



Course Design is a Team Effort!



These bunker faces at the Hunter's Ridge G.C. in Marion, Ind. have been designed to be maintenance friendly and can be maintained efficiently with a riding mower. Photo courtesy of Bob Lohman's Golf Designs/Golf Creations, Inc.

Architect, Superintendent Can Work Together to Create Golf Courses Friendly to Maintenance

BY BOB LOHMANN

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I recently met with a golf course superintendent, clearly frustrated after we had walked his course. He was concerned about the long-term maintenance challenges that had developed from excessively sloped bunkers and poorly sized tees.

The superintendent said that the

course was an excellent aesthetic design, but it demanded a level of maintenance that could not be met with his budget. He asked, "Could this have been avoided?"

"Certainly," I told him, explaining "there is nothing more important than working with the golf course architect to ensure a layout that compliments maintenance capabilities and players' skills."

Granted, it's difficult to find the balance between aesthetic excellence and easy maintenance for a golf course — but golf course superintendents and architects should work together to formulate a design that best meets the needs of a given project.

Build A Partnership

There are many issues to consider. For new or existing courses, the first and most important step to assure a golf course that will thrive for generations is for our professions to continue to work together. The superintendent and architect should discuss the maintenance capabilities, types of players and vision for the course at hand. Architects work within the maintenance guidelines and support superintendents with a thorough understanding of the maintenance implications of a design.

Maintenance Factors

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course's needs based on a few basic, but important factors:

- Available maintenance budget.
- Maintenance staff.
- Maintenance equipment.

The superintendent's input is essential. All aspects of design affect the maintenance of a golf course, and the superintendent can provide the course architect with vital information to make the project a success.

Bunkers

The number and shape or style of bunkers on the course can have a dramatic effect on maintenance. The architect will know from discussions with the superintendent if the maintenance budget will provide for the proper equipment and manpower required to adequately maintain the golf course.

Bunkers with intricate fingers and capes create a character, but require hard work to maintain them properly. This is fine — provided the budget allows for it.

More open-shaped bunkers with shallow faces are easier to maintain with riding equipment, and require significantly less work, but the aesthetic value is poor. Open shaped bunkers with deeper and steeper faces tend to add more drama to the course, but again, maintenance needs increase with the steeper slopes. The steeper slopes don't hold sand very well and must be repaired after heavy rains. On the upside, some of the newer maintenance equipment on the market today is excellent for maintaining steeper slopes.

Small pot bunkers can give a course

an interesting Scottish links character, but require hand raking and cutting, which the maintenance budget must account for.

Waste bunkers and waste areas provide contrast to manicured fairways, and in some cases can be low-maintenance areas. However, these waste areas can also be quite deceiving in terms of maintenance — erosion, stone picking, raking and trimming of negative vegetation can be labor-intensive maintenance items.

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Drainage is critical to bunker maintenance. Bunkers can deteriorate significantly if proper sub-drainage is not provided beneath the bunker floor. Not only is sub-drainage important, but surface drainage around the bunker is also critical. Surrounding surface area drainage must be directed away from or around the bunker. This minimizes washouts and subsoil erosion.

Tees

Tees may not always receive a great deal of attention from an aesthetic standpoint, but they require a great deal of attention from the maintenance staff. Playability is a critical design aspect for the architect, and the use of multiple tees at various yardages and angles to the line of play can dramatically affect playability for golfers of different abilities.

Tees are often the most difficult features to construct properly, because they must be as level as possible and drain properly at the same time. Generally, architects try to slope tees from front to back at a one-percent slope. The exception to this are tees built into hills that are sloped forward for better drainage and visibility of the target area.

Tees come in all shapes and sizes. The larger the surface area, the easier it is to evenly distribute wear on the tees. Tees usually vary from 7,500 sq. ft. to more than 10,000 sq. ft. If the architect uses multiple tees, it is imperative that the middle tees be sized larger than the front and back tees, as this is where the majority of play will occur.

Again, surface drainage on and around the tees is crucial to the health of the turf. This is especially true of hillside tees where surface drainage should be guided around the tees through diversion swales.

As with greens located in shaded locations, it is important to adequately clear around tee areas to provide proper sunlight exposure, and the superintendent should work with the architect to ensure this is provided for during construction.

On tees constructed on significant fill, the contractor should compact the fill properly and place it in small lifts.

But it is the responsibility of both the architect and the superintendent to inform and sometimes educate the owner on how design and maintenance affect each other, as well as the initial and future costs of the project.

Otherwise, settlement can occur, creating future drainage problems.

Fairways

Like tees, fairways can dramatically affect the playability of a course. Fairway width generally ranges from 30 to 50 yards, depending on the length of the hole and other considerations. Again, drainage is key to the fairway's maintenance needs. All areas of the fairway and rough should be sloped to provide appropriate drainage. On steeper fairways or on fairways with significant undulation, it is often important to capture surface water in smaller drainage areas with a catch-basin, and send it underground in a pipe to prevent erosion.

Fairway contours should flow smoothly and allow for easy mowing — eliminating areas where there is a danger of scalping high points, rutting on slopes that are too steep or spinning on turns that are too sharp. The architect and superintendent should discuss fairway acreage to determine requirements for equipment, fertilizer budgets and other maintenance expenses.

Cart Paths

Cart paths are important for controlling traffic and wear patterns on the golf

course, and this is where the superintendent should provide substantial input. Cart paths not only allow for movement of golfers, they also provide excellent transport routes for maintenance staff and equipment. Strategically placed cart paths will limit turf damage incurred from maintenance equipment. It is important that pathway access all high traffic areas, particularly around greens and tees.

Get Involved Early

Devising a course that maximizes beauty and playability while minimizing maintenance is never easy. Together, a golf course superintendent and architect will be able to draw upon their own experiences to help the project avoid pitfalls. Remember, the well-trained golf course architect has been through the process many times — and knowing the maintenance budget, amount of maintenance staff, available equipment and other important information allows the architect to design a course that meets the needs of the players and the superintendent.

The architect and superintendent need to work together to satisfy the owners needs. If owner wants a dramatic course, then the architect designs it and the superintendent maintains it. But it is the responsibility of both the architect and the superintendent to inform and sometimes educate the owner on how design and maintenance affect each other, as well as the initial and future costs of the project.

Bob Lohmann is President of the American Society of Golf Course Architects. The Society publishes a wealth of information about golf course design, including "Remodeling Your Golf course," which details how to incorporate maintenance needs into a remodeling master plan. To obtain a free copy of the brochure, send a self-addressed, business-size envelope to the American Society of Golf Course Architects, 221 N. LaSalle St., Chicago, IL 60601. Phone: 312-372-7090. Fax: 312-372-6160. Additional information can be found at the organization's web site at <http://www.golfdesign.org>.