

# Design a crucial element to a working system

BY MARK L. GUNDERSON

Golf course superintendents who spend six figures on sprinkler irrigation systems have learned — some the hard way — that the quality of the system's design can save them hefty sums over what appear to be less expensive systems.

Certified irrigation designer Rick Manley, director of Century Golf Team's technical design department, said, "Many superintendents have learned that a 'lowball' system they

thought was a bargain turned out to be a bad deal that ended up costing them a lot more in the long run.

"That's particularly evident since the Drought of 1988 put huge demands on poorly designed systems that couldn't stand up to the strain."

The result, said Manley, have been yellow fairways, faded greens, parched roughs — and unhappy greens chairmen, club members, golf course owners and players.

All this, plus high repair bills, inefficient and wasteful operation and early replacement of major components.

Some sprinkler irrigation distributors include design as a service to golf course superintendents at no charge. However, Manley warns against the temptation to bypass professional design and rush to buy less expensive, inadequate components he said some companies sell to make a quick deal.

Manley said golf course

superintendents should educate course owners and executives that good design is a cost-saving feature over time. It creates a system that delivers optimum operating efficiency, reduced maintenance, repair and replacement expenses and assures greater longevity of components, he said.

"Sometimes irrigation sales people want to 'close the sale by offering the lowest price,'" Manley said. "Golf course superintendents should develop a healthy skepticism

of 'quick and cheap' sales tactics. Buying that way hurts in the long run because it doesn't give the superintendent the insurance he should be getting."

By "insurance," Manley means margins that take into account greater-than-average water demand and strain on a sprinkler irrigation system.

The Drought of 1988 — the worse in 100 years — has proved his point many times over the past year, said Manley, who has 10 years experience in irrigation design.

Superintendents who bought sprinkler irrigation designs calling for the least capital cost learned that buying value is more important than buying price only, he said. Overloaded pipe wore out early, overloaded pumps burned out early or consumed unusually high amounts of electricity. Burst pipe, fittings and valves also added to the headaches, he added.

"If the Drought of '88 demonstrated anything," Manley said, "it showed that a poorly designed system can't hack it when the going gets rough."

"And in the end, the golf course superintendent who was happy to save a few bucks up front was disappointed and angry that he has lost all his savings and more — plus he has inherited headaches he can do without."

"With golf courses, everything's amplified," he said. "You're dealing with 10, 15 to 20 times the amount of water you deal with in the average commercial installation. It becomes that much more important to make sure the job is properly designed and properly calculated."

"The superintendent must demonstrate to his bosses that good irrigation system design is worth its weight in gold. It's our job to help him demonstrate the point."

Manley figures his 15-man department designs hundreds of systems a season at its Great Lakes, Mich., area outlets.

"In our climate, you can grow bluegrass giving it 1 inch of water per week," said Century Executive Vice President Ben Taliaferro III. "We design slightly above that so if there is less rain or higher temperatures, the balance between system capacity and the turf's need for watering is not upset. Last year, we needed 1 1/2 inches at times. It's insurance. You want a system to make it through a drought."

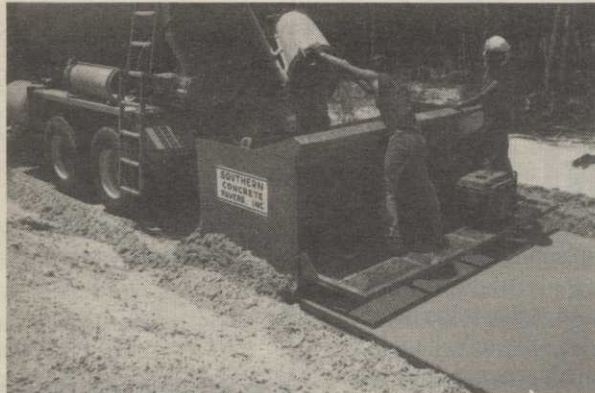
Because of the 1988 drought, the scale of design

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# Irrigation conclave featuring many experts

David N. Kennedy, director of the California Department of Water Resources, will deliver the keynote address at the opening session of the 1989 Irrigation Exposition at the Anaheim (Calif.) Convention Center, Nov. 12-15.

Kennedy, who will speak at 10 a.m. Monday, Nov. 13, will be one of several technical and business management experts speaking at the conclave coordinated by The Irrigation Association.

Kennedy was appointed in 1983 by California Gov. George Deukmejian after serving nine years as assistant general manager of the Metropolitan Water District in Southern California.

He had been an engineer with the Department of Water Resources for six years.

The conference will cover the latest developments in turf and landscape irrigation and agriculture in two days of presentations. On Monday the California Department of Water Resources will present two concurrent sessions on agricultural water conservation programs and turf and landscape topics.

DWR's Marsha Prillwitz will moderate Monday's turf/

landscape session on what tools are available for landscape professionals to survive dry times. Agtech Associates President Gary Kah and a representative of the Green Industry Council will cover the Landscape Water Management program, xeriscape, residential water audits and landscape ordinances.

Tuesday's session will include National Xeriscape Council President Bruce Adams speaking on "Xeriscape and the Irrigation Industry"; School of Architecture and Environmental Design

landscape architecture director Gary Robinette speaking on "Urban Landscape Water Management"; Aqua Engineering's Stephen W. Smith and Robert Beccard speaking on "CADD Design of Landscape Irrigation Systems" and "Landscape Irrigation with Effluent Water"; and Drip Irrigation Specialties owner Bob Galbreath speaking on "Water Saving Micro-Irrigation Solutions for Urban Landscapes."

Management seminars are planned on Tuesday and

Wednesday. On Tuesday, Robert A. Franciose, IBM's manager of marketing development for the wholesale services industry, will speak on "Using Technology To Gain Competitive Advantage," and Applied Scholastics President Ingrid Gudenas will cover "Communicating Effectively Under Stress."

On Wednesday, Bruce Merrifield will discuss "Marketing Strategies for a 'Glut Economy'" and "Making Perfect Service Happen."

Prior to the exposition opening, The Irrigation Association will

conduct four special short courses on Saturday and Sunday, Nov. 11-12, at the Anaheim Marriott designed to improve professional expertise and help people prepare for IA certification.

The courses are Landscape Contracting and Installation, Designer Preparation, Water Management, and Landscape Irrigation Systems Operation/Maintenance.

More information on the exposition is available from the IA at 1911 North Ft. Myer Drive, Suite 1009, Arlington, Va.; 703-524-1200.

## Design

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has moved up to 1 1/4 to 1 1/2 inches per week from 1 to 1 1/4 inches per week.

"When customers on large jobs such as golf courses are spending in six figures, they look for protection for their investment," Taliaferro said.

"If a pump is too small," Manley explained, "it works too hard and it will break under the strain. If it's too large, it's fat and lazy, delivering a low efficiency of 40 to 50 percent, versus 70 to 80 percent, which is ideal."

Taliaferro added, "If you use a pipe that's too small you have to pay for it with more horsepower over the life of the system. It's better to spend more on pipe diameter once than to pay more on a continuing basis for energy."

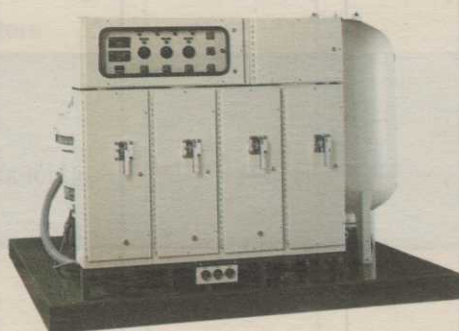
"A good design loses no more than 20 percent of available pressure under highest demand," he said. "A poorly designed system may lose 30 to 40 percent to the farthest sprinkler head. So we start at the farthest head and work back to the pumphouse. If we lose more than 20-percent pressure, we change the system to make it 20 percent or less. We can use larger pipe, smaller nozzles or loop lines so less pressure is lost."

Mark L. Gunderson works for Century Rain Aid.

# The Choice Is Yours

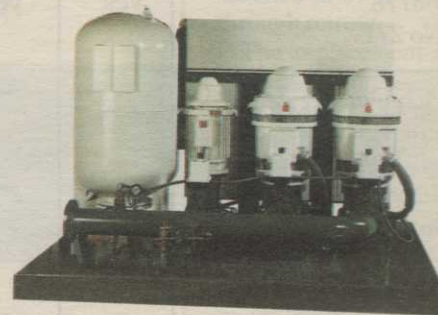
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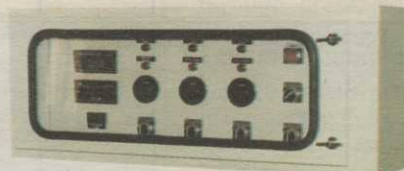
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