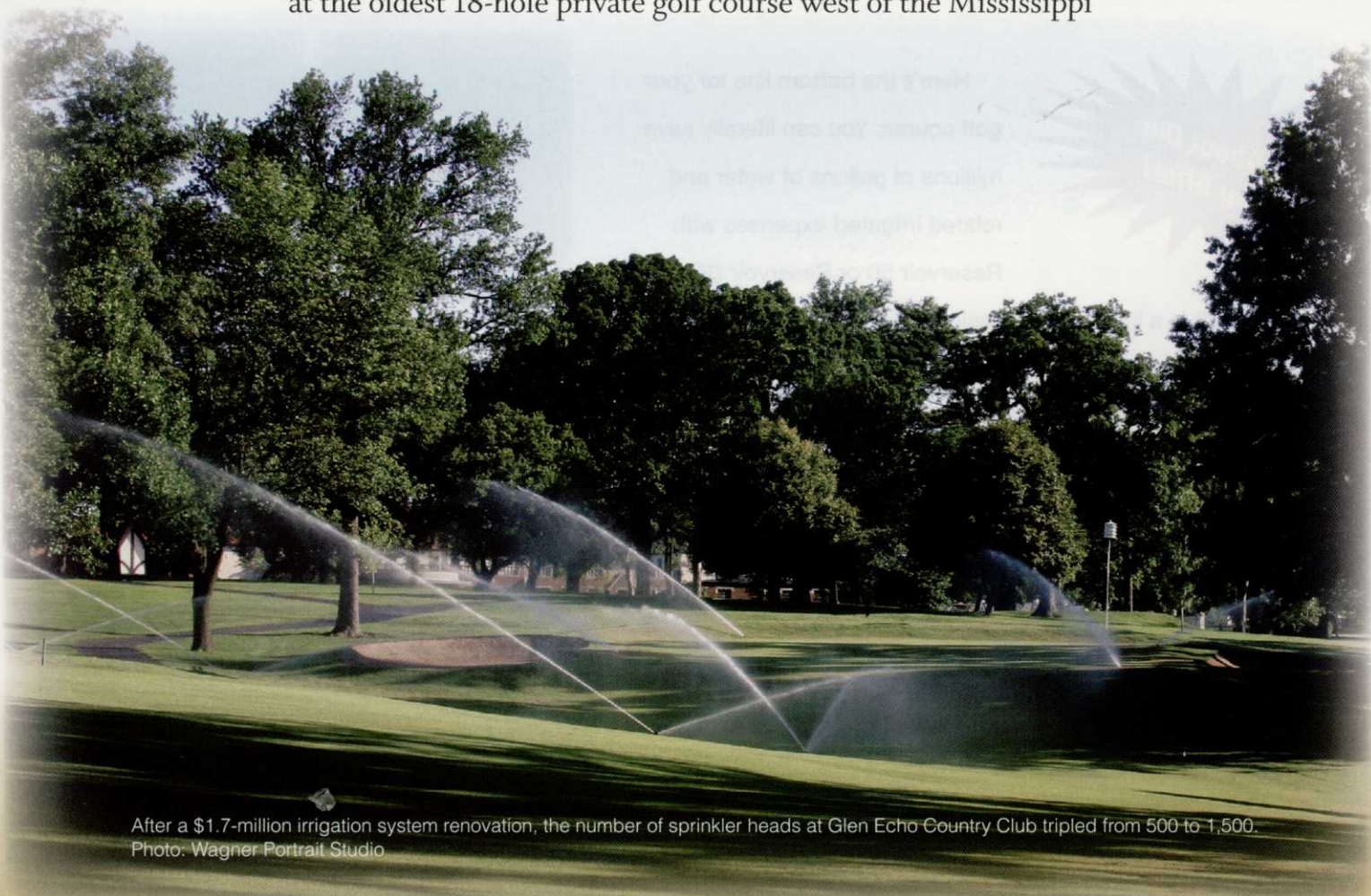


# MAKING HISTORY

By Margaret Hepp

A new superintendent facilitates a new irrigation system  
at the oldest 18-hole private golf course west of the Mississippi



After a \$1.7-million irrigation system renovation, the number of sprinkler heads at Glen Echo Country Club tripled from 500 to 1,500.  
Photo: Wagner Portrait Studio



In 1904, 21 years before the first fairway irrigation system was developed in Dallas, the golf course maintenance crew at Glen Echo Country Club in Normandy, Mo., prepared for the first (and only) Olympic golf tournament played on American soil. Glen Echo has gone to great lengths to maintain its course since its inception in 1901. Most noteworthy is the 1911 American Golfer note that Glen Echo, in its Report of the Greens and Grounds Committee publication, recommended subirrigation of its greens.

"Theoretically, subirrigation is all right," American Golfer states. "But we have not seen a green treated in this way, with the exception of an experimental one at Onwentsia last summer, which was really not so good as any of the regular ones."

By the time Scott Egelhoff arrived at Glen Echo in February 2006 as golf course superintendent, the existing irrigation system had been in place for many years. Egelhoff knew he'd encounter quite a bit of history during his tenure at the course, but its 28-year-old Toro irrigation system, the oldest in the St. Louis area, came as a surprise.

Nonetheless, Egelhoff settled into his new job, becoming accustomed to the lay of the land, battling the *Poa annua* and Bermudagrass encroachment characteristic of the St. Louis area and gearing up for extreme summer temperatures. But he soon realized the ornery old irrigation system was more than just an annoyance. It threatened the turf and health of the entire club. A 12-inch pipe break and pump station failures caused disastrous consequences, spraying unsuspecting members during play and flooding areas of the course with water that had run all night. The irrigation system was down that summer for 36 days – disastrous when you take into account St. Louis experienced its hottest July in history that year.

It wasn't just the malfunctions that were causing problems, either. Egelhoff was forced to overwater his fairways to drive water into the cool-season rough.

"We were wasting gallons of water," he says. "You'd set the clock on the old heads for five minutes, and you didn't know if you were going to get two minutes, five minutes or 10 minutes."

It dawned on Egelhoff that his own job might be in jeopardy if he didn't instigate a considerable change. As the new superintendent of a club steeped in tradition, Egelhoff knew he was taking a big risk. But his job – and the golf course – was too important. It was time to speak up.

#### PROOF IN THE PUDDLES

Egelhoff went to the general manager, Thom Johnson, and the green committee chairman, Hal Wagner, with a plan. He anticipated the two to challenge his proposal, but he was surprised to find they were receptive to his renovation plan. Johnson and Wagner knew the system had been causing problems, but Wagner says no one had been able to explain the situation as effectively as Egelhoff did.

"Scott recognized immediately that we had problems maintaining our grasses," Wagner says. "With his help, we began to put together the details of what we'd allowed to happen throughout the years. We were facing irrigation failure."

Once he got the green light, Egelhoff's first phone call was to Tim Burch, superintendent at St. Louis Country Club. Burch had taken Egelhoff under his wing when he started at Glen Echo and was happy

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## SMART IRRIGATION

to hear of the upcoming renovation. He directed Egelhoff to Brian Nichol at nearby Algonquin Country Club, where a new irrigation system had just been installed. Nichol couldn't say enough good things about his irrigation consultant, Erik Christiansen, president and founder of EC Design. Egelhoff called the firm right away. Christiansen recommended Egelhoff gather as much data as possible with his general manager and green committee chairman to help sell the renovation to the membership.

The team went to work, assessing the current system and then performing a cost analysis, which they eventually presented to the green committee and board.

"We wanted them to understand just how inefficient and limited the system really was," Egelhoff says.

The renovation pitch traveled through board, green committee and full membership meetings, and Egelhoff, Johnson and Wagner also worked to disseminate information to individual members whenever possible to generate support of the project. Finally, the project, a \$1.7-million renovation wholly funded by the membership, was approved.

### BREAKING GROUND

The renovation began Nov. 22, 2006, the day before Thanksgiving. The course remained open as EC Design consultants Larry Collins and Erik Christiansen, Leibold Irrigation Construction Co. and the Glen Echo staff worked in concert to install the new Toro OSMAC system. In particular, Egelhoff and EC Design focused on greens and tees, where they thought most problems would arise.

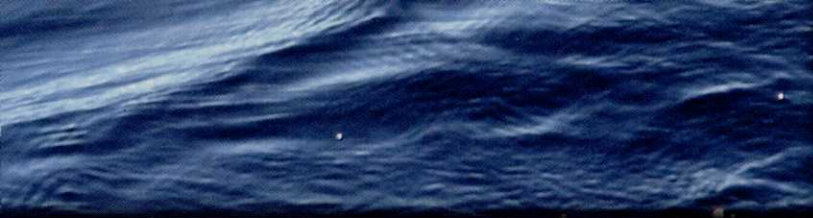
"I remember those guys with tape measures trying to figure out where to put each head to make sure it would fight 20-mph wind," Egelhoff says. "And Larry and I questioned every head. We made a few changes once the design was in place because we didn't like the coverage of the slopes. I called Larry twice and asked him to fly back to Glen Echo."

Collins and Christiansen accommodated each of Egelhoff's requests for improvements, no matter how small, and they labored over spacing and nozzle placement. In the end, the club tripled the number of heads from 500 to 1,500.

"The sprinkler heads do the work, so we like to concentrate on head spacing," Christiansen says. "It pays off long term. Sprinkler heads are the muscle of the system, and they're important. But my fee is the same whether I ask you to put one sprinkler head out or 2,000. I don't represent the products. I don't represent contractors. I'm just here to ensure my customers make educated decisions."

Fertigation and weather systems were installed on the course as well. The fertigation system features two 550-gallon calibrated tanks in which Egelhoff is able to mix wetting agents. The system also is equipped with nitrogen and calcium jets designed to target a water quality issue common of golf courses in the St. Louis metro area. Egelhoff was able to refine the pH of Glen Echo's water to 6.8. The system will pay for itself during the next few seasons, he says.

"We knew we could touch the whole golf course by making sure our water quality was good," Egelhoff says. "It was definitely designed with the thought in mind that fertigation is the future."



Scott Egelhoff estimates Glen Echo saved 20,000 gallons of water May through August from 2006 to 2007. Photo: Wagner Portrait Studio

**IMMEASURABLE IMPACT**

With the new system up and running, Egelhoff didn't waste any time planting new zoysiagrass in the greens surrounds. Two days after the renovation was completed, he brought in two semi truckloads of the warm-season grass he'd struggled to maintain since his arrival.

"We did major renovations on our greens surrounds and fairways where we had single-row irrigation," he says. "A lot of triangular areas died because the spacing was so terrible. Now, we're totally covered, and it looks wonderful. You can't even compare the two systems. It's night and day."

Egelhoff is especially pleased to be able to turn his attention to achieving Audubon International certification for the golf course. It was one of his major goals as he prepared for his job at Glen Echo.

"I knew that to become certified I needed to make an impact in water conservation, water management and water quality," he says. "With a new, state-of-the-art irrigation system, I could prove Glen Echo was environmentally conscious."

The course is on track to receive certification later this year. As he navigates the facility through the Audubon certification process, Egelhoff has attempted to calculate water conservation to date, but the utter chaos of the former system makes efficiency difficult to quantify. What he does know is he's not flooding the greens, he can trust the clocks, and he's able to mark dry and wet spots and input changes to the computer.

"How do you measure that?" he says. "It's immeasurable. We went from a single row to five or even six rows on certain fairways, and I've got control over everything. The turf is much more uniform."

Egelhoff estimates the course saved 20,000 gallons of water May through August, from 2006 to 2007.

"We had the hottest July ever in 2006, unfortunately, but it helped sell the irrigation system," he says. "Last August was the hottest in St. Louis history, and we were great."

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## WORK WITH THEM

Scott Egelhoff, golf course superintendent at Glen Echo Country Club in Normandy, Mo., offers suggestions for dealing with members when it comes to construction projects:

1. Pinch their pennies. Spend members' money as if it were your own.
2. Build trust. Get your g.m., golf pro and members involved in and educated about what it's like on the golf course and what your challenges are.
3. Show, don't tell. Take pictures because they're about as factual as you can get. If I show you a picture, you can't tell me it's just my opinion.
4. The great outdoors. Have green committee meetings outside. Show members the situation with no spin involved.
5. Look ahead. Mark areas on the course you know you'll renovate in the future.
6. Make it last. Don't do a project on the cheap. A year or two later you'll have issues. That's disastrous for trust.

## A JOB WELL DONE

The completed system was handed over to Egelhoff May 15, 2007, and the club celebrated with a grand reopening ceremony. The management team, staff and 150 members attended the party, where Egelhoff and his crew fired up 30 heads on the golf course at once.

"The camaraderie outweighed everything else," Egelhoff says. "That night, I knew we'd done the right thing."

Christiansen, a former superintendent, says a good superintendent wants to know everything to help get the club he works for the best possible irrigation system.

"For Scott to go through this process at an early time in his career was a tough task," he says. "Superintendents like Scott keep pushing the profession to a new level. The club benefits from that. These guys didn't do this for a bonus. They did it because they love what they do."

Egelhoff, who is glad to be able to focus on the golf course once again, is grateful for the opportunity to grow.

"The project taught me a lot about myself, but it wasn't me alone," he says. "I just happened to be the golf course superintendent when it needed to be done. Hal, Thom and the members believed in me and trusted me. Now we have a system that'll last years to come." GCI

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