

For a growing number of golf course maintenance operations, income and expenses are impacting course conditioning.

BY BOB BRAME

THE ECONOMY AND GOLF COURSE MAINTENANCE

Over the last couple of years the sluggish economy and the increasing cost of golf course conditioning have become frequently discussed concerns. Play volume vs. income, course conditioning, the maintenance infrastructure, and how to properly consider each have always been agenda items on course visits, but recently the intensity has elevated. Unfortunately, too many courses are approaching economic constraints with poor or no prioritization such that intermediate and long-term operational sustainability is suspect. This article will discuss a realistic and practical approach to managing quality golf turf relative to available funding. When budget cuts are needed, the following sequence will allow adjustments to be made without compromising the product or value ratio (what golfers are getting for their dollar).

PRIORITIZE ALL COMPONENTS OF COURSE MAINTENANCE

The decision makers should start with a prioritization of what's important. This cannot be done properly by the superintendent alone. The owner,

board, committee, advisory group, or to whom-ever the superintendent answers, should be directly involved in determining the pecking order of course maintenance priorities. Putting surfaces are clearly first, but from there on down there is no right or wrong order, other than not having an agreed-upon order is wrong. While every course should have a custom-fitted prioritized listing, it's all about offering a course upon which the game of golf can be played. Carefully consider what's important to the game during the process of prioritizing components of the maintenance program. For example, it makes no sense to place trees (tree management) above what is needed for healthy grass growth, unless tree removal is needed to improve the grass-growing environment. Maintain candid objectivity when compiling the listing, relative to what the grass needs and the intended line of play. This process is discussed in detail in the July-August 2003 *Green Section Record* article "Stay Focused." Review the article (available on the USGA Web site) and complete the exercise before continuing this article.

Predominately out-of-play tall rough can enhance environmental friendliness while improving definition, and it helps keep maintenance dollars focused on more in-play acreage (Kitty Hawk Golf Complex, Dayton, Ohio).



Gravel, brick chips, bark, or other similar materials often erode or move with traffic, which increases maintenance costs as compared to a paved cart path.

Without a prioritized list, there is no foundation for the following discussion, and the current cycle of income and expenses will not improve — there will be a continuing decline of course value or, at best, a wandering in the wilderness (no defined direction that guides the operation). However, the downward trend is often very subtle and, as such, it may require open-mindedness to detect and correct. An agreed-upon prioritization of all surfaces or components of the maintenance program, with specific subcomponents, is the first step towards properly managing agronomics, economics, and politics.

CORRECT INFRASTRUCTURE LIMITATIONS

The maintenance infrastructure includes, in no specific order and equally weighted, the irrigation system, drainage network, equipment inventory, maintenance complex, architecture, operating budget, and staffing. The prioritized listing of course components should help identify infrastructure needs and limitations. Conversely, the infrastructure will impact prioritizing components — there is a two-way street between components of the infrastructure and the pecking-order list.

Maintenance Complex. Every golf course should have a safe, efficient, and environmentally friendly maintenance complex. This would include two restroom and shower facilities, along with a nice lunch room. However, the prioritized listing will directly impact staff size and, as such, the needed employee and equipment accommodations. For instance, the walk mowing of greens or the triplex mowing of fairways, depending upon the listing and sub-objectives, will impact both staff accommodations and equipment

storage space. More inclusively, the maintenance complex directly impacts staff morale, work ethics, and safety, along with equipment servicing and storage, which means this component of the maintenance infrastructure should not be taken lightly even though it is seldom visited by golfers.

Equipment Inventory. In the final analysis, it is the staff and equipment that get the work done. The equipment inventory should be replaced regularly to control repair and maintenance costs and to ensure efficiency. Conditioning objectives must be anchored by the equipment inventory to achieve sustainability. Generally speaking, an investment of 10% of the total equipment inventory replacement value, each year, will keep the inventory in good condition. However, the addition of extra items that may be needed to properly cover your objectives should be considered prior to, and over and above, the 10% replacement guideline. Trying to walk-mow 18 or more greens with only one mower is an example of needing to purchase extra units.

Operating Budget — Staffing. It is common for the salaries and wage line item(s) in the operating budget (all of what is being spent to staff the maintenance operation) to be 60% or more of the total budget. A higher percentage typically reflects more detailed manicuring and walk mowing of various sites, while a low percentage (55 or below) often suggests that conditioning expectations/objectives are out of line with staff to do the work. Recognizing that labor is such a large percentage of the total operating budget, it is a common target when reductions are deemed necessary. However, it should first be determined what will be reduced (the prioritized list should be adjusted) and then the staffing altered to accommodate the adjustment. The compiling of an agreed-upon prioritized list will be made more efficient with specific accounting of how funds have been spent in the past. Budgeting can then capitalize on past actuals and the level of conditioning that was offered.

Irrigation System. A key, if not *the* key, objective of golf turf conditioning is to maintain the surface and upper profile as dry as applicable variables allow. The intent is environmental friendliness, consistent/dependable playability, and healthy turf, which is always more economical than unhealthy turf. The irrigation system and how it is used directly impact the pursuit of dry conditioning or water management. More sprinklers and more efficient coverage control do

not equate to wetter playing surfaces; in fact, quite the opposite is true. The prioritized listing should guide the assembly of specific features of the system. For instance, will the primary rough be watered? Where is it placed on the listing, and what subcomponent objectives have been agreed upon?

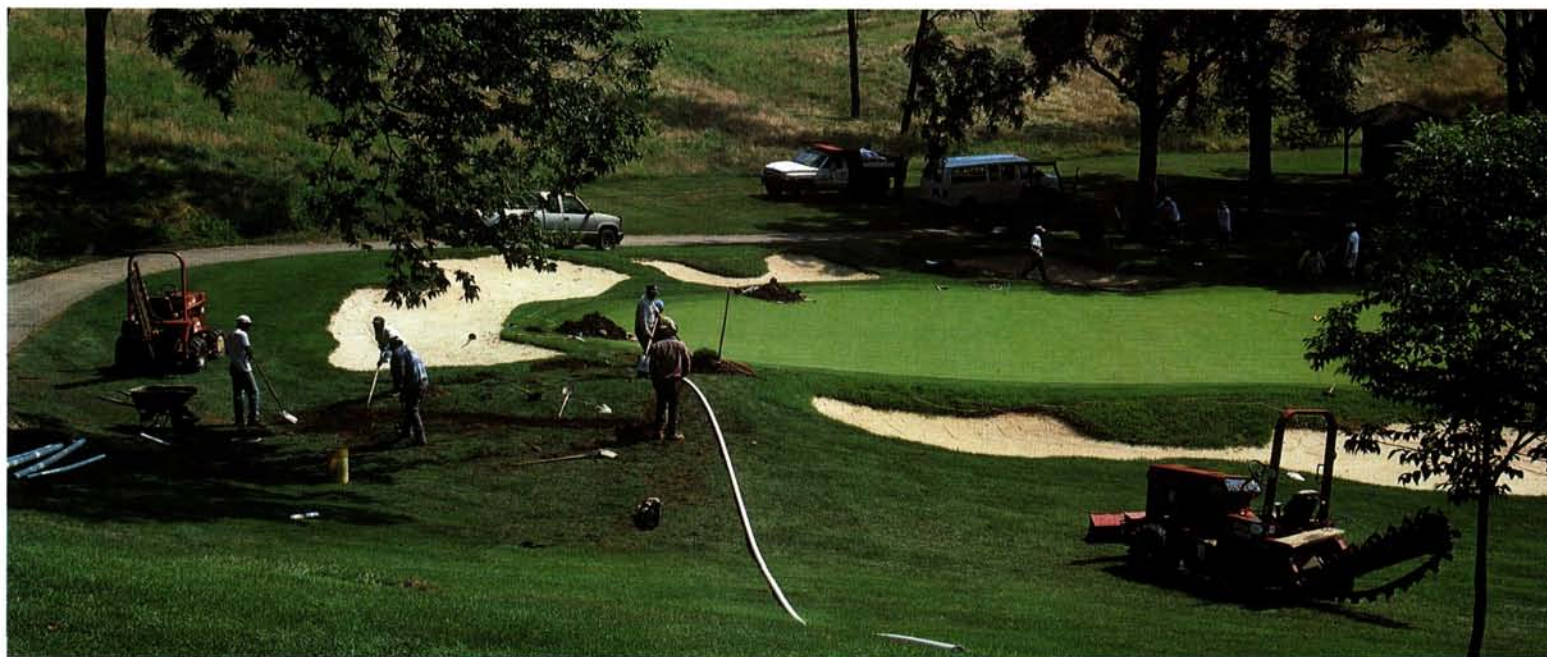
Drainage Network. Tying directly to the irrigation system in pursuing dry conditioning is efficient drainage. The drainage network is the combination of surface contours that allow runoff and tiling that provides subsurface movement. Like the other components of the infrastructure, drainage is vital to quality golf turf. Yet the level of drainage should be fitted to agreed-upon priorities and subcomponent objectives, along with archi-

GUARD AGRONOMIC BUILDING BLOCKS

The four equally weighted building blocks of agronomically sound golf turf are:

- Fertilization
- Mowing (type of mower, bench setting, and sharpness)
- Growing Environment (sunlight and air movement)
- Water Management (drainage/aeration and irrigation/rainfall)

Limitations in one or more of these equally weighted foundation building blocks cannot be corrected by any combination of secondary (other than what directly facilitates the four building blocks) strategies imaginable. As an example,



ture. As an example, predominately out-of-play natural rough will not need the same level of drainage efficiency as that of primary rough.

Architecture. If decision makers identify double-digit speed as an objective for greens on the prioritized listing, the surface contours should be subtle enough to accommodate the objective relative to play volume and the need to spread wear across the green via usable hole locations. Architecture must accommodate desired conditioning or else course playability will not be economically sustainable. Bunkers are another good example; if they're low on the listing, as hazards should be, it's important for the architecture to be such that constant erosion and/or washouts are avoided.

fungicides will not control disease activity that is brought on by overwatering or a poor micro-environment. Guarding and properly implementing these building blocks, in pursuing quality golf turf that is economically sustainable, is not negotiable. An expanded discussion of these agronomic building blocks can be found in the July-August 1997 *Green Section Record* article "The Building Blocks of a Solid Maintenance Program."

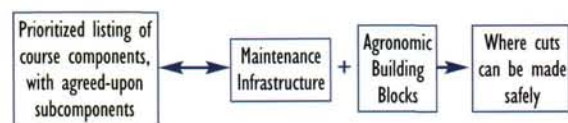
Consider the progression: (1) develop a prioritized list of what makes up the maintenance focus, with desired and agreed-upon subcomponents, (2) make sure the infrastructure is in good order and that it properly supports the listed objectives, and then (3) invest to guard foundational agronomics. With this combination employed, it would

An efficient irrigation system is a vital component of the maintenance infrastructure, and it pays dividends over the intermediate and long haul.

be impossible to skip putting surface aeration in an effort to reduce labor costs or increase play. The skip could do both over the short term, but it would also open the door to far greater concerns. The logic is simple and straightforward; the greens should be first on the prioritized listing, while other components and surfaces can vary — not greens. Aeration directly impacts rootzone porosity via drainage, which ties to both the infrastructure and the water management building block. The same logic and progression can be applied to any agronomic, economic, or political question that may arise.

WHERE CUTS CAN BE MADE SAFELY

The specific places where cuts can be made safely will vary depending upon the specifics at a course. Applying the outlined template (as discussed and illustrated below) will ensure agronomic and economic sustainability.



The following are examples, which apply to most courses, of where cuts can be made without compromising the product or value ratio.

Add or Expand “No Mow” Predominately Out-of-Play Rough. Most courses have areas where little or no golf is played. Mark such areas and stop regular mowing. Ideally, identify the acreage as “natural.” A natural area does not have weeds, as a weed is a plant out of place. No weeds means there is no need for herbicides. If, however, the desire is for tall grass blowing in the wind, then spot usage of herbicides occasionally may be needed to eliminate growth other than grass. One mowing a year typically will work with either approach. The end result will be improved definition and a more environmentally friendly operation, and budget dollars will be kept focused on more in-play acreage.

Planting wildflowers in predominately out-of-play rough is not as economical as going natural. Seeding will occasionally be needed to maintain a good stand of wildflowers, and weed control often becomes necessary.

The guiding concern with “no mow” rough is pace of play. An occasional ball in the tall rough is acceptable as long as the pace of play is not consistently slowed. The slope rating should reflect the presence of tall rough that is not marked as a

hazard unless a hazard is present; tall rough does not meet the definition of a hazard in *The Rules of Golf*.

Add or Expand Buffer Strips. Hand mowing or trimming around lakes and creeks is not environmentally friendly, and there is a significant labor cost. A buffer strip of at least several feet, depending upon terrain features and/or architecture, will eliminate expensive hand labor, and it greatly reduces the chances of a chemical application moving into the body of water. Canada goose activity may also be reduced with buffer strips. With the hazard marking placed outside the buffer strip, there will be no negative impact on playability, although the different look may require some time to be fully accepted. As with the predominately out-of-play “no mow” rough, one mowing a year is normally sufficient to control tree sucker growth.

Participating in the Audubon Cooperative Sanctuary Program (ACSP), through Audubon International, is an excellent means of guiding the establishment or expansion of tall rough and/or buffer strips. Efficiency is improved and credibility will be elevated when the ACSP is guiding the process.

Eliminate Flower/Ornamental Beds.

Clearly, when funding is tight, flowers and ornamental plantings should be reduced or eliminated. While everyone enjoys the color and texture that ornamentals and flowers offer, they are not needed for the play of the game. In a tough economy, anything that has no direct impact on playability, yet draws resources away from those areas that do, is excess baggage. The initial prioritized listing of surfaces and components should reveal, for most operations, a low placement for flowers and ornamentals.

Occasionally, trees and tree management needs are aligned with flowers and ornamental plantings, although they should be separate items on the initial listing. When the turfgrass growing micro-environment is compromised by any type of plant growth, it should be eliminated — remember the building blocks. On the golf course, trees, flowers, and ornamentals are all optional — grass is not. If the sequence in this article is followed, most tree work/removal will be done under the heading of “Guard Agronomic Building Blocks — Growing Environment.”

Reduce Bunker Maintenance. It is important for bunkers to have well-defined margins so that *The Rules of Golf* can be applied. However,

conceding the need for clearly defined margins, bunkers are hazards. Where did we get the idea that hazards should play consistently? Many times a year on course visits the request will be made, "We just want the bunkers to play consistently from hole to hole." True consistency will never happen, and the pursuit thereof is very expensive. No doubt we can thank televised golf for this predicament.

Considering the basics, bunkers are hazards that are to be avoided and as such do not need to play consistently. In addition, design (infrastructure — architecture) that does not allow constant erosion and minimizes bunker maintenance costs is what you're looking for. They should have good internal drainage and, again, be designed to prevent erosion. Daily raking is not necessary, however, and for most courses this component of maintenance could be lowered on the list, resulting in a saving.

Eliminate Bunkers. Even with reduced maintenance, bunkers typically are more expensive to maintain than the regular mowing of primary rough. This would suggest that if bunkers don't offer directional or playability value, they could be converted into grassy swales. This is a good topic to discuss with an architect, as it could offer significant savings while still presenting an enjoyable and challenging course to play.

Pave Cart Paths. No one particularly likes asphalt or concrete on a golf course, but golf carts are here to stay and a paved surface is the best means of controlling cart traffic wear. The use of gravel, brick chips, bark, or various other similar materials may sound good, as balls will not bounce as far if they are hit, but maintenance costs normally will be higher over the intermediate and long haul. The initial cost of paving should result in savings down the road.

CONCLUSION

Agronomics, economics, and politics are part of every golf course maintenance decision. All three must be considered, and at times it can be difficult to properly sort through the issues and do what is right for the long-term conditioning of the course. The solution to this dilemma, which is often intensified during tough economic times, begins with an agreed-upon prioritization of all components. The prioritized listing with agreed-upon subcomponents sets the stage for the precise evaluation and adjustment of the infrastructure. Needed upgrades or corrections to the infrastructure will then support the agronomic building



Bunkers that frequently experience erosion should be renovated or have steps taken to correct the problem. In this case, an intercept drain was installed above the bunker to minimize water flowing over the bunker lip and washing out the bunker face.

blocks, to which secondary or fine-tuning strategies can be added. Individual sprinkler control around greens will complement the pursuit of dry conditioning, whereupon fungicide applications will achieve the desired control. Cuts or reductions should start with the prioritized listing and applicable subcomponents and process through the outlined template. Indiscriminate cuts often open the door to product decline that forces even more reductions. If adjustments are needed, measure twice (or more) and cut once.

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