Design, Maintenance: A Crucial Marriage

By MICHAEL HURDZAN Golf Course News

Part 2 of 2

Last month I focused on the physical factors of design and their relationship to maintenance as well as the professional relationship between designer and superintendent. Now I will address the single most important specification related to maintenance: the turfgrssses to be used. No other specification under the control of the golf course architect will dictate the overall maintenance practices, or playing conditions more than the selection of turfgrasses; the choices are many.

A few years ago this was not the case and routine and standard specifications were acceptable. But in view of the enormous advances in turfgrass breeding and selection over the past few years, this is not the best practice. In fact, I believe that each individual golf course site should be studied for its inherent climatic and edaphic qualities, along with local environmental restrictions and attitudes, before turfgrasses are selected and specified.

Ideally, a probable maintenance regime should also be defined, with any budgetary limitations, before turfgrasses are selected. Then knowing specific site factors (drainage, soil fertility and texture, quantity and quality of irrigation water, proposed pesticide schedules, mowing equipment and height, etc.); climatic factors (wind, normal rainfall patterns, air drainage and length of playing season), along with edaphic factors (soil chemistry, soil biology, and physical limitations); social factors, (EPA or conservation restriction, probable total play, country club or public golf course, existing competition, etc.),

and budget factors, only then should turfgrasses be selected.

Let me give you some considerations in making this selection. Few golfers would deny that the finest playing surface in northern latitudes is bentgrass and there are many to choose from. It gives you the best tee, fairway and putting surface, but in the transition and Southern areas it is less practical because of summer heat stress.

Many new bentgrasses show good potential, but they are still susceptible to many insect and disease problems, require similar fertility, water management, cultural practices, and for a much longer intense period.

Improved bluegrasses, on the other hand, may not provide the beautiful color contrast or playing conditions on tees and fairways compared to bent, but they have better heat tolerance and often require less pesticides, fertility and water, and present fewer cultural problems.

The difference in maintenance budgets between bent and blue is difficult to estimate, but I believe it to be in the \$80,000 range a year on a good site. Naturally, the source of irrigation water — its quality and quantity — can be a major factor in this decision.

Similar improvements are being made to warm-season grasses, particularly in putting green turfs, with improved winter hardiness. So the distinction of where to use warm- and cool-season grasses has become blurred, which makes careful decision-making critical. Both the designer and superintendent should do exhaustive research before select-

ing not only the turf type, but also the cultivar. Many are interested in non-traditional golf course grasses like buffalo, balia and paspalum species, but none compare in playing quality to finer-blade turf types.

The third alternative would be a fine fescue mix which can provide acceptable playing qualities compared to bent or blue, but require even less water, minimal fertilization, infrequent mowing, and almost no pesticides. This family of grasses (chewings, creeping red, slender creeping red, sheep and hard) has been extensively improved over the past few years and with proper selection can fit most climates and uses.

One might consider the fine fescues blended with bentgrass or blue grass to provide the desirable playing conditions for a particular area or site.

I am not a big fan of turf-type perennial ryegrass, mainly because of its playing qualities and patchiness. Although I have played some wonderful ryegrass fairways, I feel the ball settles too deeply into the turf, it doesn't heal quickly during stress periods, and extremes in temperatures can cause major turf loss. This is my personal bias, and I certainly would be willing to compromise that view to a superintendent who felt strongly about ryegrass on a particular site.

The point is that several choices and combinations of choices and combinations of choices could be made concerning turfgrasses, all of which will directly impact maintenance.

The maintenance budget may range from perhaps a low of \$250,000 (Continued on Page 13)

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Design-

(Continued from Page 11)

to an excess of \$1 million, depending on which turfgrass blend is selected for a particular site.

Once the turf variety or varieties is chosen, next comes the planting method. Some turfgrasses such as zoysia, I believe, should only be sodded and approximately budgeted for, while other grasses like the Bermudas can establish quickly from sprigs. Sprigging rates can be as low as 350 bushels per acre to as high as 1,200 bushels per acre, depending upon planting time, climatic conditions and cultivar.

Sodding Bermuda is not unheard of, especially if the course will be planted at the end of the most favorable growing season. In fact, in Palm Desert it is not uncommon to establish the winter overseeding in Bermuda before it is wet and moved as dormant sod. Cost is a big factor in determining what method of planting warm-season grasses will be used.

Seeding of cool-season grasses also should be done to hit the most favorable time for establishment, typically late summer to early fall. I prefer using a drop seeder with compacting capability to assure good seed/soil contact, with the seed applied in one-half rates in two directions. Blending seed before planting works fine even with such diverse seed size as a creeping bentgrass mixed with a fescue, with no observable aggregation in the planted areas.

I also prefer to mulch seeded areas with either fiber or a straw mulch at a rate where you can look down and see 50 percent mulch and 50 percent bare soil beneath it. This rate will ensure maximum benefit from sunlight and air and suitable protection from wind and water erosion.

Again, the designer and superintendent should talk about every detail of the planting specification.

Even grow-in procedures should be mutually agreed upon. If the contractor is responsible for more than planting the turf, a detailed maintenance specification would be appropriate. Usually the superintendent prefers to assume this responsibility rather than worry about if the contractor is following procedures to get the quickest maturation.

Sodding the entire course, or at least sodding all bluegrass (or ryegrass or fescue) areas, is becoming more common. The reason is that sodding answers many environmental concerns, reduces the grow-in period from months to weeks, produces a better finished product, and often makes the best economic sense to the owners. Large-scale sodding of fastgerminating varieties like bentgrass is much harder to justify because of cost, but sodding tee or green surfaces can be reasonable.

The above process takes time, study and understanding if properly done. However, a wrong choice can be very costly and a right choice can make a golf course spectacular. Therefore, the designer should be very deliberate and methodical in choosing turfgrass seed blends, consulting with superintendents, breeders, researchers, suppliers and users.

My point is that there is a strong relationship between design and maintenance with many influencing factors. It makes the proper choices easier when one remembers that maintenance is more important than design.

I don't believe there will ever be a supergrass that works on every site that provides awesome playing conditions with a minimum amount of maintenance. We are certainly closer than 20 or 30 years ago, but such a breakthrough is still a long way off. So the alternative is the old-fashioned way of designer and superintendent working together to develop specifications and design concepts that support the maintenance objective of each particular site. If the owner is reluctant to hire a superintendent early in the development process, he should retain the services of an agronomic consultant to assist the designer.

Legend has it that when Moses brought down the Ten Commandments, there were actually 11. The last one was lost and never made it into the Bible, but designers and superintendents concerned about maintenance should know it well. It reads: "As ye sow, so shall ye mow," which means that what you plant will determine how you must care for it. Choose wisely.

(Editor's Note: Reprinted with permission from Golf Course News.)

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No Mulligans Allowed For Underground Storage Tanks

By BILL KEEGAN
SECOR International Incorporated

Imagine yourself on your favorite golf course. The air is still and the sun is shining as your foursome approaches the first tee. Everything feels just right for that perfect day on the course. You reach into the bag and pull out your faithful driver to prepare for that always difficult, first drive. After a couple of practice swings, you are ready for the shot. The ball is eyed up with the usual sighting and preparations that precede all your successful drives. A few waggles later, you pull back and release the club, only to find the ball sliced off into the woods ten yards from the tee. You respectfully (or not so respectfully) turn to the others in your group and say "I'll take my Mulligan"; ahh...a second chance without a penalty.

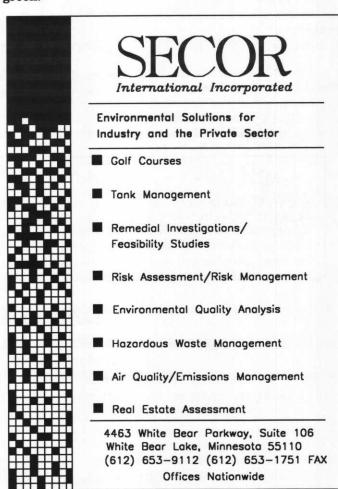
Now, imagine yourself as the head superintendent of that same golf course. Imagine that your golf course has underground storage tanks (UST's) regulated by the Environmental Protection Agency (EPA). These regulations require you to follow strict guidelines and deadlines when it comes to removal, upgrading and remediation of UST's. If these guidelines and deadlines are not followed "to a tee," costly and often unnecessary expenses may be incurred by you, the tank owner. There are no "Mulligans." Similar to a good golf pro improving your game, a knowledgeable environmental consultant can provide you with the answers necessary to have your UST properly removed or upgraded.

The need to address these issues is becoming a high priority for many golf courses who own and operate UST's. This heightened awareness and concern stems from the EPA deadline of December 22, 1998 to remove or upgrade most UST's to meet current EPA standards. Tanks exempt from these regulations are those under 110 gallons and farm or heating oil tanks less than 1,100 gallons. Thus, most fuel oil tanks at typical golf courses are regulated tanks.

Properly installed, a typical UST may have a ten to twenty year life span. Tanks older than this age range are more likely to be leaking petroleum products to the subsurface. Therefore, it is especially important to follow the proper removal procedures for these tanks. By using a registered consultant and contractor, costs associated with the investigation and remediation of impacted soil and/or groundwater may be reimbursed at the rate of \$0.90 per \$1.00 by the Petrofund, a user-funded and state operated

environmental trust fund.

With ownership of a UST comes associated potential environmental liability and future costs. Therefore, it is important to be well-informed before you begin removing your UST. If EPA regualtions are followed, the maximum possible reimbursement can be obtained. However, violations including missing the December 1998 deadline, can lead to deducations on reimbursement requests of 10-20%, or more. At this rate, out-of-pocket remediation bills can seriously add up. These mistakes can lead to large headaches, unnecessary expenses and less time to enjoy the course. By selecting an environmental consultant and acting now, you can keep your golf course out of the rough and in the green.



NOVEMBER 1997 HOLE NOTES • 15

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REQUEST FOR COMMENTS

Planned New Rule Governing the Underground Injection Control Program, Minn. R. ch. 7089.

Subject of Rule. The Minnesota Pollution Control Agency (MPCA) requests comments on its plan to develop new rules governing the state administration of an Underground Injection Control (UIC) regulatory program. The MPCA is considering rules that establish a state permitting and enforcement program for UIC wells. The UIC program is currently administered in the state of Minnesota by the United States Environmental Protection Agency (USEPA) under 40 CFR 147.1201. The MPCA plans to incorporate portions of these federal regulations and other existing state permitting and enforcement rules into this new Chapter 7089 in order to bring together all applicable requirements under a single rule chapter. The incorporation of applicable federal regulations is also necessary for the state of Minnesota, through the MPCA, to acquire delegation for administering this program from the USE-PA. At this time, the MPCA seeks comments on this subject matter and the development process of the proposed chapter.

The UIC program consists of five classes of wells; Class I, II, III, IV, V. The different wells are defined as the following:

Class I

Class I wells are used to inject hazardous wastes or dispose of non-hazardous industrial waste and treated municipal sewage below the deepest underground source of drinking water.

Class II

Class II wells are used to dispose of fluids associated with the production of oil and natural gas, enhanced oil recovery, and storage of liquid hydrocarbons. These wells normally inject below the deepest underground source of drinking water, except in cases where the Underground Source of Drinking Water (USDW) contains producible quantities of oil or gas.

Class III

Class III wells are used to inject fluids for the extraction of minerals.

Class IV

Class IV wells are used to dispose of hazardous or radioactive wastes into or above an underground source of drinking water.

Class V

Class V wells are wells that serve greater than 20 persons per day or are not included in the other classes. Generally these wells inject nonhazardous fluid into or above an underground source of drinking water. These wells are commonly referred to as "shallow injection wells," "underground discharge systems," or "septic systems."

Under the anticipated state program, the MPCA plans to ban all Class I, II, III, and IV wells within the state due to the geology and environment in Minnesota. Class V wells will at first be permitted by rule. Eventually, particular categories of Class V wells may be required to obtain discharge permits, depending on the volume and quality of the effluent discharged by those well categories.

Persons affected. The rule would likely affect any business (industrial, commercial, or serving greater than 20 persons per day) with a wastewater discharge in an *unsewered* area. Examples of businesses in unsewered areas that will be affected are automotive service stations, car washes, restaurants, hotels, resorts, storm water drainage wells and other systems that fall under the definition of a Class V well. The MPCA will use the existing Minn. R. ch. 7080 Individual Sewage Treatment Systems Advisory Committee to comment on the planned rule.

Statutory Authority. Minn. Stat. § 115.03 authorizes the MPCA to adopt rules to establish permitting and enforcement practices to abate water pollution.

Public Comment. Written or oral comments, questions and requests for more information on this planned rule should be addressed to:

Melonie L. Elvebak Water Quality Division Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, MN 55155-4194

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GCSAA Approves Dress Code For All Seminars

At its summer meeting, the GCSAA Board of Directors approved an education committee recommendation regarding a dress code for all GCSAA seminars, including conference seminars and chapter-hosted regional seminars. As you may recall, a dress code already exists for several conference events. The new seminar dress code is intended to help promote the professional image of golf course superintendents through professional attire.

Accordingly, the new dress code for conference and chapter-hosted seminars is:

Casual business attire (slacks and collared shirts for men, simi-

lar attire for women); jackets are recommended.

For your reference the dress code for other conference events follows:

Trade Show and Educational Sessions: Golf casual attire.

Opening Session and Government and Environmental General Session: Sport coat and similar dress for women.

Gala Reception and Dinner: Coat and tie, and similar dress for women.

Golf Tournament / Golfing Events: Golf casual attire, such as golf shirt or sweater and casual slacks, no jeans.

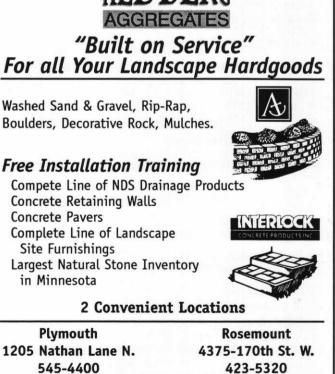
Welcoming Reception: Semibusiness attire, such as an open collared shirt with sport coat for men, and similar attire for women.

Victory Reception and Banquet: Business attire, such as a suit with coat and tie for men, and similar attire for women.

Members will be notified of the new guideline through their seminar registration confirmation letters, through *Newsline* and publications like *Hole Notes*.

If you have questions regarding this policy, please contact Tom Witt by phone at 847/304-2840 or by e-mail at tomwitt@ix.netcom.com or contact Deena Amont, Director of Education, by phone at 800/471-7878 x414 or by e-mail at damont@gcsaa.org.





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Cushman Welcomes New Service Coordinator

Cushman Motor Company recently announced the addition of Brian Lein as its new Service Coordinator. Lein will be responsible for the scheduling of all service department activities and will also handle the processing of warranty claims with the factory.

Before joining Cushman Motor Company, Lein had over fifteen years of golf course equipment maintenance experience working for Rich Acres Golf Course in Richfield and Brackett's Crossing in Lakeville.

Lein's years of golf course experience makes him wellqualified for the position. "We feel very strongly about finding someone who fully understands the concerns of golf course operations in order to better serve our valued turf customers," said Jerry Commers, President of Cushman Motor Company.



