

The Great Salt Lake Desert, a vast wasteland with only occasional intrusion by super-car buffs, now is the unlikely location for the Stansbury Park GC. The course's superintendent, an obvious voice of experience, offers some solutions when dealing with saline soil conditions

Golf course turf can be grown almost anywhere—if you avoid any

fight with nature. This maxim is illustrated at Stansbury Park GC, on the western slope of the Oquirrh Mountains, 25 miles west of Salt Lake City. It is part of a new city being developed by Terracor, a Salt Lake City-based corporation. The golf course itself is located about a mile and a half from the south shore of the Great Salt Lake.

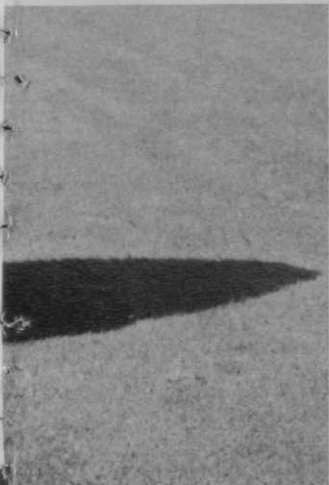
Because the course is located relatively close to the Great Salt Lake, much of the land had been reclaimed as the lake receded. Some of the land was still in its original condition. Farmers didn't have adequate water for reclaiming and pasturing the land.

As the golf course was con-

structed, roughly 800,000 cubic yards of soil were removed. The top soil was stripped off and stock piled, to be put back as part of the finish grade. It was during this manipulation of earth, that soil problems developed.

Soil from depths to five feet were redistributed in the soil profile. In some areas, salty subsoil was placed near the surface. The result was *Norm Graft, top left, examines bentgrass turf and alta fescue roughs: Top right, lower left and middle photos show salt and sodium damage. A woman crew member sets up the irrigation sprinkler system.*

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## SALT from page 61

that salt and sodium soon contaminated the growing surface of the golf course. Salt basically causes a water uptake problem for plants and is in itself phytotoxic to plants. Sodium is also phytotoxic, but, more importantly, it may break down the soil structure should it become the dominate soil cation. Should the soil become puddled, oxygen diffusion and water infiltration rates are reduced to a point that makes it nearly im-

possible to maintain a playable turf.

Salt may be removed from the soil fairly easily if water can pass through the profile. The silt-clay soil at Stansbury Park made rapid leaching impossible. Sodium can also be removed from the soil as long as two things are happening.

- 1) Water must be able to percolate through the soil.
- 2) Calcium containing soil amendments, such as gypsum and calcium chloride, must be incorpo-

rated into the soil to exchange the sodium with calcium. Therefore, the displaced sodium moves downward and out with the percolating water.

The results of soil tests and visual observations suggested that water movement through the soil would be difficult unless a substantial drainage system was installed. The cost of a system with the proportions needed would have been astronomical. Therefore, a search was begun to find a turfgrass that would tolerate the current conditions and improve over time as soil conditions improved.

The developers decided to adapt a plant to the soil, rather than adapt the soil to the plant.

Research done by Dr. Howard Peterson, Utah State University soil-water engineer, Terracor agronomist Dave Bingaman, assistant superintendent Bill Porter, an agronomy major from the University of Maine, and myself, indicated that the saline and alkaline condition of the soil made the use of conventional cool-season grasses unacceptable. Therefore, a suitable substitute had to be found. Finding tolerant grasses was relatively easy. But, finding a grass that could be accepted as a golfing turfgrass with suitable playability was much more involved.

A check with other golf courses in the area with similar types of soil problems proved informative—not because these courses were grassed according to soils, but because it became quite apparent that certain grasses were doing much better than others. Bluegrass was adversely affected in saline and alkaline soils, tall fescues did better, and seaside bentgrass did the best of all. The solution was then a matter of determining just how much salt and sodium seaside and tall fescue could withstand.

Contact was made with many of the leading turfgrass researchers and superintendents, and scanty information was gathered.

Dr. James Beard, Michigan State University, knew of a paper by Oertleand Youngner that appeared in "Agronomy Journal." It was a salt tolerance comparison of seaside bentgrass, alta fescue, *Puccinellia distans* (a salt grass) and



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Kentucky bluegrass. The study showed that bluegrass was extremely salt sensitive and that alta fescue and seaside bentgrass were the most tolerant. *Puccinellia distans* was eliminated because of the unavailability of seed.

When the study was compared to our soil tests, it was obvious that bluegrass had to be eliminated and that alta fescue and seaside were most adaptable to our soil. Bermudagrass wasn't considered because of our climatic conditions and because it is classified as a noxious weed by the state of Utah. Zoysiagrass is under consideration for other high use turf areas.

Tees and greens presented no problems because imported sandy soils were used.

The golf course was seeded during early summer of 1971. The fairways were seeded to seaside bentgrass at 40 pounds per acre, and roughs were seeded with 120 to 150 pounds per acre of alta fescue. In August of 1971, we opened the course for limited play.

Germination percentage was tremendous due to good distribution of seed, warm soil temperatures and most of all to very diligent irrigation by an all-woman grounds and irrigation crew. The only areas that didn't respond well were areas where the irrigation pattern wasn't adequate. Stansbury Park also had a few places where soil conditions apparently had an adverse effect, even on seaside. These were places adjacent to golf course lakes where water movement from the lakes laterally and upward, due to evaporation, raised salt levels above the tolerance levels of alta and seaside.

An important item used in reclaiming salt-affected land is the percolating of good water through the soil. Fortunately, Stansbury Park has large amounts of culinary-quality water available for irrigation purposes. As a result, the problem of reclaiming the land was minimized. We percolated about 60 inches of water through the soil in five months of irrigation. This was equivalent to five years of annual rainfall at Stansbury Park.

The following are Terracor's recommendations for those inter-

ested in establishing turf on soils of very high salt content:

- 1) Have complete soil tests taken before construction begins so that you know exactly what you are working with;
- 2) Accept the suggestions of soil scientists, they know their business well;
- 3) Look at other similar sites, learn from their experiences and be willing to change;
- 4) Design an irrigation system with soil and water intake rates in mind;

- 5) Landscape with adaptable plants;
- 6) Use irrigation water of proper quality;
- 7) Continue monitoring soil through soil tests.

Basically, what has happened at Stansbury Park is that a little "science in action" was applied and a difficult problem appears to be resolved. Nature was kissed instead of man-handled and the Stansbury Park GC is well on its way to becoming one of the finest in the Intermountain West. □



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# THE PRE-PLANNED COMMUNITY: GOLF'S NEW LAND

The most rapidly growing area of golf course construction is in residential communities—fairway living. This first of a two-part series examines land developers and their commitments to golf and the industry

by **JERRY A. OLSON**

ASSOCIATE EDITOR

The land developer is providing golf with a new breed of golf course that is certain to be the industry's potential growth area in terms of construction, job opportunities and new markets. Although the real estate development golf course has been around for some years, its prominence has not been noticed until now.

The high cost of construction, land and property taxes have put a damper on the development of private, member-owned country clubs. Construction of municipal golf courses continues to grow, but not in heavily populated areas. Harry Eckhoff, facility development consultant for the National Golf Foundation, estimates that 40 per cent of the golf courses being constructed in this country today (and the percentage will surely increase in the future) are associated with real estate developments.

E. Lawrence Packard, past president of the American Society of Golf Course Architects, writing in the October 1971 issue of *The Mortgage Banker*, says, "Land developers know that investment in a golf course not only creates greater demand for new homes in the area, but increases property values. Lots adjoining a golf course may increase in value anywhere from \$1,000 to \$5,000 (over other lots in the development). One of the brightest exam-





# OF OPPORTUNITY



ples of this occurred in Illinois, where developers purchased undeveloped land for \$2,000 an acre. After adding a well-designed golf course, the area (surrounding the course) was broken up into one-third acre parcels, which sold for \$35,000 each."

The golf course, then, is the lure. Most land developers agree that ideally the golf course should be built and maintained before a single lot is sold. People will wait before buying a lot to see what kind of a commitment the developer will make.

Consequently, the golf course in the early stages of land development is a tremendous financial drain on the resources of the developer. Land must be purchased, a golf course developed (at anywhere from \$300,000 to \$3 million) and maintained and homesites prepared—all before a single lot is sold.

Although developers realize they will be running in the red on the golf course for several years, being profit oriented they are not about to let the golf course go to pot through poor maintenance or improper management. This continues to drain the financial resources of the developer, drawing away the profits in land sales. The goal is to make the golf course and its operations self-supporting a few years after its development.

To some, the land developer still has that "take the money and run" image. To others he's seen as a despoiler of the wilderness. However, as big corporations get into the real estate development act, they are making substantial commitments to the community, ecology, and to golf.

*The pro shop, upper left, looks over the Killlearn G&CC, upper right; lower left. Rox Ern supervises construction of the par three course at Shadow Lake Village, N.J.*

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For the developer, the golf course places him in a dilemma. Does he put it in first, on prime land, and then sell fairway lots? Does he build the golf course and prepare the fairway lots at the same time trying to coordinate both operations? Or does he lay out the homesites and then design the golf course around the lots?

William Drennon, president of Deerwood, Inc., Jacksonville, Fla., a development of Stockton, Whately, Davin & Company (SWD), took the first approach. "We started construction on the golf course in 1960," Drennon says. "The course opened for play in 1961. We didn't attempt to sell a single real estate lot until 1963! All of this time, the golf course and development was a capital investment with no money coming in," he says. "If we could offer prospective residents of Deerwood a total recreational community with golf, swimming, tennis and riding, we would, in the long run, attract more people and increase the investment and land value. The golf course is the jewel which attracts and sells the complete development," Drennon says. "If it is poorly maintained or improperly managed, the development doesn't stand a chance."

Deerwood has 5,000 acres available for development. In addition to two more 18-hole golf courses, future plans also call for development of an office and industrial park. People can work and live in the development.

"Over 130 homes have been erected on the site," Drennon says. "Sixty per cent of these are fairway lots. They were sold out before lakeside or forest lots," he says. "This is an indication of the value of the golf course as green, open space. Fairway lots run an average of \$16,000 at Deerwood," he says. "A lakeside lot sells for \$13,000 and a forest lot, \$9,900."

"To assure that the golf facility would be supported by the members we asked them to commit themselves," Donald Davis, vice president of Deerwood says. "A person cannot buy a lot at Deerwood until he first becomes a member of a golf, swimming, ten-

nis, riding or social club. Although this may sound like coercion," Davis says, "we wanted them to support their facilities. To offer such an attractive package as a golf course where the Greater Jacksonville Open has been played, plus a beautiful clubhouse, we wanted to make it self-supporting. It is surprising that the number of persons who had to join, but didn't play golf initially, have taken up the sport with their families.

"Of the 130 homeowners at Deerwood, 105 have active golfing memberships. We currently have 700 members, including residents of Deerwood and their families. Residents of Jacksonville can also join.

"To assure that the club has an active membership, non-residents of Deerwood can apply for a golfing membership. Initially, non-residents, selected by the Deerwood membership committee, can join the golf club for \$300 initiation, \$200 annual membership fee and \$30 monthly dues. Lot owners and homeowners pay \$300 initiation, \$150 annual dues and \$30 a month. Homeowners and lot owners who do not join the golf club, still play on a pay as you play basis.

"We are also offering a combination swimming, tennis and golf membership to lot and homeowners for unlimited use of these facilities at \$40 a month after paying initiation fees.

"The Deerwood facilities are owned exclusively by SWD. Members have no ownership, proprietary or equity rights in the golf course or clubhouse," Davis says. "One advantage of this to the members, is that they do not share in the losses or capital improvements we must make. They know assessments each year won't increase. If the course loses money or goes over budget, it's the corporation's obligation to make up the balance.

"Resident and non resident members, attractive initiation fees, annual membership fees and monthly dues, plus a well-run clubhouse and beautiful course have brought Deerwood close to the break-even point," Davis proudly says. "The club and golf course should be self-

supporting within the next year, ahead of our projected schedule."

"In summing up Deerwood," Drennon says, "we told the golf course architect to take advantage of the land we had, to build a championship golf course. We had to sacrifice some choice lots, but we have provided a first-class facility that will attract residents for years to come. People want to invest in developments," he says, "but they want the developer to prove he can do a good job first."

Tallahassee's first total living community, Killearn Estates, also provides a total package of recreational facilities for its residents. "The Killearn G & CC represents a \$2 million investment within the 4,000-acre development," Ken Creely, president of the country club and recreation development, says.

The original owners of the land development were underfinanced and could not make the venture pay off. As a result, they sold the property in 1965. Under new management, the golf course and land sales are flourishing. "It takes a lot of money to make money," Creely says. "And, you won't be making any for several years.

"Since the golf course was brought back to tip-top condition, the price of homesites has risen from \$4,500 to \$12,000," he says. "We projected a growth of our membership to reach 400 this year," he says. "We missed the mark," he laughs, "we now have 700. People were hesitant to invest in real estate or join the golf course after we took over," he says, "because of the 'fly by night' image they had toward the original development. Our philosophy though, and we let it be known, was that if we're going to make the project go, do it right. As a result," he says, "we now have 50 per cent of the homeowners as members of the country club and golf course. We were the site of this year's Tallahassee Open and the Golf Course Superintendents Assn. tournament.

"Because of the high start-up costs of the development," Noel Schumann, national sales director for Killearn, says, "you have a negative cash flow. To entice Tallahassee residents to join the

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country club, they pay \$1,000 initiation fees and dues of \$34 a month, plus a house minimum of \$10 a month. Homeowners at Killearn pay \$500 initiation plus \$34 a month. These attractive prices have also made Killearn G & CC near the break-even point. In fact," Schumann says, "another nine holes are planned for the very near future."

"One mistake most golf facilities make initially," Creely says, "is a large investment in clubhouse facilities. We didn't jump in to building a monstrous clubhouse immediately. We needed a showcase course and clubhouse, but we also had to operate within a realistic budget. We built a beautiful, but adequate facility, and then, as our membership grew, we added on to the size of the clubhouse. The design was such that expansion could be made without interrupting the existing facility."

While Killearn and Deerwood are established and approaching maturity and self-sufficiency, Eaglehead G & CC, Frederick County, Md., is in its infancy. The greens were seeded in the fall of 1970, so 1971 was its first year of operation.

J. William Brosius, president of Langanore Corp., developer of the facility, plans 5,000 single family homes and 8,000 multi-family units over the total 4,000 acres. The project, called Lake Langanore, will take 17 years to complete and ultimately be a city of 30,000.

"The Eaglehead G & CC is available to lot owners and residents of the surrounding community," Brosius says. "We want to make the course accessible and part of the surrounding community and still maintain a private facility for the homeowners. The golf course alone represents an investment of \$1 million," Brosius says. "We spent \$500,000 for the land, \$400,000 for construction and another \$100,000 in supervisory time and overhead. Our goal is to make the course self-supporting, and we will do it because we will get the professional personnel who know how to run a club for profit."

"We have sold 1,250 lots on the property so far," John R. Wilson,

executive vice president and overseer of the golf course, says. "Not one home has been erected, but, we already have 280 lot owners who are members of the club. When you buy a lot, you are not required to become a member of the club. Many of the residents, however, will eventually join the golf club, because that's what attracted them here in the first place."

At Eaglehead, lot owners pay \$100 registration plus \$260 yearly dues. Non-lot owners pay a \$200 registration fee plus \$300 annual dues.

"An advantage of the real estate development golf course," Brosius says, "is that you can allocate land costs to the over-all development. You can write off an early portion of your losses from the golf course because the land value from sales in the development will be increased. The sooner you can get the golf course on a self-supporting basis, the sooner you will realize greater profits from land sales."

"To get the golf course on a self-supporting basis takes strict adherence to business practices," Wilson says. "Golf is a business enterprise of an expensive sport, especially from the developers' standpoint. In a typical country club operation," he says, "the management of the club falls on the members. Since the real estate developer is business and profit oriented," Wilson says, "the course is managed and run like a business. We pay a little more to get knowledgeable managers, superintendents and professionals who can make their operations pay off."

Brosius also believes in starting out slowly on building a clubhouse. "There is no sense in getting elaborate initially. If people support the facility, we will expand it. A \$125,000 clubhouse and golf shop is nearing completion at Eaglehead," he says.

One fear in the golf industry and for residents, is that the developer will subdivide the course after the lots are sold.

While this may have occurred in the past occasionally, Brosius, Drennon and Creely claim there is no chance of it occurring today because developments are sub-

ject to county planning and zoning laws.

"We couldn't subdivide the golf course if we wanted to," Brosius says. Why would we want to? The golf course is the reason people purchased the home. We have made a commitment to them that the golf course will always be there. Any subdivision would not only lower the property of the fairway lots, but the total development."

For Brosius, who has been in the home development business since World War II, this is his first golf course. "In this day and age, you have to offer either primary or secondary homeowners a wide variety of recreational facilities to attract them to your development. Competition among developers is so fierce," Brosius says, "that it is forcing them to put in top-flight, beautiful golf facilities and then support them."

How does a land developer learn about the advantages and disadvantages of building a course for a residential community?

"I attended quite a few golf seminars," Brosius says, "and compared the operations of lots of clubs. I wanted to find out what makes a successful club, and what doesn't. It's not as simple a matter as money. It takes leadership and cooperation from the developer and his golf course personnel. I also conferred with Harry Eckhoff of the National Golf Foundation."

The land developer, then, has committed himself to the golf course. Not just until the lots are sold, but beyond that. This commitment will not only provide job opportunities for members of the industry, but offers additional sales markets for equipment and clothing manufacturers. But, more important, pre-planned community golf courses will keep the sport alive by providing the facilities for the growing number of golfers.

This first article on pre-planned community golf courses deals with how the developer views golf as part of his pre-planned community. Next month GOLFDOM will examine the job opportunities, benefits, advantages and disadvantages for superintendents, professionals and managers at these facilities. □



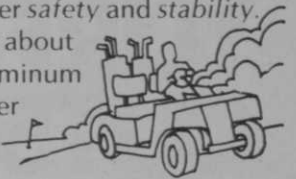
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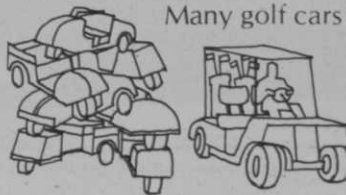
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