

IRRIGATION TAILORED FOR ECONOMY

Irrigation consultant Don Burns designed an automatic irrigation system at Fountain Hills GC that would overcome specific soil and terrain problems from the outset, thereby avoiding costly maintenance programs year after year

At a new golf course in Arizona, automation is the key to economical irrigation. The course, which is almost completed, is located at Fountain Hills, a planned community east of Phoenix. McCulloch Properties, Inc., the developer, is the same outfit that purchased London Bridge for reconstruction at Lake Havasu City, Ariz.

Because the Fountain Hills GC was laid into the foothills on the western perimeter of the community, McCulloch called in experts to design and install an irrigation system that could provide automated, precise watering on all sections of the course.

Don Burns, an irrigation consultant, was contracted to tackle the problems involved in watering the desert terrain course. The system that he designed and that was installed by Siemens Environmental, Inc., of Scottsdale, promises to be efficient and economical.

"The major problem on this course was the elevation changes," says Burns. "Between tee and green on the 150-yard number 16 fairway, there is an elevation drop of more than 100 feet. Of course, to a lesser degree, this is a constant problem on most of the fairways.

"Because of the clay content of the soil and the elevation changes, drainage became a major problem in designing an irrigation system. This course in the hot, dry summer will require up to 2 1/4 inches of precipitation each week. When applying that much water you must have control."

Burns claims that it will be possible to give Fountain Hills superintendent Glen Anderson the same control with this automatic sprinkler system that usually is only obtainable on a manual quick coupling system.

"Proper staking and programming of an irrigation system is es-

Workman, left, hikes up fairway to check sprinkler. Burns, right, with some wiring used in watering system.



sential," stresses Burns. "It's not the equipment used or the design that makes a system good. A good system comes from the proper mix of equipment, design and spacing of heads. Plus it's vital that the programming is set up to accommodate the controls of unlike areas with the proper amount of water."

A Buckner Central Programming automatic system was selected for the Fountain Hills course. The system incorporates 1,400 sprinklers heads controlled by 580 stations (or areas of control). No more than six heads on the fairways stations and only one or two heads on the tee and green areas operate at one time. Each tee and green has its own 10-station controller to allow precise control of water in the critical areas where the drainage and contour problems exist.

All field controllers are operated from four master panels located in the superintendent's office. This allows the 58 field controllers to be started, repeated, omitted or operated on a syringe cycle from one location.

The syringe cycle, notes Burns, allows the entire course to be cleared of dew or frost within 30 minutes. The special cycle gives the superintendent the ability to override from his master control panels the individual field controller time settings. The superintendent, when operating the syringe cycle, can

place just enough water on each area of the course to wash away dew droplets or melt frost deposits on the grass.

"However, the superintendent must maintain the proper time settings on the field controllers to provide each area with the correct amount of water. Without this attention, all the advantages incorporated into the system is of little advantage," Burns says.

"A system of this type, with 140,000 feet of pipe and 50 miles of wire, if programmed correctly to take advantage of pipe size, is no more expensive than a stock automatic system that can't offer the kind of precise control that we have

on this job," he adds.

Burns, who had just completed designing the irrigation system for a course in Hawaii, says that Fountain Hills presented him with a problem rarely faced on a tropical course: a rough that can't be watered. The Fountain Hills rough areas include a variety of desert vegetation, including the towering saguaro cactus.

"The saguaro cacti will not survive if given too much water," he says. "I've given special attention to maintaining dry areas where this cactus can enjoy its natural environment."

Although the golf course will not play long (5,800 yards, par 71), it will be challenging, beautiful and enjoyable to play. The view of the community and of its famous 560-foot fountain from some of the tees and from the clubhouse is spectacular. The multi level clubhouse will be built next year.

Nick Siemens, president of Siemens Environmental Developers, course general contractor, says that clearing rock and preparing topsoil was a major part of his contract.

"The course is truly in a beautiful desert site," Siemens says. "It has sculptured contours that blend with the natural terrain and it has 50 sand traps that will require golfers to make well-placed shots from every tee." □



Burns, above, left, shows superintendent Glen Anderson how to program system; below, he inspects fairway heads.

