallow courses and a bunch of folks desperately trying to overcome realestate covenants to rezone the land for some other usage. Suddenly, all those promises the original owners made to get the permits for the course will come back to haunt them...or whomever else now holds the note.

Also, kiss those beautiful early-order programs and great credit terms goodbye as both manufacturers and distributors tighten up on purchasing options.

2010 will also be a shopping extravaganza for a few management companies, the tiny handful of healthy real-estate developers and even individuals who recognize low-hanging fruit in the market.

2011 - THE NEW MARKET EMERGES

Three years from now, the whole industry will be smarter, leaner and attractive in several ways. A few hundred more courses will die in 2011, but many will survive by being renovated, renewed and reinvented. Investors will have figured out that despite the hype, the core golf industry is healthy. The demographics of who plays, when they play and why they play will be much better understood, as will marketing and membership sales. The strong will have survived and we'll have learned from them.

By 2011, the golf world will be very different in many ways. It will be less stupid, because stupidity is gradually being rooted out by evolution. It will continue to grow its reputation as an environmentally positive business activity, because it will die if it doesn't.

If you perform well, people seeking exercise and a taste of the outdoors will realize that walking a round of golf is more fun than jogging or running on a treadmill. Beyond golf junkies and the dwindling number of club aficionados, that's your new customer base in 2009 and beyond. That's not a guess...that's the way it's going to be.

That's the reality show you're on now. And, like "Idol," you have to get enough votes every week to survive. Will you make the cut? Only you know for sure. GCI

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