



If sod is used, it's very important that any soil on the sod have a very good percolation rate. Photos courtesy: James Boynton III.

An Architect's View of Sports Field Construction

By Alan Blalock

Contact the architect early in the building process, ideally when a field is still in the "only-a-dream" stage. The foundation of an athletic field, like that of a building, is the most important part of the total. It's vital the field be built properly, with good soil mechanics, percolation and drainage.

If a facility waits to contact the architect until after the budget has been set, the estimated costs of field construction likely will be too low. The facility is then faced with trimming funds from other areas of the project or going back to financial sources for more funding. Building a field destined to fail is not an acceptable option.

Importance of Soil Mechanics

The turf layer is the easiest part of a sports field project. You can grow turf on almost any kind of soil, given time, water, fertilizer and acceptable weather. Growing sports turf is another matter. When athletes use and abuse the turf, special issues arise, and the majority of them go back to the underlying construction: soil mechanics.

A proper soil profile with adequate drainage and good percolation allows turf to develop good roots and rhizomes to support the above-ground portions of the plant. This vigorous turf can

take a great deal of use and a certain degree of overuse and still come back. Even when so much abuse occurs that the turf dies, it can be replaced. It's difficult to almost impossible to correct severe problems in the subgrade without rebuilding the field.

Sand particle size is the most important consideration, and relates directly to the field's performance during the next 10 to 15 years. Most sands will function well for the first year or two. But once the sand settles, humus builds up in the profile, and root rot develops. It's proper particle size of the sand, along with proper agronomic practices, that keep the soil profile functioning efficiently.

Cost Considerations

When discussing field construction at the pro level, I ask owners to think of the field as the "office" for their players, the place where the work of the game is accomplished. Why bring in multi-million dollar athletes, a top coaching staff, and construct swank seating for spectators if you're going to make your stars compete under anything but the best playing conditions?

The same idea carries over to fields at any level. Each is a field of "play," and the other parts of the facility exist only because of the games that are played on the field.

Construction costs for a premium professional level field will include:

- the architect's design of the field;
- the initial site preparation and all the stages of grading;
- the design and installation of the drainage and irrigation systems;
- developing the specifications for the components of the soil profile;
- the sourcing, selection, testing, transportation, blending and installation of the soil profile;
- selecting, transporting and installing the turf;
- turf establishment (grow-in);
- developing a post-construction maintenance plan.

While a stadium architect experienced in stadium design probably will be able to provide a general range of field construction costs from the company's involvement in past projects, an experienced field architect will research precise requirements according to the plan projections as developed with the facility owners and their construction team.

Building a Plan

The sports turf manager should be a part of the facility's construction team from the beginning. Ideally, the initial meeting will involve all members of the construction team and the field

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architect. This allows them to put on the table their concepts of what the field could and should be. Often, at this stage, each team member will have a slightly different mental picture of the finished project. Each member's vision will include important components that will help develop the most workable field design.

For example, the sports turf manager's input might include details on the irrigation system desired, including zoning, overall flexibility and the placement of quick couplers; the preferred ingress and egress route; the width of a baseball warning track; bullpen placement and turfgrass cultivars. His or her insight into past problems with the existing field or at fields in similar settings would also prove beneficial in planning the new field.

Many potential problems can be minimized during these pre-planning sessions. A football field that would also accommodate soccer would be designed with adequate turf area for the larger playing area and with a

slope of less than one percent to provide the preferred level surface. We'd also suggest turf surface dimensions great enough to allow "shifting" the field to avoid excessive wear in the soccer goal mouths.

Once the plans are agreed upon, it's vital that the contractor selected to implement the design be experienced in athletic field construction. The plan must be carried out properly for the field to "work" as designed.

Generally, a field architect will supply each bidding contractor with a source list of materials as researched in developing the plan. That doesn't tie the contractors to that supplier. They may have their own preferred comparable sources. But the materials must meet the plan's specifications.

Whether turf will be established by sod, washed sod, sprigs or stolons, cultivars must agree with the specs. If sod is used, any soil on the sod must have a very good percolation rate. Ideally, the soil will match the field's soil. Installing sod with a heavy, slow-percolating soil can have the same



Once a design has been settled on, it is vital that it be carried out properly for the field to work as planned.

effect as stretching a layer of plastic across the field. An excellent soil profile can't do its job if the water can't get down to it.

Maintenance Matters

Another real issue is who takes care of the turf once it's in place. The field architect may stipulate that the contractor continue maintenance for a specific period. We generally stipulate a 45-day maintenance period following

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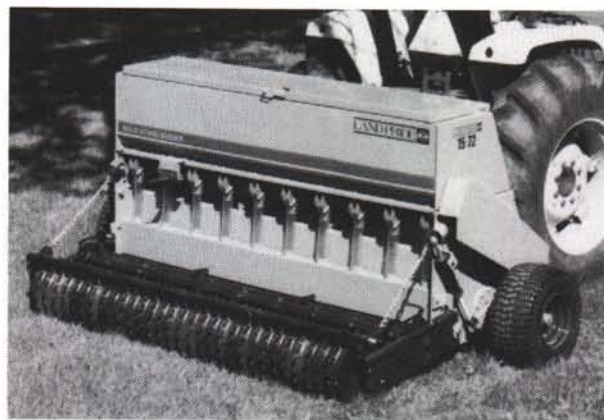
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Turf managers should be involved in sports field construction from the initial stages, so they'll be familiar with the quirks of the field.

sod installation; eight weeks after sprig or stolon installation.

The field architect also will develop a program for post-construction field maintenance, often working with the sports turf manager. This plan generally will include listings for the materials and equipment to implement the program properly. With improper maintenance, an excellent field can be destroyed in months, and the result

may not show up until the next growing season. If the sports turf manager has been a part of the construction team from the beginning and in daily contact with the contractor during the construction, he or she and the facility may prefer to take over maintenance within a short period following turf installation, or even immediately.

Major benefits of having sports turf managers involved from the initial planning process and on-site throughout the construction period include:

- A sense of "ownership" and greater knowledge and understanding of the field components.
- Intimate knowledge, like the underlying layer of plastic that keeps water in and subsurface water out of the soil profile. They'll know that a portion of the drainage piping is less than 12 inches deep in specific spots to accommodate a quirk of the site.
- Sports turf managers will care about "their" turf. They'll join crews in replacing divots immediately following each competition. They'll also be intimately familiar with the "person-

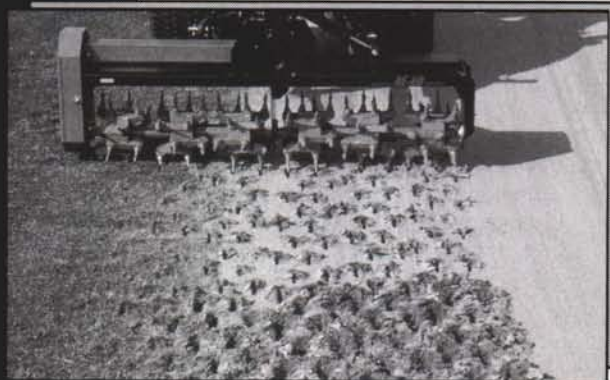
ality" of the field. (And each field does have its own distinct personality.) They'll understand and compensate for such details as the variation in air currents that cause left field to dry out a little faster than right field, or the sunlight angles that produce more vertical top growth along the east wall.

A good athletic field architect, like a good sports turf manager, has to be "in love" with the turf. I'll admit I see each grass plant as an individual, a small body trying to hold its own against Goliath athletes. I realize the field is built for those athletes, but I always root for the little green underdogs and want to turn over each field I design to a capable turf manager. □

Alan Blalock is president of Blalock Associates Inc., a firm based in Birmingham, Alabama, that specializes in athletic field design and golf course architecture. Blalock has been involved with the design, maintenance and construction of more than 200 sports fields serving athletes from the youth to professional levels.

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