

#### WATERING HOLE

With Camelback Mountain at their backs and water hazards ahead, golfers negotiate the third hole of The Phoenician's Desert Nine, the new Ted Robinson-designed layout at the Scottsdale, Ariz. resort. The original Phoenician resort opened with 18 Homer Flint-designed holes in 1988. The new nine opened last April. ITT Sheraton Corp. of Boston owns and manages the facility. The Phoenician and other Arizona courses should benefit from the non-profit Golf Industry Association formed recently to champion water rights and other issues of concern to the state's many golf facilities.

# Non-profit formed to protect water rights in Arizona's stingy supply

By PETER BLAIS

PHOENIX — Protecting the Arizona golf industry's water rights is one of the main purposes of the Golf Industry Association (GIA), a new non-profit corporation formed to preserve the quality and promote the growth of the game across the state.

"There is a significant need for this type of united advocacy on behalf of the game of golf," said Tom Patrick, president of the GIA and vice president of Phoenix-based SunCor Resort and Golf Management.

"Over the years, golf has made tremendous contributions to our quality of life in Arizona. However, recently many legislative and regulatory issues have arisen which could adversely affect all levels of our industry as well as the spirit of the game."

Many of those legislative and regulatory issues have revolved around water. Strict regulations limit the amount of irrigated turf on Arizona courses, Patrick noted. However, a recent University of Arizona study indicates that traditional formulas for estimating golf course water use may be faulty.

"The study indicates we need to look at increasing golf course allocations," the GIA president said. "The test plots used to estimate water use don't take into account the edge effect of having golf courses border the desert. On a golf course, there's nothing to stop the

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# Pebble Beach effluent study ready to go

By J. BARRY MOTHES

MONTEREY, Calif. — A critical, longterm "demonstration trial" to study the effects of reclaimed water on annual bluegrass putting greens — like those at Pebble Beach and several other wellknown Monterey Peninsula golf courses here — will start by the end of this month.

Over the next few weeks, 28, 15-by-15-foot field plots will be installed near the 11th and 12th holes at the Pebble Beach Golf Links. Each plot will have different combinations of grass types, soil mixes and construction styles and will be irrigated with reclaimed water. A main goal of the trial will center on finding ways for peninsula superintendents to maintain world-class putting surfaces while using water with a salt content that has proved troublesome.

"There are all sorts of things that people don't know about using reclaimed water on golf courses that get lots of traffic and use low-mowing heights," said Mark Mahady, an agronomic consultant based in Carmel Valley, Calif., who is leading the study. "We think this study will help us figure that out."

The reclaimed water research project was developed in the wake of problems on putting greens at seven Monterey Peninsula golf courses. In 1994, a \$34 million recycled water project was launched by the Pebble Beach Co., whose courses started using reclaimed water to irrigate its tees, fairways and greens. Within a year, however, superintendents started noticing discoloration, wilting and disease on their greens.

The problems have been linked in part Continued on page 37 Spreads More, Costs Less

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# Oneida Nation promises to employ effluent at \$10M golf center in New York

ONEIDA, N.Y. - The Oneida Indian Nation has pledged to use recycled water from the city's treatment plant to irrigate its future \$10 million golf center.

According to an agreement set to be finalized between the city and Indian community, the Nation will lay a pipeline spanning 3.5 miles from the golf facility

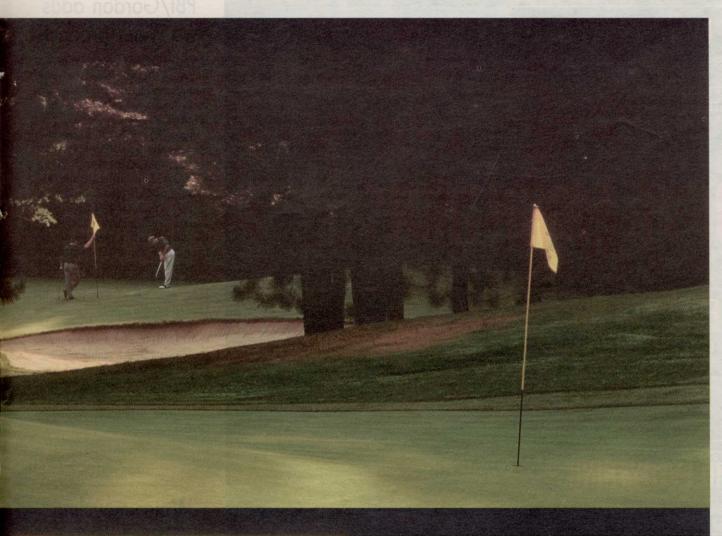
to the treatment plant. The pipeline will intercept effluent that would otherwise flow into Oneida Creek.

The intercepted effluent will be discharged into a reservoir near the golf courses. The irrigation system will have temperature controls and weather systems that automatically extract water to

certain parts of the course. The system is modeled after similar systems used at Walt Disney World courses.

City and state environmental officials here are pleased that it will reduce the amount of material discharged into Oneida Creek, Lake Placid and Canton are the only other communities in New York state that use effluent water.

The Oneida Indian Nation's golf center, which is scheduled to open in 1998, will feature an 18-hole golf course, a nine-hole par-3 course, a golf academy, a full-size driving range, a short-game center and a 40,000-square-foot putting area. Construction started earlier this spring.



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## Pebble Beach

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to a higher salt concentration in the reclaimed water. The putting surfaces at the seven courses are annual bluegrass (Poa annua), which has proved to be the best turf to cope with the peninsula's cool, foggy climate. But Poa annua is also very sensitive to salt.

The project has been scaled back significantly from last fall, when the plan called for a technically sophisticated "replicated" field study that would have cost somewhere between \$300,000 and \$500,000 over a four- to fiveyear period.

But the scope and scale of the project shrunk during the winter. Questions were raised over whether there would be a predictable and constant supply of reclaimed water for the entire length of the proposed study. There were two occasions in 1996 when the golf courses were forced to use potable water because there wasn't enough reclaimed water available.

Any interruption in the supply of reclaimed water, according to Mahady, would ruin the scientific integrity of a study trying to determine how the grass will do while relying completely on reclaimed water.

"Although it's not a replicated field study," said Mahady, of the new version of the project, "and it's not as statistically substantial as what we originally planned, there's a great learning curve through this sort of work that is tremendously beneficial. If reclaimed water is used on the peninsula, and it is, we need to know how to use it properly."

With the demonstration trial plots at Pebble Beach, maintenance crews will maintain them as part of their daily routines. Once the grass grows in, they will simulate wear and tear, trying various mowing heights. Mahady will be the lead evalua-

Mahady said one of the first things that he and others involved in the project will be watching closely in the short term is how water quality affects the germination of the grass type and the rate of that germination.

"We'll start learning from day one," he said.