



Dave Kent examines a model of a green designed for a California club.

nary specifications, the professional consultant coordinates his work with that of a team.

#### What It Amounts To

Good design is a successful combination of beauty and efficiency of the greens and plantings, a foolproof drainage pattern, a scientific irrigation system, and careful budgeting and preparation for operation and maintenance.

Today's costs for materials and labor make such detailed advance planning an absolute necessity. Working drawings and specs must be so complete in detail that they enable a contractor to make a flat bid, whether he has had course construction experience, or not.

Our firm includes specialists in at least six major areas: Civil and hydraulic engineering, landscape architecture, agro-

#### Bringing Specialists Together

## Golf Architecture: Coordinating the Skills of Experts in Many Fields

By **DAVID W. KENT**

David W. Kent & Company, Northridge, Calif.

**G**olf course design has become a highly specialized profession. The qualified golf architect is something of an artist with a mastery of exact engineering principles and a sound knowledge of business management. He is well versed in landscape architecture and land values and has the ability to utilize construction equipment efficiently.

This paragon need not be a genius, but he should have access to smart men in fields closely allied to his work. The professional course architect must coordinate the knowledge and skills of a team of experts. As many country clubs have learned to their sorrow, hiring amateurs to design a golf course on the site eventually means hiring a professional to redesign the project.

The qualified architect insists upon precision planning well in advance of construction. Even before delivering prelimi-

nary, Chemistry, construction and construction equipment, turf management and club management and operation.

#### One Frustrating Problem

One of the most fascinating — and frustrating — problems for the architect is that he is not given the opportunity to assist in locating desirable sites, but is compelled to use the land available. The sites are often in flood-control areas, approaches to airfields, areas that were once used as public dumps, and sections totally unsuitable for construction.

It requires a great deal of optimism to conceive of these wastelands as a potential thing of beauty and a joy forever for golfers. It also demands all the cold-headed realism an architect can muster to design an efficient course. Drainage is one of the worst obstacles. Our company insists on showing all finished grades and drainage patterns for the course, surrounding areas, and sub-surface drainage for the greens well in advance of con-

struction. We owe this to the developers.

We and other architects prepare exact scale models of all individual greens long before expensive construction work begins. This is so that we can meet with our clients and carefully discuss their project and make changes that take only a small amount of the architect's time.

### **Produce Contour Plans**

Architects usually produce contour plans from the scale models. Exact specifications are detailed for construction of tees, fairways, greens, traps, irrigation systems and all other features essential for a course which meets the highest engineering standards.

Not much is left to doubt? Courses represent a tremendous investment on the part of private firms and public recreation agencies. Although I have been a creative architect for more than 30 years, much of my work has been in the redesigning and salvaging of courses that have been expensive failures because of poor initial design. Many other architects have done the same kind of work. Precise engineering would have left nothing to doubt.

At present, our firm has upon its drawingboards projects representing millions of dollars in redesign, maintenance and reconstruction of golf courses; fairways and greens have been washed away; grass didn't grow in soil, where the saline content of the water was too high; the irrigation system failed to provide sufficient water for the greens. It's a story that, unfortunately, is frequently repeated.

### **Start from Scratch**

Like most architects, I consider myself primarily an artist, bringing to my work what I hope is fresh vision and individuality. Architects like starting from scratch, whether it's the conception and precise design of an 18-hole course on the California and Arizona desert sands or a country club and course for a high-rise apartment development on the nearly impossible slopes overlooking an ocean or lake. For the latter project we may have to prepare the most incredibly detailed specifications, perhaps involving the removal of nine or ten million cubic yards of dirt, to mention only part of the myriad challenges.

In 1957, my father and I moved our firm to Northridge, Calif., in an attempt to keep pace with the many contracts that come to us from the Far West. Recently I completed my work on a 9-hole layout

in the middle of the Great American Desert, or as some cynics would have it, the middle of nowhere. My client knew the region well. He swore that no one could grow grass out there. He added that he was convinced that no one could make that trackless waste look interesting, even for golf. Even the palm trees had to be imported.

My client is pleased enough with the results that he has asked me to consider designing another course. Other architects have experienced the same kind of satisfaction and patronage, of course. My client in this case is the Marine Corps, which paid for the course out of post exchange funds, at no cost to the taxpayers. The 29 Palms Marine course was difficult, but not impossible for our team of skilled specialists.

### **Diversity Creates the Interest**

Diversity helps make our profession exciting, even though it may appear sometimes that we are over-exacting. With the increasing importance of the subdivision course, we have entered an era of greater sophistication in planning for the needs of the average players or 95 per cent of the golfers who play today.

Land developers and subdividers recognize the importance of a well-engineered, beautiful, fun-to-play course as a means of attracting homebuyers to their subdivisions. The courses pay for themselves in increased sales for the developers. They offer splendid recreational and social opportunities for the home owner and give a park-like atmosphere to the development. But they must be so carefully planned and engineered that there will be no errors that will lead to costly maintenance and repairs.

### **What Is Involved**

For one subdivision golf course in Southern California our firm prepared specifications providing for the drainage of 1,200 acres surrounding the project. We detailed the drainage pattern carefully. It was based upon the findings of our hydraulic engineer and a team of professors of agronomy from one of the California universities. We also consulted with meteorologists and historians, charting the weather pattern over a period of nearly a century. This gives you some idea of what an architect becomes involved in.

Currently we are quite busy designing courses for municipal recreation and parks departments. The smart local citizen-sup-

*(Continued on page 124)*

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plains. "In the back yard, you spend more time practicing and less time following the ball — it gives you the feel of hitting without the feel of hiking."

### Several Experimental Models

Evolution of the less-bounce Mac-Col goes back to a rag-and-rubber thing. Mackey and Colville made a ball of plain gauze bandage. The first model was covered with adhesive tape. Next, they sought a little more liveliness by substituting a wrapping of elastic bandage, sewn on like a baseball cover. Next they tried dipping the rag ball in Absorbalo, a rubber substance which Colville uses in the training room for making mouthpieces and other custom-built protective or corrective devices for athletes. These served the purpose, in a way, but they still lacked that "real golf ball feel."

They made a plaster cast and experimented with molding balls from Absorbalo. They discovered there were lots of secrets they hadn't solved about achieving smooth surfaces, eliminating bubbles and getting consistency all the way through a casting. About that time an athletic equipment salesman, Ray E. Evans of Chattanooga, asked for a chance to as-

sign the problem to some technicians in his own firm. The result now is a ball which looks and feels like a golf ball but doesn't go anywhere.

### Golf Architecture

*(Continued from page 80)*

ported agencies realize that golf is the one form of recreation that pays its way. I believe that with the success of such projects, created because citizens have voted to support revenue bonds, more and more cities will enter this field.

### It's Spreading, Too

People in our profession find that they are part of the changing socio-economic pattern which is manifesting itself throughout the world. My firm as well as others have had requests from private groups and governmental agencies in the developing nations to design golf courses and other recreational facilities.

Two projects which intrigue me most concern people who are not free. One is my hope to design, without charge, a golf course and recreation center for the prisoners at a large California prison. It has been demonstrated that such a project is one of the best means of rehabilitating

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### How About Russia

The other course that I am eager to design is in the U. S. S. R. Not long ago our former ambassador to the Soviet Union, Llewelyn Thompson, said that he would return to that post only if there was a course to play. I think the Russians won't go on neglecting golf.

Golf, with its appeal to the aesthetic, the skilled, the person of means and to the person of average income, is our nation's most satisfying sport. It is also a profitable enterprise for those who approach it with the demand that it pay its way. With recreational areas in our nation shrinking, I believe that it is time that those who are interested in keeping the sport alive, work to provide more courses. This requires long-range planning. I'm sure that most of the people in our profession are ready to meet that challenge.

The 1963 schedule of the Chicago District GA which starts May 1 and runs through October includes more than 200 dates.

## 10 Questions on Mowers

(Continued from page 84)

and convenience of his operators of a mower is important. The supt. is primarily concerned with the cutting results on his greens, but the operator, too, receives some consideration.

7. "Speed of mowing and transport?" Getting the job done fast in a minimum amount of time and the resulting economies are of concern. Often times we are asked, "Isn't it more economical to have one or two extra mowers?" This type of thinking shows a thorough understanding of the problems of greens and appreciation, too, of the problems of mowing before the golfers come out to the course.

8. "Where's the differential?" The particular design of the Greensmaster incorporates a fully enclosed gear train and differential drive system. As a result, the unit has no chains and sprockets or bearings which are exposed to undue wear to dirt and foreign material. This shows a certain amount of understanding and some appreciation for compact and sound engineering principles on the part of the