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THE FRONT OFFICE

OPINION PAGE

COMPUTERS ON THE GOLF COURSE



Just a few short years ago, it was unusual for a golf course superintendent or sports turf manager to have a personal computer in his office. Hardly anyone knew or talked about spread sheets, data bases, random access memory, programs, phone modems, or hard discs.

Today, I venture to guess that nearly 20 percent of all golf course superintendents spend some time each week in front of a computer screen. Parks, universities, and schools also have entered the world of elec-

tronic management in a big way. It's no wonder that a number of state turf conferences this winter have included seminars on the use of computers.

It's truly amazing what you can do with a personal computer if you devote the time and energy to learn the basics and practice, practice, practice. Learning to use a computer is like learning a new language. If you stick with it, your newfound ability to communicate instructions is both enjoyable and rewarding. After all, whether you're playing Mario Brothers (a Nintendo game) or building a budget, many of the principles are the same. By learning a few tricks, you can impress both yourself and others.

Some superintendents were introduced to computers when they added a central controller to their irrigation systems. Nearly all irrigation controllers today are simply personal computers operating with special programs. They are not limited just to irrigation. Irrigation programs only take a few minutes to run. That leaves hours of time to use the computer for other purposes. Since the computer is paid for, it's a waste not to use it to capacity.

By purchasing various management programs you can use the same computer for time management studies, calculating equipment depreciation, keeping precise records of maintenance practices and inventories, developing detailed historical data, and forecasting costs. You can write reports, schedule vacations for your crew, and build lists of your key suppliers. You can store cabinets full of information on a few floppy discs.

Working together, superintendents and computer specialists have begun to develop programs specifically for golf courses. In creating this software, they identify key areas of importance to superintendents and structure data bases around them. All you have to do is input numbers for each category and the program does the rest. The same type of custom-programming is found in irrigation software. The superintendent really doesn't need to get involved in programming at all.

One advantage of computer software is it can be updated as new and better ways of handling data are discovered. You don't have to buy a new computer. You simply insert a floppy disc into the drive on your computer and load the new program.

Computers have saved thousands of dollars in water, energy and labor costs for irrigation. They can do the same for many other areas of golf course management. It won't be long before most golf course superintendents talk about computers and programs in their daily conversation.

Bruce F. Shank

EVENTS

CALENDAR

FEBRUARY

15-16 Athletic Turf Management Seminar, Jacksonville, FL.
Contact: National Institute on Parks and Grounds Management, P.O. Box 1936, Appleton, WI 54913, (414) 733-2301.

19-26 GCSAA International Golf Course Conference and Show, Orange County Convention/Civic Center, Orlando, FL. Contact: GCSAA: 1617 St. Andrews Drive, Lawrence, KS 66046-9990, (913) 841-2240.

20-22 Western Pennsylvania Turf Conference & Trade Show, Pittsburgh Expo Mart, Monroeville, PA. Contact: Dr. Thomas Watschke, Dept. of Agronomy, Agric. Admin. Bldg., University Park, PA 16802, (814) 863-1613.

27-28 Northeastern Pennsylvania Turfgrass and Grounds Maintenance School, Luzerne County Community College, Nanticoke, PA. Contact: William Pencek, Lackawanna County Ext. Service, 200 Adams Ave., Scranton, PA 18503, (717) 963-4761.

MARCH

6 Southeastern Sports Turf Institute, Citrus Bowl, Orlando, FL. Contact STMA, 400 N. Mountain Ave., Upland, CA 91786, (714) 981-9199.

14-16 Massachusetts Turfgrass Conference, Springfield Civic Center, Springfield, MA. Contact: Dr. Joseph Troll, Box 489, Hadley, MA 01035, (413) 549-5295.

20 West Coast Sports Turf Institute, California State Polytechnic University, Pomona, CA. Contact: STMA, 400 N. Mountain Ave., Upland, CA 91786, (714) 981-9199.

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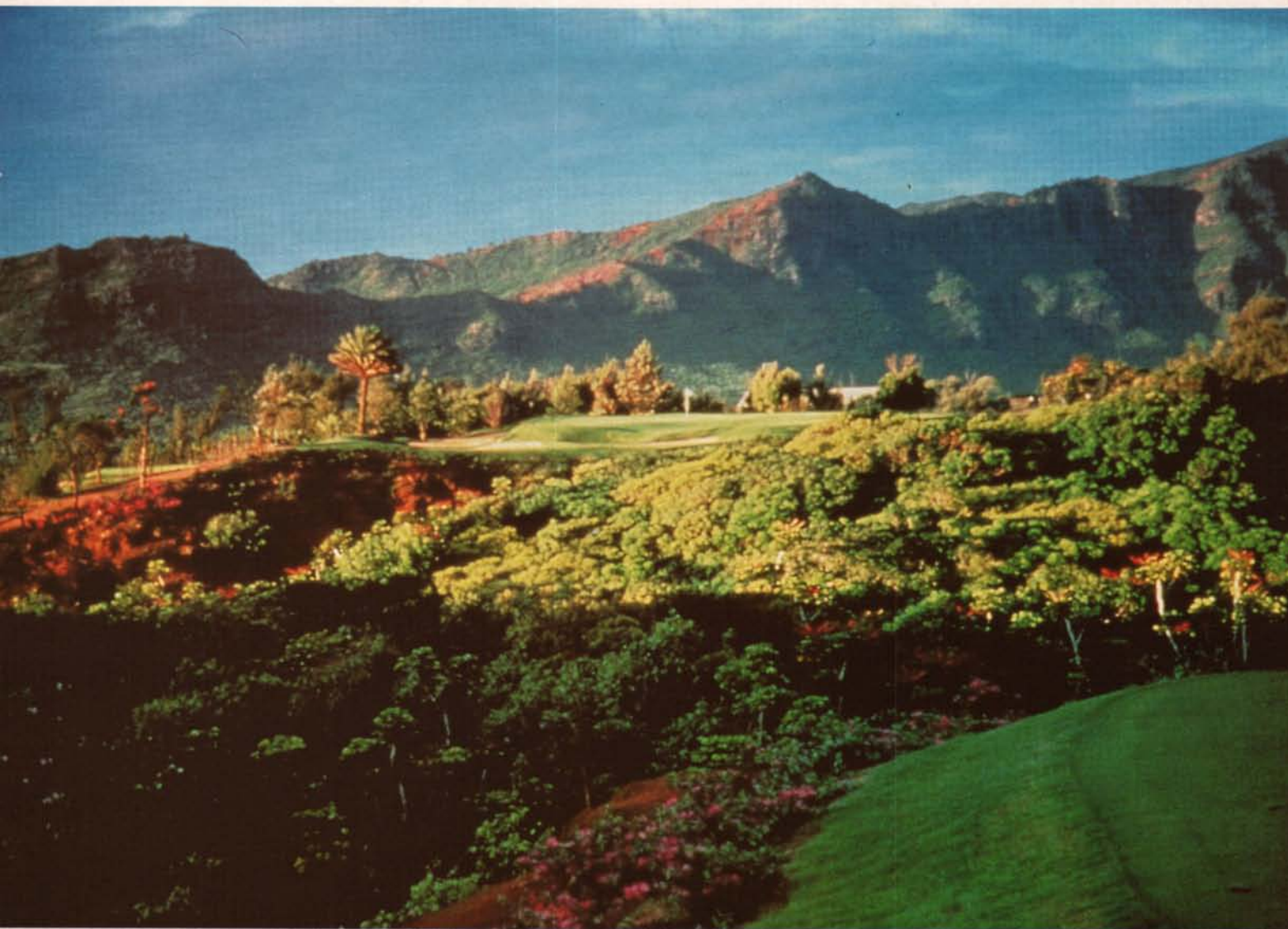
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Kauai Lagoons: Hawaii's Latest Treasure



Golfers must drive over this densely-planted ravine on the Kiele course to reach the green on an oceanside bluff.

When Jack Nicklaus first laid eyes on 800 oceanside acres in Lihue on the Hawaiian island of Kauai, his response was, "This is the most magnificent piece of property I have ever seen." The amazing part is that he made this remark before he and developer Chris Hemmeyer began to redefine the term "exotic" in golf resorts. "These two men could reinvent the wheel," remarks Gaylon Coates, who designed the irrigation system for the massive complex.

The product of their vivid imaginations, the Westin Kauai Golf & Racquet Club, is

now winning accolades from the major national golf publications. *Golf Digest* named the resort's Kiele course the best new resort course in America for 1989. *Golf* magazine called Kiele the most varied and beautiful course Nicklaus has built to date, and recently named the Lagoons course one of the top ten resort courses in America. And Hemmeyer and Nicklaus still have another course to build.

Kauai Lagoons is a "destination resort," meaning that it is the perfect place to visit whether or not you are a hotel guest. It's all there: the tournament-quality golf course,

luxurious hotel and restaurant accommodations, golf and racquet club, a spectacular beach, the largest swimming pool in Hawaii, and a complete European spa and health center featuring aerobics, massages, and many other types of pampering. That would more than satisfy the typical vacationer, but not the type of individual Hemmeyer had in mind.

The spectacular coastal cliffs, the lush tropical vegetation, the backdrop of mountains born from volcanoes, and the sugar plantations on the slopes are all distinct treasures of Kauai. To this Hemmeyer

While the Hawaiian setting and the unique opulence of the facility would pique the interest of any well-healed traveler, it is the two golf courses carrying Nicklaus' signature that have attracted the attention of the world.



Aerial photo of resort with golf course in background.

added touches from Italy, Australia, Africa and Europe.

William Randolph Hearst would have felt at home on one of the mahogany launches or outrigger canoes on the resort's 40-acre lagoon. He also would have liked riding one of 35 carriages drawn by Clydesdales, Belgians, or Percherons over eight miles of crushed coral trails. He would have been comfortable in the 26,000-square-foot pool handcrafted with imported tile and surrounded by Grecian columns.

But not even Hearst, the creator of San Simeon, could boast of islands stocked with

wildlife representing countries from around the world. Protected and contained by the lagoons, monkeys, kangaroos, gazelles, zebras, and other exotic animals and birds live in a style that exceeds "creature comforts." Flamingos and swans frolic in the manmade system of waterways. In fact, the Kiele course has animals as its theme. Each hole is named for a particular animal or bird.

While the Hawaiian setting and the unique opulence of the facility would pique the interest of any well-heeled traveler, it is the two golf courses carrying Nicklaus's sig-

nature that have attracted the attention of the world. Perched on oceanside bluffs above Nawiliwili Bay and sculpted from an old sugar plantation, the Kiele course and the Lagoons course offer a challenge and beauty rivaled by few other courses in the world.

Wadsworth Golf Course Construction Company built both courses under the guidance of Nicklaus and irrigation designer Coates. The resort landscape was designed by Tongg, Clark & Mechler of Oahu and installed by Kauai Nursery and

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Photo taken on hole #5 at Muirfield Village Golf Club



Columbus made another big discovery in the 1500s

It's been the same story for centuries—big discoveries generate a lot of excitement.

Today, the big discovery in Columbus, Ohio has been the John Deere 1500 Sprayer and Spreader, and the job they've done on some of the areas most prestigious golf courses. Courses that have hosted such tournaments as the U.S. Open, U.S. Amateur, Ryder Cup, Memorial, PGA and NCAA championships.

"The accuracy of our 1500 Sprayer is amazing," says Mark Yoder of Scioto Country Club. "The Micro Trak monitor tells us exactly how much we're applying at any given time. It's one of the best equipment investments I made last year."

"The stability of the 1500 makes it perfect for our hills," says Mike McBride of Muirfield Village. "We started with one 1500 for top-dressing and were so impressed with it, we purchased another for spraying our fairways."

"The maneuverability is a big benefit for us," says Gary Rasor of The Ohio State University. "It allows us to spray in places where we couldn't get to otherwise."

"Versatility is the big plus for me," says David Hull of Columbus Country Club. "We use one 1500 for both spraying and top dressing. Having one traction unit to do both jobs saves us money."

For the name of your nearest distributor, or free literature on all John Deere's Golf and Turf Equipment, call 1-800-544-2122 toll free or write John Deere, Dept. 956, Moline, IL 61265. We know, like these turf professionals in Columbus, you're going to like what you see.

*The John Deere 1500 helps Columbus, Ohio area superintendents (l to r) David Hull, Mark Yoder, Mike McBride and Gary Rasor maintain their courses at world-recognized standards.**

*September 1989 *Golf Magazine* rated the three best conditioned courses in the world as Augusta National, Muirfield Village and Scioto.



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Kauai Lagoons

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Landscaping, Inc. The extensive Rain Bird irrigation system was provided by Paradise Supply in Honolulu. But the grow-in and subsequent care of both has been the responsibility of Earl Sanders since 1987.

A project the size and complexity of Kauai Lagoons would boggle the mind of many superintendents. You'd expect Sanders to be a little arrogant and high-strung. Instead, he is very down-to-earth and unselfish, almost shy. But there is a well-organized and highly dedicated person behind this calm exterior. There has to be.

The 40-year-old Sanders started his career 18 years ago raking sand traps and trimming on a golf course in Phoenix, AZ. He didn't play golf, but he was captivated by the agronomics of the huge facilities, especially when it came to construction. His dedication was rewarded with assignments for irrigation maintenance and reshaping greens and tees. Before long he was on the construction crew at Royal Palms, a nine-hole executive course in Mesa, AZ. When the job was finished, he was asked to stay on to help manage the grow-in.

Sanders wanted to learn more about the technical side of golf course construction and maintenance. Dr. Bob Kneebone, professor at the University of Arizona in Tucson, convinced Sanders to study agronomics and plant genetics under him at the university. After completing his bachelor's degree in 1979, Sanders longed to get back out on a golf course to continue building and reshaping. He found the opportunity at Edgewood Country Club in Lake Tahoe, CA.

An offer to help build Camelback Golf Club in Scottsdale as assistant superintendent proved too good to pass up. Following the grow-in of that course, Sanders moved up to become superintendent at Mountain Shadows Country Club in Scottsdale. After a brief attempt at building his own landscape maintenance company in Phoenix,



The Lagoons course gets its name for the manmade water hazards which come into play on this peninsula green.

he realized that he belonged on a golf course.

Had it not been for Sanders' next job, he might never have latched onto the opportunity of a lifetime, the position at Kauai Lagoons. Phil Shoemaker, then superintendent at Desert Highlands, hired Sanders to be his assistant superintendent during grow-in. This was his entree into the realm of Nicklaus-designed golf courses.

Nicklaus is a strong believer in practice makes perfect. He surrounds himself with people who have experience and a proven track record. Once you've demonstrated a skill that's important to him, you become part of his team.

Sanders became a member of the Nicklaus team during the grow-in of Desert Highlands. When Shoemaker left to attend to the first of three courses at Mountain Shadows, Sanders moved up the ladder to

superintendent. Shoemaker has since become the superintendent at the Nicklaus-designed Loxahatchee Club in Jupiter, FL.

In 1987, when Nicklaus and Wadsworth were making progress on the Kiele course, the call went out among his cadre of superintendents for the job at Kauai Lagoons. Sanders took the bait, applied for the position, and got it. Hemmeter hired him primarily to monitor the various subcontractors on the project and supervise the grow-in of both courses.

"I'd been to Hawaii before," Sanders remarked, "but I was amazed when I saw the resort for the first time. My parents used to live on the big island of Hawaii. Kauai is much older than the other islands. Wind and rain over millions of years have broken the lava down into a thick layer of red clay."

The irrigation was just going in on the first hole of Kiele when Sanders arrived in July. "The pump station hadn't been installed and this was my first exposure to the MAXI [Rain Bird] system," he recalls. "The trade winds blew between 10 and 30 miles per hour most of the time. Some days we got up to six inches of rain! All these things were new to me."

The wind and rain were a constant challenge when seeding the common bermudagrass roughs and sprigging the Tifgreen fairways. Nicklaus designed the Lagoons course in "links" fashion with an abundance of mounds and undulations. On the Kiele course he used the crags and valleys near the ocean to create drops 50 feet or greater between tees and greens. From the top of the Lagoons course to the ocean-side hole of the Kiele the elevation changes by nearly 500 feet! More than once the seed was washed off the slopes by rainstorms.

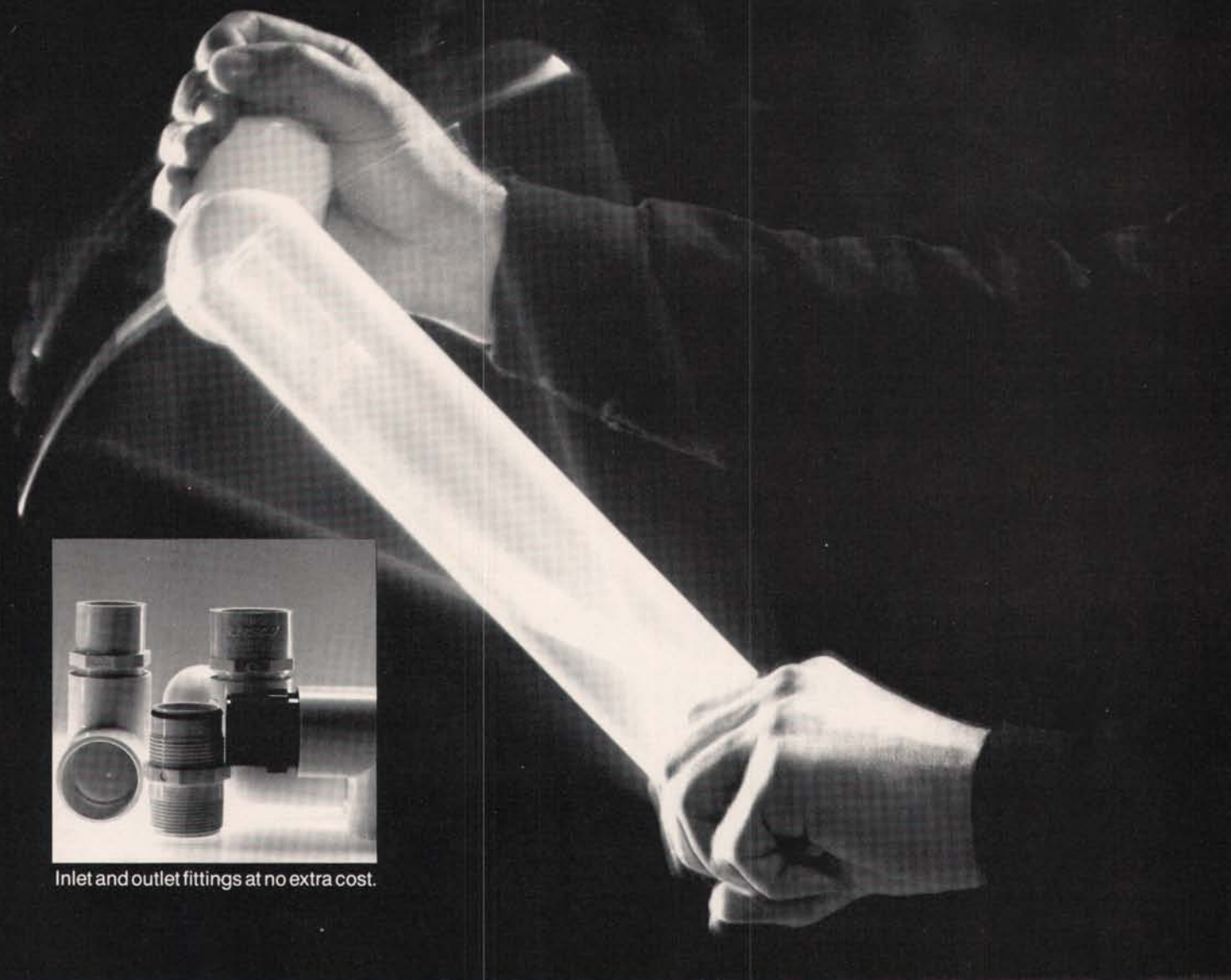
The elevation, wind, and rain also presented Coates with an exceptional challenge during design and construction

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Large bunkers and heavily mounded fairways and roughs give the Lagoons course a the character of a Scottish links.

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Kauai Lagoons

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of the irrigation system. But first he had to contend with the sheer size of the project. "The climate on one end of the property is considerably different from that on the other," Coates states. "It's enormous! The top of the Lagoons is windy, warmer, and drier. The Kiele is less windy and more humid. Even then, the weather can change in ten minutes from rain to bright sunshine. I'd never experienced anything like it before even though I've done other courses in Hawaii. ET [evapotranspiration] rates vary greatly within the resort."

Coates suggested that each course have its own computerized central control system and pump station. A weather station (Rain Bird) was placed between the two courses at approximately the midpoint in elevation. After all refinements were made, there was a total of more than 3,000 valve-in-head DR rotors per course. This compares to perhaps 600 heads for a typical 18-hole course in the Midwest or 1,500 heads per course in the Southwest, he explained. Head spacing was limited to between 60 and 65 feet on fairways to counteract the wind. An additional 4,000 sprinklers of various types for the resort landscape were tied into the two MAXIs. All 10,000 heads were staked by Coates during construction.

"We had to allow for any changes required during construction in addition to



Earl Sanders.

the resort's needs in the future," said Coates. "We had to create pressure zones that worked with the differences in elevation and then adapt these to changes made by Nicklaus during construction." For example, after the 16th hole on Kiele was graded and the irrigation installed, Nicklaus and Hemmeter didn't like the fact that you couldn't see the ocean from the tee. The green was lowered nearly 50 feet, requiring removal, redesign and replacement of the irrigation.

"The team made it come off," Coates reflects. "Everyone knew they were dealing

with something special and wanted to make it as perfect as possible. We made all kinds of field changes. It took tremendous cooperation to pull it off on time."

Wadsworth and Sanders had only four months to get the bermuda established on Kiele before opening. "We were concerned about the common bermuda invading the 328, especially with the weather," Sanders admits. "We seeded the roughs first with common and gave them seven to ten days to germinate. Then we turned the water off and sprayed the fairways with Roundup to kill any of the common that had been washed into them by the rain. After waiting a week, we spot sprayed the fairways and waited another three days before Wadsworth sprigged the fairways, tees, and green banks with Tifgreen."

Building the two courses required thousands of tons of sand. "We used nearly 12,000 tons just for the bunkers," said Sanders. Kiele required 6,000 tons for its 106 bunkers and the Lagoons course needed an equal amount for its 69 bunkers. One bunker on the Lagoons is nearly one acre!

When Sanders tested the sand from the island, he discovered it was weathered limestone with a pH of almost 9. "If you try to acidify the sand too rapidly it will degrade," he points out. For that reason he imported silica sand from California for top-

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