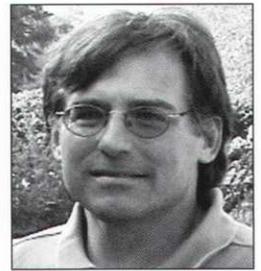


PART II

Design Review: 1985-2005

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Prelude

Jack MacKenzie, CGCS, asked me develop an article on changes in golf course design from a more recent historical perspective. I chose the 20-year period from 1985 to 2005 for three reasons. First, this period represents one of the greatest periods of golf growth and, more recently, one of the most severe declines. Second, this period represents one of the most significant periods in terms of sophistication and advancement in golf turf grasses, maintenance equipment technology and golf club/ball technology. And thirdly, as a design company, we are celebrating our 20th year of professional practice in golf course architecture.

This is part two in a three-part series. Part I, presented in the November-December 2004 issue, reviewed the basic design changes we have seen as golf course architects in the period from 1985 to 2005. Part II examines the changes during this 20-year period in maintenance considerations and practices and their more subtle impact on golf course design. Part III, will focus on golf participation, management philosophies and legal issues that have changed during this period.

Seasonal Variations and Expectations...

Even in the 20 year period prior to 1985, seasonal variation in course conditioning and playing characteristics was fading, but I think it has been lost in its entirety since 1985. I'm not arguing good or bad, just the fact that today, as golfers, we expect to play the same course in May as we would in July, and as we would again play in September. Time commitments, cost to play and peer pressure may all be reasons. However, in my opinion, courses have flattened the ridges and valleys of seasonality through directly related golf course cultural practices:

- 1) Continued demand for greater sophistication in course irrigation
- 2) Improved short-cut hybrid blue-grasses
- 3) More regular use of plant growth regulators
- 4) Aggressive deep cultivation practices on poor quality greens, tees and fairways.

In the 20-year period prior to 1985, course conditioning was largely predicated on the quality of course irrigation. This was a tremendous boom period for the irrigation industry and the irrigation design consultant. The irrigation design bar was raised substantially. Double row was no longer a dream but a base system. True computer control was a reality. Few people even knew or heard of Larry Rogers before 1985. In the period since 1985, irrigation is still a significant factor in course maintenance and turf management. We now regularly include back-up sprinkler heads and small support rotor or spray heads around greens, tees, hazard areas, and water features; use adjustable arc and adjustable nozzle angle sprinklers are used to resolve steep slope or oddly configured turf areas and superintendents make active use of on-site weather station data, remote moisture sensors and vfd pump controls.

Short-cut hybrid bluegrass varieties were released and became available in the late 1980s. The improved low mow blue-grasses have continued to be popular. In the mid 1990s we witnessed the mowing height drop from 3/4" to 1/2" on the then new hybrid varieties. And now, as many of you are aware, the newest varieties can be cut at 3/8." The net result is that as more courses convert fairways from the old blues and poa annua to the "new blues," more consistent playing conditions will even be easier to establish and maintain.

Other practices which I believe have influenced consistent playing conditions are the regular use of plant growth regulators (PGRs) and deep tine cultivation on golf turf grasses. Both of these practices were introduced and caught hold during this period. Consistent growth led the way for consistent conditioning. Deep tine cultivation and aeration of low quality fairways, greens and tees became standard practice to reduce loss of turf in spring and mid summer due to winter kill or heat stress.

The Course Natural...

During the period from 1985 to 2005, the new golf course in Minnesota changed

from one that ignored what nature provided to one that embraced it. For example prior to the Clean Water Act which came into law in October 1990, wetland areas on golf courses were oftentimes filled if they were in the way of a fairway, green or tee. These wetland areas were considered swamps and havens for the mosquitoes and other no see-ums. Much of that is still true today with the exception that as designers we embrace the diversity and challenge that these natural attributes provide, and of course, they can no longer be indiscriminately filled. Willingers Golf Club, designed and built in 1990 / 1991 and established in 1992 outside of Northfield, was one of the early new courses which succeeded in bringing and binding wetlands habitat and beauty onto golfers the places-to-play list. So important was this aspect to Willingers that it became their trademark and logo.

Also during this period, the use of naturalized areas as an active design element to reduce the overall extent of mowed turf became prominent. Whether done to conserve water usage, promote wildlife habitat, reduce maintenance costs, create isolation between holes or to increase the visual appeal from either inside the course or onto the course from adjacent property, golfers have learned to accept these areas as commonplace. We have found the active design using intermediate height naturalized areas visually connects the ground plane of turf with the tree canopy or horizon line.

And as previously briefly discussed last month we are slowly learning, late in this time period, that removing misplaced, over-planted, over-shading, over dominating trees is good for the golf course.

Supersonic Green Speeds...

Higher green speeds have brought the golf course architect substantial amounts of renovation work. Since 1985 average public course green speeds have increased dramatically from around seven feet to nine feet and it is not uncommon to play speeds of 11 or greater on the newer

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courses or private clubs. The speeding of the greens has defied the mantra of being able to stop a ball within two feet of the cup as originally conceived by USGA Green Section Director, Al Radko. On many older greens which are not only small in size but more sloping or contoured for better surface drainage, we need to recognize that each course has its own optimum green speed based on the contour of its greens and if a club truly wants faster green speeds it may need to invest in new, larger and flatter greens. Moreover, with today's technology, superintendents will be mapping acceptable cup locations on their greens based on the "speed of the day" to insure fair play. Let's also keep in mind that the whole reason Eddie Stimpson developed the original stimpmeter in 1937 was to aid in green consistency. It was thought then, and still is today, that uniform green speeds across all 18 holes are a desirable attribute. Maybe we are putting too much stock in this?

Sustainable Golf Design...

Perhaps the biggest challenge facing architects in the next 10 or 20 years will be reducing the inputs necessary to maintain our golf courses. At the 2001 GCSAA con-



Sustainable design is no longer a choice.

ference in Dallas, Texas during the golf course architects' presentation to the GCSAA membership, I presented the concept of Sustainable Golf Design and asked the question "What would you do if fewer

golfers played your course due to a less robust economy?" Fewer rounds equates to less revenue and less to spend on maintaining the same quality of play. In the four recent years since 2001 we have seen over a 50% drop in new course construction. The pressure is on the existing courses to get by with less. Sustainable design now is not a choice... but to do less with less -- it is the concept of reducing the inputs of energy and the demands on the earth's resources to obtain a specific result.

Principles of Sustainable Golf Design

- + Design within the natural or native context of the site
- + Consider origin and fate of materials
- + Minimize need for specialty maintenance -- design sustainable, maintainable space
- + Create efficiently maintainable fairways, greens, tees and bunker complexes,

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avoid mowed steep slopes adjacent to bunkers and ponds

- + Design to limit active maintainable turf areas to 90 acres or less for the typical 18 hole course
- + Consider labor cost, material costs and the use of energy overtime
- + Use on-site materials and recycled materials when possible
- + Use low input turf grasses

As golf course architects I think we must look ahead and envision our golf designs 25, 50 and maybe even 100 years from now. If we have truly succeeded in achieving sustainable design, our courses will have survived essentially unchanged. I think also as golf course architects and golf course superintendents we have an obligation to the future players of the game to develop and maintain golf courses that will not be viewed upon as excessive, wasteful or damaging to the environment.

* * * * *

(Editor's Note: Part III of this 3-part series of articles from Garrett Gill will be printed in the March 2005 issue of Hole Notes and will focus on golf participation, management philosophies and legal issues.)

U of M Turfgrass Club Appreciates Donations

The University of Minnesota Turfgrass Club would like to thank the following golf courses for their donations to our first Annual Golf Course Raffle: Boulder Pointe Golf Course, Elko; Chomonix Golf Course, Lino Lakes; Eagle Valley Golf Course, Woodbury; Ellsworth Country Club, Ellsworth, Wis.; Izaty's Golf and Yacht Club, Onamia; Les Bolstad, University of Minnesota Golf Course, St. Paul; North Branch Golf Course, Wyoming; Rolling Green Country Club, Hamel; Spring Hill Country Club, Wayzata, and Wild Ridge Golf Course, Eau Claire, Wis.

We sincerely thank these donators for making this a successful fundraiser. It wouldn't have been possible without your generous contributions. Fundraising will continue this spring. Anyone interested can contact us at 1970 Folwell Ave. Alderman Hall Room 305 St. Paul, MN 55108.

Our new website is up and running. Please check us out at www.turf.umn.edu/turfclub.html, or go to www.turf.umn.edu and click on the turf club link. We would like to thank Andrew Hollman and Dr. Eric Watkins for all of their work in setting up this site.

We would also like to send a special thanks to Paul Grogan (TPC of the Twin Cities), Mr. Barry Hines (Izaty's Golf and Yacht Club), and Mr. John Mackenzie, CGCS (North Oaks Golf Club).

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