

Siphons

WORK ON POORLY-SLOPED FAIRWAYS

by LESLEE JAQUETTE

Drainage siphons at Carolina Trace Country Club, Sanford, N.C., have solved a drainage problem caused by inadequate slopes on fairways.

Superintendent Mickey McCord says the siphons are working better than sump pumps for drainage.

A 529-yard long hole is elevated only 30 inches above the level of the 350-acre lake nearby. During the winter and after thunderstorms, the fairway remains soggy and robs golfers of a decent roll.

"There just isn't enough drop over 250 yards to properly drain the fairways," says McCord. "Attempts at conventional subsurface drainage had failed."

McCord's predecessor at Carolina Trace had tried to solve the problem with a sump pump system on the tee side of the fairway. McCord had to correct drainage on the green side. He consulted with Dennis Hurley of Turf Drainage Company of America,

Marrero, La., who suggested breaking up the fairway into smaller drain fields.

"Now, instead of one relief point, we have six for the same area and the subsurface drain pipes have enough slope to do their jobs properly," says McCord.

The six drainage basins are arranged in an "H" shape. Key to the system is the patented one-foot-diameter basins with grates to remove surface water. The walls of the basins are porous, to allow subsurface drainage for the soil profile. A network of "waffle drains" supplied by Turf Drainage extends from each basin.

McCord's staff was able to cut runs from 200 yards to 40 yards, maintaining a better slope. He explains that the basins are connected by polyethylene pipe that ends in a relief cylinder in the lake. A valve connects the irrigation system to the pipe. The success of the system hinges on the fact that other than the initial priming, this valve remains closed.

"The pipe from the basins doesn't have

to be sloped as long as the relief point is below the collection points, water will siphon from the drainage basin." Once the water has been drained, the system is designed to stop draining so water remains in the system and keeps it primed.

The advantages of the siphon system are tremendous, says McCord:

- no valves;
- no moving parts;
- no pumps;
- no electricity;
- no headaches.

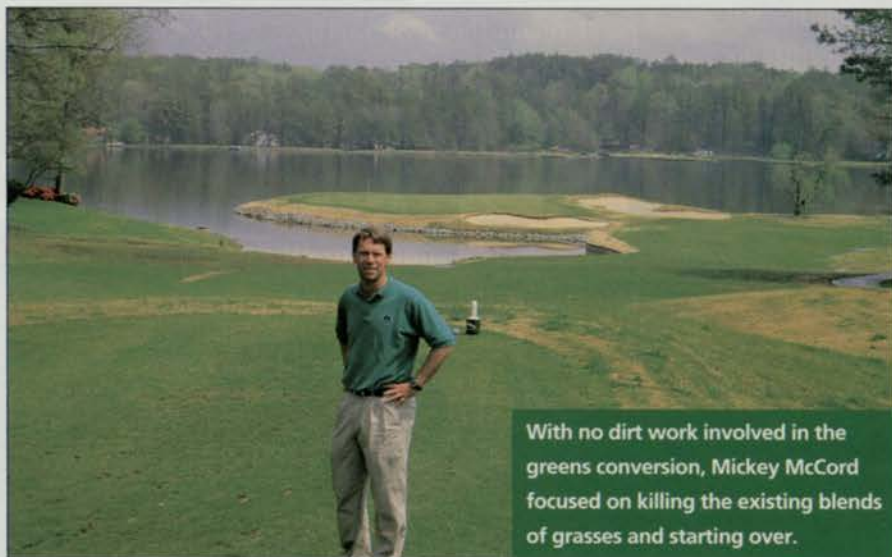
\$2000 per green

Management of Carolina Trace Country Club, Sanford, N.C., recently committed to a four-year renovation schedule of its greens. To that end the club began a greens improvement project, a relatively inexpensive and quick conversion, that cost an average of \$2000 per green. With no dirt work involved, McCord focused on killing the existing blends of grasses and starting over. Starting with the back nine of the Lake Course in August of 1993, the process required:

- 1) three deep-tine aerations;
- 2) then the dirt was scraped down;
- 3) top dressing;
- 4) fumigation;
- 5) verticut again;
- 6) a second topdressing;
- 7) two pounds per 1000 sq. ft. of Dominant creeping bentgrass.

Hand brooming was required, and greens on the back nine were sprayed with fiber mulch. They were watered four to six times per day, and fed with Ringer fertilizer.

One year later, the front nine project was begun. McCord says the same basic plan was followed, only, this time, one ap-





The siphons are one-foot diameter basins with grates to remove surface water.

plication was made of Ringer, followed by two applications per week of fertilizer with minor nutrients. This combination of soluble fertilizer included three ounces per week of Turf Terrific and two ounces per week of Roots biostimulant. The crew sprayed the new greens with this combination every five days for eight weeks, which meant the course opened a month earlier than the back nine.

Members were so impressed with the success, they decided to convert all 18 greens on the Creek course in 1995. At this midway point, McCord says he learned several things. For one, he decided to cut costs further by omitting the mulching with water on this course. It appeared that extra effort to hold the moisture and temperature constant or to keep the seed in place was not necessary.

McCord bought a Terrabroom, which eliminated hours of grooming by hand. McCord estimates the \$2000 broom paid for itself that first year by cutting labor in half on the second eighteen hole course.

McCord went with Crenshaw creeping bentgrass on the second course. After much investigation and discussion with

other superintendents, McCord determined that the Crenshaw would provide a smoother putting surface and better heat tolerance.

It was a horse race on which grass I prefer, but it seems the Crenshaw might afford slightly better heat and stress tolerance," says McCord.

"If a grass offers resistance in summer,

that's when we need the help, and I go for it.

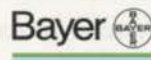
As it turns out, both the Dominant and Crenshaw have proved to be excellent choices for Carolina Trace. The Crenshaw grew so well, says McCord, that 14 greens needed only seven weeks to fully grow in. The remaining four suffered a lag due to shade problems. **LM**

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