

and I worked with those guys. I worked for Mr. Dye. They're amazing. Those guys have such an eye for detail, and they are good at what they do. And all the maintenance guys that have been here since, including the guys I have here now. There are hundreds of people. I couldn't begin to name them all.

**Q What did you learn during the tournament?**

I've learned that the more preparation you have in the beginning, the better off you'll be. We tried to plan for every little thing that could go wrong. Everything went smooth because of all the preparation we did. The best part about it was seeing all the people who worked with us, especially the guys in the crew, rise to the event. The guys stepped it up and took pride in their work, and that's the most fun to me.

The most satisfying part is seeing everybody work together. You have 140 people on the golf course for two hours in the morning, and every person is working for the same thing: they are trying to make the golf course as good as it can possibly be. The attention to detail these people have is unbelievable.

**Q Is there such thing as perfection on a golf course?**

The problem we have in this business is that things are never perfect. That's why we work 80-, 90-, 100-hour weeks, because the course is never where we want it to be. We try to manage a constantly changing environment, and if it's perfect, it's just a moment in time. Are we perfect, no. But we are as good as we can be. We've given it 100 percent. We have nothing to be ashamed of.

**Q Where would you go next in your career?**

Everybody has a lot of goals, but with everything that is going on here at Kohler, I don't plan on leaving. We've got the Senior Open in 2007. That's another great opportunity to host another major tournament. I have it good here. I have a good crew, and I work for a good company on a beautiful golf course.

**Q Were there any turfgrass problems or diseases that you dealt with that troubled or concerned you?**

We had a wet spring. We had about 17 inches of rain in 35 days. We lost a little bit of grass because of the wetness, and fescues don't like being in real wet soil. But

that's typical, and we understand how that goes and did everything necessary to bring the turf back.

**Q Were there any changes or additions to the equipment?**

We had great help from the people at Jacobsen. We use LF 1880s, a lightweight, triplex fairway mower with 18-inch reels. They supported us by bringing eight extra machines. We have four machines that we lease, and we had eight of their machines. They also brought us 22 greens mowers to use during the tournament, and they had their best mechanics here. They made a lot of promises and came through on every single promise. They wanted this as bad as we did. They wanted the tournament to be a success.

**Q Were there any other challenges or problems you dealt with?**

The weather. A year ago, we had a cold spring. This year we had a warm spring. With a warm spring, we had a lot of rain. It was frustrating because we had so much rain in a short period of time, and we couldn't do much. We were struggling just to get the turf mowed. Other than that, the weather was pretty good.

**Q What is your relationship with the PGA during tournament prep?**

The PGA sends its senior director of tournaments, Kerry Haigh. He met with us several times a year. He came out, and we walked the golf course – myself and Mike Lee and Steve Friedlander. We went over every little detail and made sure everything was in line with what came up.

**Q What are some things you look at?**

Definitely the mowing heights for the fairways and the roughs. We paid close attention to the mowing lines and what we needed to do to them to make it look and play like it did during the tournament. We had to work out a lot of bugs. When were we going to mow? What were we going to mow with? What height works, according to what Mr. Haigh wanted.

**Q Are those heights shorter than what you typically cut?**

They are little bit longer than what we typically have. For normal play, we cut our rough at about 3 inches. For the PGA, they were 4 to 6 inches, so was a little taller and a little thicker.

**Q Are you doing anything to the course now or are you going to leave it exactly the way it is?**

That's up to the United States Golf Association and Kohler Co. The USGA will be coming in next year to start preparing for the 2007 Senior Open, so I don't know what's going to happen until then. We're going to go out and seed a lot of the areas of the rough that are getting trampled. We put a lot of seed in places where we don't think the grass is going to come back. The gallery trampled in the seed, so it got good seed to soil contact. Now that the tournament is over, we'll get germination of the seed, and the grass will come right back up.

**Q What advice would you give to other superintendents who will prepare for a tournament of this magnitude?**

Start your preparation early. Get all your planning done, as much as you can as early as you can, and fine tune every little detail because the sooner you have that stuff done, the easier you'll sleep at night. I felt under a lot of pressure during the initial planning stages. There's a lot to think about and a lot to plan for. The more plans that we had in place and the more decisions we made early on, the easier it was to move on to the next decision. It was also easier to find out where we made mistakes in our planning and what you had to change. The earlier one starts, the easier it is along the way.

**Q Anything else?**

Another important thing is building the right team of associates. We have a lot of young guys that work their butts off, and they should be proud. It doesn't matter if I get a compliment or Mike Lee gets a compliment. Those are the guys that are doing all of the work. Those are the guys that are here every morning at 5 a.m. ready to go and stay as late as we ask them to.

I'm glad I built the team I did leading up to the championship because I don't know where I would be without half these guys. Some of the things these guys have done and the way they've done it was amazing. All the guys worked hard to get the golf course the way it is. It's in outstanding condition, and we're proud. I'm more proud that I brought these guys here. I got them here because they're the ones that made us all shine. GCN

*David Swift can be reached at david.swift@kohler.com.*

# War over water

AS WATER USE CONCERNS REGULATORS, SUPERINTENDENTS WORK TO IMPROVE IRRIGATION EFFICIENCY AND THE INDUSTRY'S IMAGE

by  
JOHN  
WALSH

**G**olf courses use a lot of water – more than 476 billion gallons of water annually in the United States, according to a study by Dave F. Zoldoske, director of the center for irrigation technology at Cal State and international water technology at Fresno State. In particular, water consumption is the highest in the Southwest, which uses an average of 88 million gallons annually per course, the study says.

This wouldn't be such a problem if suitable water sources weren't in short supply. Jim Barrett, president of James Barrett Associates, an irrigation consulting firm, says 97 percent of the world's water isn't fit for irrigation; 3 percent is fresh water, 2 percent of which is locked up in polarized caps and glaciers; and 1 percent isn't renewable.

"Water is going to get chopped off, and we need to be prepared long before that," Barrett says.

Water usage is a chief concern for golf course superintendents who are fighting for availability and battling negative public perceptions that golf courses waste water. Actually, many golf course superintendents say they use water efficiently, thanks to precise irrigation systems. Superintendents say the industry needs to communicate its best water management practices to regulators, legislators and the public.

## Not only a Western problem

Conservation has become especially important as water sources dry up throughout the country. Doug Bennett, conservation manager for the Southern Nevada Water Authority, says



Barrett

the region is in the fifth year of a drought cycle. The Colorado River is producing one-fourth of its normal flow; Lake Mead dropped 90 feet during the past five years and is 50 percent to

capacity; and Lake Powell dropped 100 feet and is 40-percent full. The lakes are the two largest man-made reservoirs in the West and are shared by seven states and Mexico, according to Bennett.

"Everyone is operating under a drought plan," he says. "Water is scarce. We need to conserve to maximize use of available water and build reserves."

In fact, most golf courses in the Southwest that are connected to a municipality receive potable and reclaimed water.

"They also can obtain water rights from the state, but they would have to transfer them from another owner because all of the rights are spoken for," Bennett says. "Some golf courses may have wells in addition to a municipal connection."

Of course, conditions vary throughout the country, but the worst drought area is the lower Colorado river base – Colorado, Nevada and New Mexico – according to Brian Vinchesi, president of the Irrigation Association. Golf course superintendents are coping with this drought via regulation. The amount of water they use depends on the number of turf acres and type of turf. For example, Phoenix restricts the amount of turf a golf course can have, and in Las Vegas, 6.5 acre feet of water per one acre of landscaped area (energized with an irrigation system) is allowed annually.

Water use on golf courses is a challenge in the East, as well. Golf courses in that region have permits allowing a certain amount of water.

"There is a lot of competition for water," Vinchesi says. "Everyone needs a water withdrawal permit, and nobody wants to do it because it's expensive and time consuming. In New Jersey, it's impossible to get [additional] water for a golf course. Connecticut



Vinchesi

and Massachusetts aren't far behind."

And there is temporary regulation throughout the country.

"States have legislated water usage," Barrett says. "I certainly wouldn't be surprised if we see more strict regulation throughout the country. For example, people are debating laws about restricting water usage in New Jersey."

In Atlanta, a law almost passed requiring local municipalities to shut down golf course irrigation during a drought, and in Massachusetts, there has been a push to pass a law banning outdoor irrigation, according to Barrett.

"We all know about problems in the West, but it's not a Western problem," he says. "Virginia, North Carolina, Alabama, Florida and Georgia have been fighting over shared rivers. There are plenty of fights for water."

Georgia, Florida and Alabama are in state supreme court fighting over the Chattahoochee River, which separates Georgia and Alabama and runs into Florida, says Mark Esoda, a certified golf course superintendent at the Atlanta Country Club.


In Georgia during the past few years, there also was a 10-inch-per-year deficit of rain that caused a mandatory water-usage restriction in the state, Esoda says. Golf courses are no longer bound by the restriction unless there's a level-two drought, which the state determines by using nine different factors.

Each region of the country has different rainfall and water tables, so everybody shouldn't suffer at the same time when there's a drought, according to Dean Graves, certified golf course superintendent at the Chevy Chase (Md.) Club.

## Improving its image

While water is a limited resource, it's a must for golf courses to stay green – and profitable. The public must be educated about this fact, Vinchesi says.

Steve Swanson, golf course superintendent at the Siena Golf Club in Las Vegas,



The issues related to droughts and golf course water use present concerns throughout the country, but are most recognized in the West.

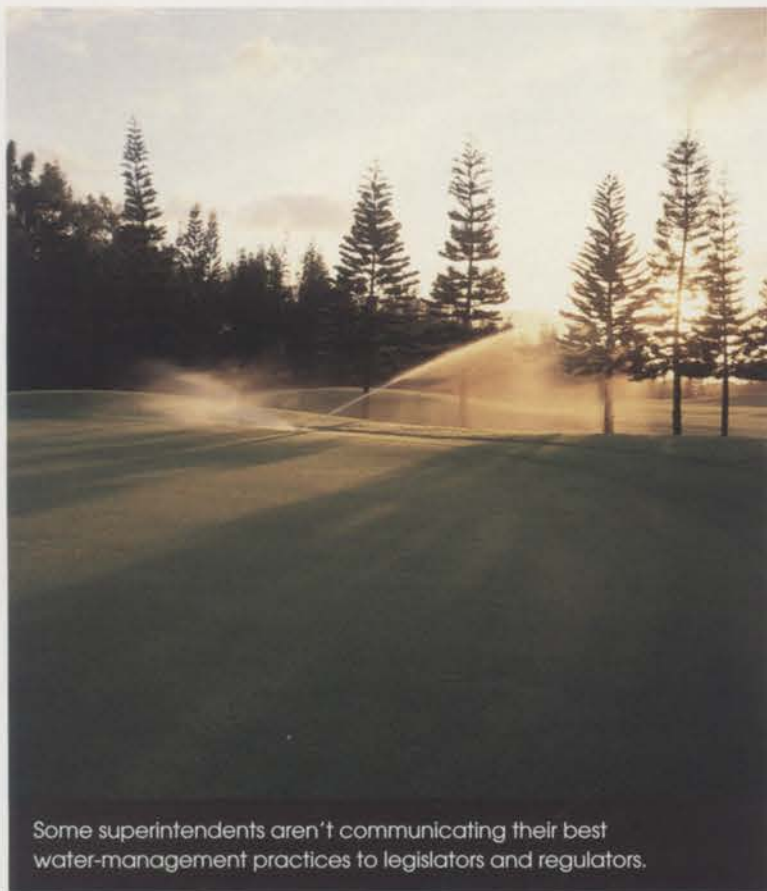


Photo: Rain Bird

Some superintendents aren't communicating their best water-management practices to legislators and regulators.

says the Golf Course Superintendents Association of America needs to promote the best water management practices superintendents use to combat perceptions that golf courses waste water.

However, Swanson says: "Local chapters can only do so much. Communities should pool money to generate something that is effective to erase the image that golf courses are cesspools of waste."

While many superintendents are aware of and employ best water management practices, many aren't diligently recording or communicating them to regulators and legislators, Esoda says. Recording and categorizing practices are musts.

"Golf courses are considered consumptive water users," he says. "We can show people how considerate we are with water. There is a lot of money in the ground to make sure we are watering our courses properly. We have to log our practices to show neighbors and regulators.

"It's economics, too," he adds. "We don't want to waste water because it's an expense."

Barrett blames legislators' lack of knowl-

edge on the industry itself, but acknowledges the GCSAA's and the U.S. Golf Association's educational efforts.

"Compared to homeowners, golf courses are a tiny user of water, and people maintaining golf courses are professionals and understand about overwatering and its effects," he says. "The agriculture industry uses millions more gallons than turf does. Golf is a small percentage of the overall scheme of water users. Water usage on golf courses is a misperception because they are big and visible, but that doesn't mean we're not wasting some water and power through poor management or systems."

The industry hasn't gotten its message out as well as environmental groups have gotten theirs out, Barrett adds.

"People need to look at how many jobs depend on golf courses and how that impacts the economy," he says. "That information needs to get through to regulators who talk about cutting off water."

But the industry has addressed the water quantity concerns by developing more efficient and effective irrigation resources,

## A smarter use of water

**E**ducation, information and more precise irrigation systems have led to more effective and efficient applications of water on golf courses. Superintendents are armed with more information than ever before, which leads to best management practices, according to the Golf Course Superintendents Association of America.

Using more precise irrigation controls to water areas of a course differently and adding weather stations and remote controls help superintendents conserve water.

"That sounds expensive, and it is," says Brian Vinchesi, president of the Irrigation Association. "You're doubling fairway costs with separate irrigation systems. It's becoming more popular."

Auditing an irrigation system also helps.

"A superintendent can see where he is wasting water and what needs more watering," Vinchesi says. "New nozzles help with that, but they are not the answer on every course. A lot of superintendents don't know how water is put through sprinklers, and an audit shows you that."

"New equipment is costly, and not everybody can afford it," says Steve Swanson, golf course superintendent at Siena Golf Club in Las Vegas. "At \$7 a pop for every nozzle, and if you have 2,000 irrigation heads, some can't just change the nozzles. But in the desert, since we use so much water, there's probably not one course that's not up to date with the best irrigation system."

It's all about uniformity and control, according to Jeff Kiewel, national sales manager for Rain Bird's golf division.

"We're constantly working on putting out the right amount of water in the right spots," Kiewel says. "Nozzle and rotor engineers are working on getting better coverage and uniformity. Nozzles are getting replacements every year. Central control also is key. We're focusing on efficiency."

Dana Lonn, director of the center for advanced turf technology for The Toro Co., says the company has spent time and money improving the quality of its nozzles because water uniformity is critical.

"Superintendents always water to the driest area, and if you have poor uniformity, you're wasting water," Lonn says. "The 800 series has been improved. The nozzle is more precise. The nozzle is a sophisticated device. We'd like it to be perfectly uniform, but it's almost impossible."

"There's been a lot of enhancements in central control software," he adds. "In the past five or 10 years, superintendents have gone to more sprinkler heads and more control. Software enhancements make it easier

to adjust. It's more money, but it gives one more capability."

Jim Barrett, president of James Barrett Associates, an irrigation consulting firm, says superintendents can let more areas be native and let drought-tolerant grass grow tall to reduce water usage. Other ways to reduce water usage include cutting turfgrass less frequently and using wetting agents, quick-coupling valves to handle smaller problem areas and species of grass that play well and need less water.

"If these practices were to take place, superintendents need to communicate to members first and be proactive and explain why," Barrett says. "This is more of the direction we should be going. A lot of course maintenance areas that aren't related to the game use a lot of water for aesthetic reasons. Those areas could cut back on water consumption."

When drought became an issue in Nevada, Swanson says his course was ahead of the curve in trying to be more efficient using water.

"I have ryegrass on 95 percent of the golf course," he says. "There is little buffer room. Most people have Bermudagrass and have cut back on water. We converted 35 acres back to a native grass design and reduced water usage 35 percent."

Siena is a public daily-fee facility, and the water Swanson uses hits the bottom line.

"It's imperative that I run water efficiently," he says. "We're constantly updating our programming systems - daily, monthly and yearly."

Pumping water from a municipality to a course more efficiently can also be improved. Integrating local pump station controls with a course's irrigation control system exists but needs to be refined to achieve better efficiency, Kiewel says.

"Right now the interface is a 'Hi, how are you,' and the options are limited," he says. "The software isn't the same. Everybody has that issue, and we want to eliminate that. We're going to get it over time. We're improving efficiency 10 percent a year. That's a lot of water. We're working on nozzles and rotor controls. Research and development is working on system integration. There is room to improve. The gap is smaller this year than last year."

Additionally, effluent water use is gaining acceptance, according to the GCSAA. Oftentimes, the issue is the inability of a municipality or district to deliver water to the golf facility. But there's little doubt effluent water use will continue to rise, especially as it becomes more economical. GCN



Photo: The Toro Co.

Compared to homeowners, golf courses are a tiny user of water, according to consultant Jim Barrett.

which have helped position golf as a responsible consumer of water, according to the GCSAA. The association has used education and information as a strategy to work with its chapters to develop policy and regulation on a local level. In particular, it has worked with its chapters to become involved with water authorities so policies can be established that result in less water usage. Getting its members to serve on water panels and community groups also has been important in educating policymakers, and feedback the association has received indicates superintendents are oftentimes the most informed people on these boards.

Additionally, the GCSAA says it has positioned golf courses as key assets of communities because they provide recreational, financial and environmental benefits. The association also has addressed golfers' expectations for wall-to-wall green courses by communicating that grass doesn't have to be green to be in high-quality playing condition.

Another positive aspect of golf courses is that they are the most conservative users of water, Esoda says.

"And we're environmentally friendly because we'd kill the grass and have a lot of runoff if it was watered too much," he says.

Superintendents are looked at more like environmentalists than they were five to eight years ago, Graves says.

"Golf courses are more of a benefit for the environment," he says. "Chevy Chase Golf Course provides enough oxygen for the residents of Chevy Chase. And due to research, the GCSAA is getting out the good word, but there is still a long way to go. We're an easy target. Five percent of the population plays golf, and we'll be lucky if

one legislator plays golf and understands what we're doing."

### Working with legislators

Promoting best water management practices and the benefits of golf are ways to help prevent legislators from restricting water use too much. Georgia is putting together a planning commission for water management and has to have a water management plan soon.

"We need to work with the commission to make sure golf isn't restricted," Esoda says. "Golf courses in Georgia have been lobbying state legislators to make sure golf is recognized as a water conservator."

Esoda says that by 2006, the GCSAA membership in the state wants at least 75 percent

of its members to use and track best water-management practices so it can show state legislators how they use water.

"When dealing with regulators, you want to talk to them about usage," he says. "They want to know the volume and know how water is managed. When you talk to legislators, you want to explain to them that golf courses are a tax base and income is generated in the state as a result of golf tournaments. You have to explain the business of it and how much of it is an integral part of the economy."

Suppliers are helping, too. Rain Bird's golf division is involved in areas to educate and influence regulators and legislators, according to Jeff Kiewel, national sales manager.



Photo: Rain Bird

The GCSAA is helping to position golf as a responsible consumer of water through education and information.

"We're involved with the federal government to establish water-use guidelines," Kiewel says. "We're in the middle of the fray between the Environmental Protection Agency and golf course development. It's important that we're part of that discussion in finding a middle ground."

### Water restrictions

Superintendents are dealing with water restrictions throughout the country. For example, there are regulations for golf courses in Maryland when droughts occur.

"We can't water the rough and have to hand-water for certain things," Graves says.

"We can water greens, fairways and tees. We can't water from 9 a.m. to 9 p.m."

The former governor of Maryland tried to mandate that golf courses reduce water usage by 70 percent, which is unrealistic, according to Graves.

"We have an efficient irrigation system, and we manage water much better," he says. "We have divided each fairway into six areas. We irrigate each one differently. Each area depends on sun, shade, hills, breeze, etc. Technology is enabling us to segregate a golf course and have it run by a computer."

In Nevada, Swanson says Las Vegas-area superintendents have met with the Southern Nevada Water Authority and discussed water-usage issues.

"It took time to educate the Water Authority about what we needed to service the golf courses and what the authority needed to accomplish," he says. "Ultimately, the goal of the authority was for us to use 6.5 acre feet of water. All superintendents in town fully understand the ramification of the situation. They understand how serious the situation is."

"(Las Vegas-area) golf courses were given a choice of being told when to water or having a budget to stay within," Bennett adds. "Overwhelmingly, they chose the budget and said: 'We'll manage it.'"

Bennett says courses in Las Vegas have implemented a drought plan with mandatory seasonal watering schedules.

"Most water is wasted during the spring, fall and winter – not in the summer when it's the most restricted," he says. "There are times of day when one cannot water."

Although, Bennett says some superintendents are underbudget for water use, and the ones who irrigate a lot get the attention.

"Hand-watering has helped," he says. "The golf industry reduced water use 10 percent during the past year. They have stepped up to the plate. They should be commended."

### Superintendents' reactions

Overall, superintendents react differently to the public's concern about water usage. Some don't do anything unless they're forced to, some are more proactive, and some like watering more than others.

"If you have a really checked-out superintendent, he will do some of water-use-reduction practices on his own," Barrett says. "Some guys won't change so easily because they don't want to lose their jobs because of a brown fairway. They are doing what they're told."

Swanson says many golf courses in Las Vegas are converting peripheral turf zones to drip-style landscape due to the systems water banking abilities. Drip-style landscape, on average, will consume one-fourth the water of a conventional overhead spray



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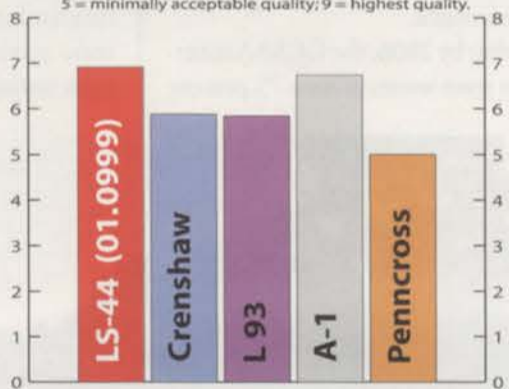
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According to a recent GCSAA survey, superintendents generally are doing more with less when it comes to irrigation – 54 percent are using less water on their golf courses than they were 10 years ago, while only 27 percent are using more. Of those using less water, almost half (39 percent) are using 1 percent to 25 percent less water than they were 10 years ago, and 14 percent said they are using between 26 percent and 50 percent less water than a decade ago.

### Ripple effect

Water restrictions influence changes in golf course design, grass type, amount of turf on the playing surface and irrigation systems. More courses in the future might have narrower fairways and browner roughs. Researchers are even working on breeding new grasses that retain color and will be more drought tolerant. However, using these new breeds would require many courses to rip up existing turf and reseed.

“As new technologies come out, we apply them,” Swanson says. “We’re on the cutting edge of water use for golf courses.”

But if a course doesn’t have access to that much water, it will have to cut back on the amount of turf it has. In Las Vegas, there’s a turf buy-back program.

“The program will pay you to sell turf so you can put in other turf that doesn’t need that much water,” Vinchesi says. “But without water you have no turf.”

Suppliers are also contributing to advancements. Dana Lonn, director of the center for advanced turf technology for The Toro Co., says the industry will move toward sprinkler heads that control smaller areas.

“There’s also a lot of work being done in the industry to enhance evapotranspiration predictions and standardize equations because a lot of irrigation is done by feel instead of science,” Lonn says.

Work also is being done on soil moisture measurement sensors that have been applied in agriculture but now are being applied in the turf industry to help superintendents decide the timing of turfgrass watering, Lonn says.

“We’re also starting to see subsurface drip irrigation,” he says. “It won’t be everywhere. It works better in sandy soils instead of clay. We’ll see more and more of it. Developments in this area are like most things – necessity is the mother of invention.”

Toro funded research that tries to understand turf and the way it uses water, as well as how to use poorer quality water on turf, which, in turn, will create a need for more

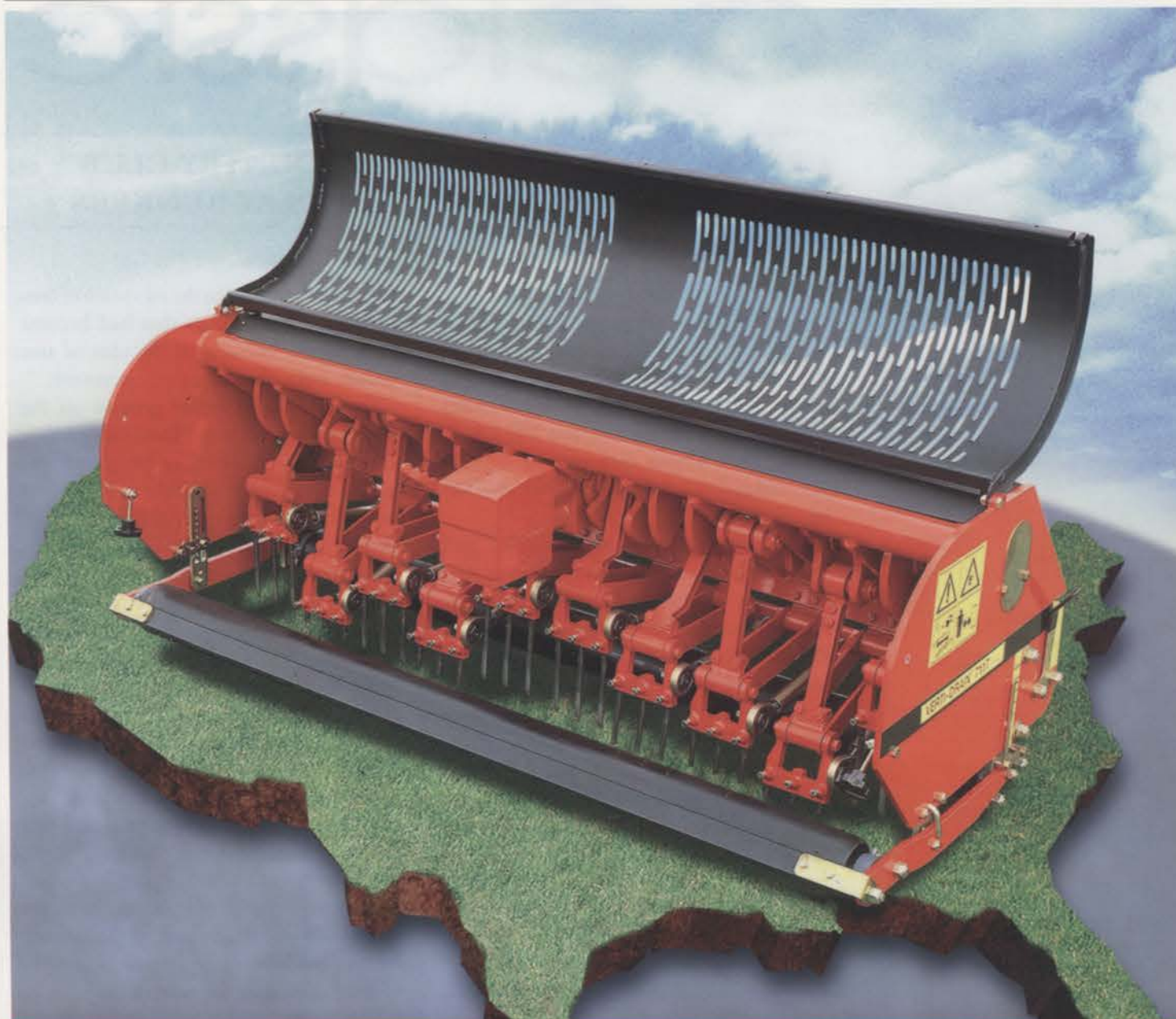
corrosion-resistant irrigation parts.

And Kiewel says Rain Bird is designing a system so that superintendents can comply with new restrictions in the Sun Belt areas.

In the end, the water-use issue will continue to be a problem because there’s a dry spell almost every year, Graves says.

“It’s not going to get any better; it’s only going to get worse,” Vinchesi says. “Many people don’t understand the pressure water use will come under.” GCN

*John Walsh is the editor of Golf Course News. He can be reached at [jwalsh@gie.net](mailto:jwalsh@gie.net).*



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# Restoring a classic

## CENTURY-OLD MIDLOTHIAN COUNTRY CLUB UPDATES, RELOCATES OUT-OF-PLAY BUNKERS

by  
HAL  
PHILLIPS

In 1998, Midlothian Country Club celebrated its centennial by junking its 1960s-style clubhouse and replacing it with a more fitting, Colonial-revival style model. With another anniversary looming – Midlothian was site of the 1914 U.S. Open – the Illinois club revived its 106-year-old golf course by completely renovating its bunkers.

Working in concert with certified golf course superintendent Dave Behrman and with sister construction division Golf Creations, Marengo, Ill.-based Lohmann Golf Designs recently finished its refurbishment of Midlothian's 82 bunkers in a classic, steep-faced, flat-bottomed style – a look club members favored and even help select. LGD's mas-

ter plan also resulted in the relocation of dozens of fairway bunkers that had become meaningless because of decades of tree growth and technological advancement.

Golf Creations broke ground on the \$882,000 project immediately after Labor Day in 2003. Ultimately, progress came quick. Eighty percent of the new bunkers were finished before snow fell in winter, and all of Midlothian's renovated bunkers debuted shortly after the course reopened for play in 2004.

### Improvement needed

Midlothian's vintage course dates to 1898. It was designed by H.G. Tweedie, who laid the original tracks at a host of esteemed Illinois clubs, including Exmoor, LaGrange, Bryn Mawr and Rockford. Yet throughout time, Midlothian developed troubling issues common to many designs of this vintage. The main problem: Trees had grown between the playing corridors and minimized the impact of the course's fairway bunkers, many of which had become obscured by the encroaching forest.

"During the 1960s, the club lost all the elm trees on the golf course to disease," Behrman says. "So, the members instituted a very aggressive tree planting program, dedicated a lot of money on an annual basis and never stopped. The golf course became so overplanted that many fairway bunkers were basically surrounded by trees. The Chicago District Golf Association didn't even consider them hazards anymore."

CDGA officials told the club its course rating would never increase until the bunkers were brought more into play.

Remedying this situation came down to

two choices: removing scads of mature trees and refurbishing the bunkers as they lay or moving the bunkers closer to the fairway. LGD founder and principal Bob Lohmann opted for the latter.

"Hundreds of trees would have been sacrificed to bring these fairway bunkers back into play where they lay, and frankly, that just wasn't going to happen," says Lohmann, a past president of the American Society of Golf Course Architects. "Still, we worked with the club for more than five years before deciding to re-establish these bunkers away from the tree line, closer to the fairway corridors. Midlothian is fortunate because its fairway widths remain generous. There was plenty of room to reintroduce these hazards without sacrificing the playability of the course.

"We've also repositioned these bunkers based on modern club and ball technology, re-establishing them farther down the fairways, in some cases, to influence the appropriate target zones and landing areas," Lohmann says. "After all, today's balls are flying a lot farther than they did in 1898."

### Practical restoration

When it comes to renovating vintage courses like Midlothian, Lohmann is a proponent of what he terms "practical restoration," whereby classic design features are reintroduced in the context of modern playing standards and maintenance expectations.

"For example, there weren't more than a handful of trees on this site when the Midlothian course was built 105 years ago," he says. "To restore the bunkering in an orthodox way, exactly where Tweedie placed them, would have meant the removal of

#### AT A GLANCE:

##### Midlothian Country Club

Location:	Midlothian, Ill.
Course type:	Country Club
Type of project:	Bunker renovation
Project began:	Labor Day 2003
Project completed:	Spring of 2004
Number of bunkers:	82
Type of sand:	Meyers Mason FA-9
Cost:	\$882,000
Design firm:	Lohmann Golf Designs
Architect:	Bob Lohmann
Builder:	Golf Creations
Yardage:	6,708
Par:	71
Superintendent:	Dave Behrman
Club manager:	Tim Habjan
Head professional:	Michael Knights





Bunkers at the Midlothian Country Club in Illinois were refurbished in a classic, steep-faced, flat-bottomed style.

Photo: Kevin Horen

hundreds and hundreds of trees. That's crazy, and impractical. After a great deal of discussion with the members, we agreed to move the affected fairway bunkers, a strategy that solved the tree problems and simultaneously accounted for modern club and ball capabilities."

LGD also solicited members' input to help decide what form the re-established bunkers would take. Throughout time, all 82 of Midlothian's bunkers – fairway and greenside – had degenerated into rounded pancakes of sand with little character or definition. An LGD-led field trip for members, who toured 10 different area golf clubs, helped determine the bunker style Lohmann employed.

"What we settled on was a style similar to the bunkers we recently refurbished at Knollwood [Country Club] outside Detroit," Lohmann says. "In keeping with the vintage qualities at Midlothian, the bunker style is classic. With sod faces and flat bottoms, the look is undeniably dramatic. And the placement is far more strategic. That combination adds up to practical restoration."

## Better bunkers

Using the practical restoration strategy, club members remained involved in some of the project decisions. For example, Midlothian staff members called other clubs and mem-



Members of Midlothian Country Club tested three different types of sand and chose Meyers Mason FA-9 from a quarry in McHenry, Ill.

bers took field trips to receive feedback about different kinds of sand to help select the sand that was used.

"Three different varieties were placed in a sample bunker, and the membership practiced out of each one, then voted," says Todd Quitno, senior architect with LGD. "The winner was Meyers Mason FA-9, from a quarry in McHenry, Ill. We like the sand they chose because it has a nice, light-tan color. It's a good color because, after a year or two, white sand tends to get dirty anyway. It's also very playable, and not too soft and not too firm."

The type of sand and bunker design contributed to improved bunker drainage.

"Of the 82 bunkers we had here, 79 of them had 100-percent drainage failure," Behrman says. "We were constantly pumping and shoveling. If two inches of rain fell, it took us about 16 to 18 hours and 10 men to fix them. That's 180 man-hours to restore the bunkers to what I wouldn't even call acceptable conditions, but the members were so used to these poor conditions, they accepted it."

"Now that we're finished, you wouldn't believe the difference," he says. "We recently had 3.5 inches of rain in one 36-hour period, and there was no water at all [in the bunkers]. They were perfect."

When the project was completed, the golf course featured the same number of bunkers as before, even though some were removed and some were added.

"What's interesting is that it feels like there are more bunkers because now they are properly placed, both strategically and aesthetically, and thus, they come into play and are seen more readily," Quitno says. "Before, the bunkers were lost behind trees and located in other out-of-play areas. Now, they are the focal points of the golf holes."

Behrman also decided to hand-rake the

new bunkers.

"In terms of man-hours, that means the bunkers will require the same or even a higher amount of maintenance," he says. "But we feel the new bunkers are of such a high quality that we've taken the course to a new level. Also, going from mechanized bunker rakes to the hand rakes will result in less disruption to the sand and less contamination in the long term. Hand-raking allows the sand to firm up and stay firm. We didn't want any risk of contaminating the sand during a heavy rain event. It's a trade I'm happy to make."

Behrman says the look of the bunkers – the flat bottoms with strong side mounding – brought character to the golf course.

"It's pretty fantastic what they were able to do here," he says. "Lohmann's guys blended them beautifully; their shapers are artists. We dug two lakes and generated about 11,000 cubic yards of material that we used to blend these new bunker complexes into the landscape. They were able to play out the grades off the back sides of these bunkers much farther into the natural lay of the land. They look like they've always been there."

All the bunkers were sodded and several fairways needed to be adjusted to accommodate the new bunker locations. Behrman's crew made these adjustments by relocating sod.

"We ended up sodding 13 acres of bluegrass," Behrman says. "As for the bentgrass, we moved the bentgrass displaced by the renovation and stored it on several tennis courts that weren't being used. We watered and mowed it and applied snow mold treatments. We kept a sizable portion of it alive over the winter. We stored our practice chipping green in this way, and it came through in the spring beautifully. We had budgeted \$12,000 to \$15,000 for bentgrass and ended



Photo: Kevin Haran

Dave Behrman, superintendent at Midlothian, decided to have the new bunkers hand-raked for less sand disruption and contamination.