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TORO® **Count on it.**

Sports Turf Facility Management and his crew, Matt Hart of Rain Bird, a couple of our crew members and I were all setting heads throughout the night to get the coverage correct. The laser leveling followed right behind us.

"Tom Stafford and his crew from West Coast Turf brought in 140,000 square feet of Bull's-eye Bermudagrass. We opted for big roll one piece sod cut 1-1/4 inches thick to get the stability for immediate play. As West Coast was rolling out the sod, we were sanding the seams right behind them, following that with hand watering and rolling. Because of the tight timing, we knew we had to accomplish a set amount per day to get it all down. The last 30,000 square feet of sod was laid on Friday afternoon and they played soccer as scheduled at 7 PM that Saturday. The Galaxy General Manager Doug Hamilton told us the field played great."

The Chevy commercial

At the end of August, the new turf was just recovering from being covered for five days for a Dave Matthews Band concert. HDC had just started using Terra floor. "Though the grass was stressed, it came out better than expected," Waters reports. "So we were ready for the next challenge, filming of the Chevy truck commercial with Howie Long. We put up goal posts and chalked the field as for NFL football. We couldn't paint lines because L.A. Galaxy had a soccer match later that weekend. They brought in the trucks, drivers, and camera crews and took over the field for three days to film that 30-second commercial. The trucks would rev up and spend from 20 to 40 minutes just moving back and forth in one spot until they had them all in place to start the action. And they did do what the commercial shows; that's not a computer-generated shot.

"The actual field damage was less than we anticipated. There was actually more compaction damage from camera crews than from trucks. Phillip aerified in four directions with solid tines. We resodded around 12,000 square feet where tire marks skidded out and the trucks slid. Kevin then topdressed with dry sand and groomed it in. While we did apply a light touch of green paint strictly for aesthetics, playing conditions were excellent for the soccer game that took place three days after the filming."

The Home Depot Center hosted the NCAA Men's Soccer College Cup in November. The Rose Bowl teams practiced there in December. The Men's World Cup soccer team arrived on January 7 and has trained on the practice fields every day since then.

Rugby started in February with games on the stadium field from 10 in the morning to 6 at night for two straight days. Lacrosse takes over in March. Despite all the use, the field must be in top condition for the MLS season that starts in early April and runs to the MLS Cup in November. This will be the first year with two MLS teams sharing the stadium, the equivalent to the field sharing of the NFL Giants and Jets.

Weather adds more challenges. Waters says, "Rainfall from October through December doubled what we normally get for the total year. We'd overseeded the stadium field with a three-way perennial ryegrass blend in October. The seed was just coming up and we were about to mow when the rains hit. It rained and rained and we got zapped with Pythium in the rye and helminthosporium in the Bermudagrass. We treated, but had to start all over again with the overseeding process.

"Then we had a total of 17 inches of rain between December 1 and February 1. While we really appreciated the precipitation for the rest it gave our irrigation system and the great job it did of flushing out the salts, there were some negatives. The rains were so heavy at times they turned our walkways into rivers of water dumping onto the fields. We had 18 soccer games in 22 days in January. One of the most damaging elements was that was one of the doubleheaders on the stadium field was played during a 2-inch rain. Most of the running trail was so washed out it needed reworking. In one section, we added 275 tons of DG back on the trail so we could properly level it and smooth it out."

Waters calls overseeding with ryegrass his secret weapon. He says, "We do lots of aeration and broadcast seed so there's always some in place to germinate when conditions are right. We've used perennial and some intermediate ryegrass. Towards the end of the season we start putting out annual ryegrass on the multiuse fields that get so much traffic. We can put out twice as much seed for the same cost.

"Because all the fields are in use we're not able to scalp down turf height and adjust fertilization and irritation to force transitioning out of the ryegrass. After rugby, we'll experiment by overseeding the main stadium with Kentucky bluegrass."

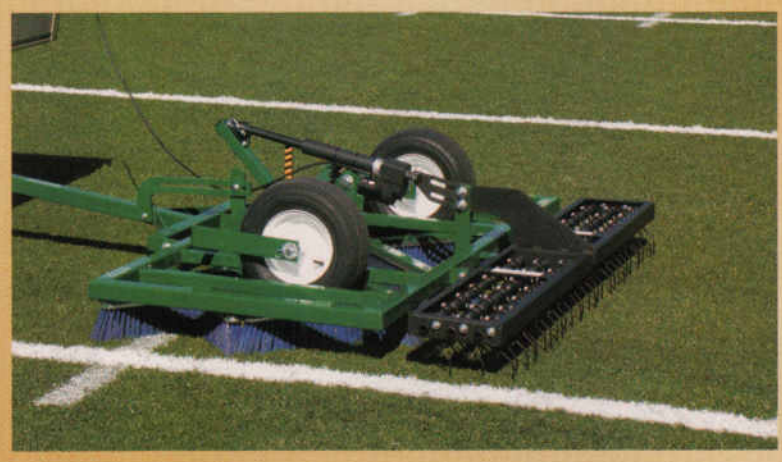
That pre-planning and solid preparation for whatever the future may bring is key to the program Waters and his crew have developed to insure the Home Depot Center is the sports showplace it was designed to be. ST

Suz Trusty is a principal at the communications firm Trusty & Associates. She can be reached at suz@trusty.bz.

GreensGroomer® WorldWide, Inc.

Synthetic Turf Groomer with GreensSlicer® Spring Tine Rake.

Fast, Efficient Grooming of all filled synthetic sports fields!



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- GreensSlicer Spring Tine Rake consists of 3 rows of 28 tines spaced 7/8 inch apart for thorough coverage.
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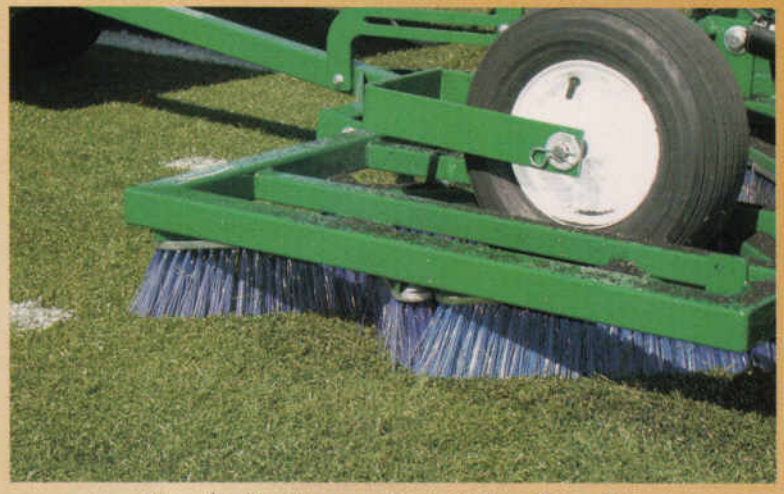
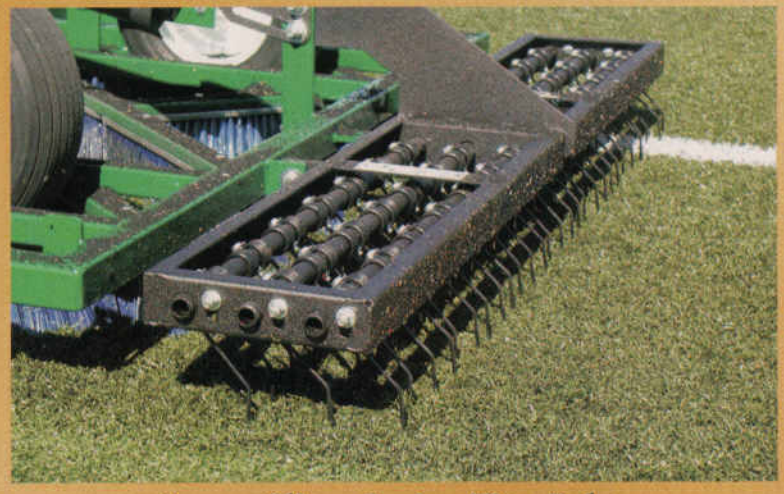
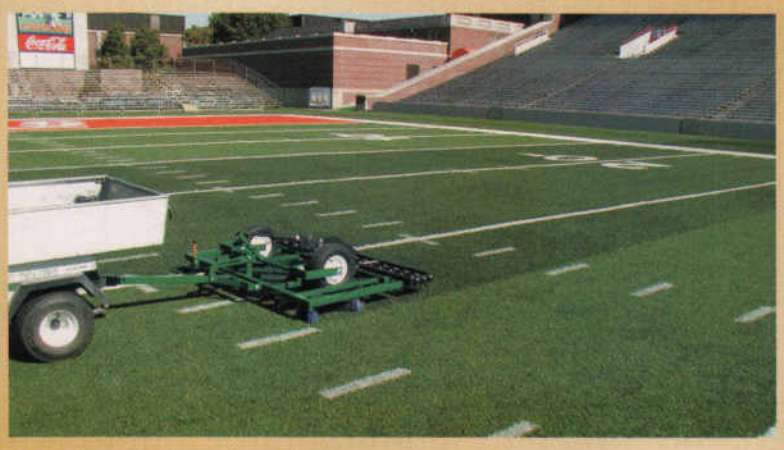
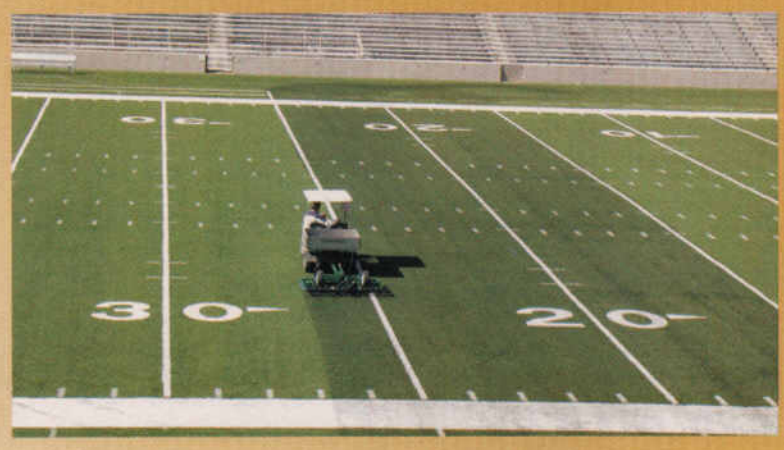


Synthetic Super Duty Blue Brushes
Resist wear and will not deteriorate from moisture.



GreensSlicer Spring Tine Rake
3 rows of 28 tines.





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MLB, NFL turf pros renovate HS field

It wasn't the smell of freshly cut grass, the 70-degree weather or the gentle breeze that made January 18 such an outstanding day in Phoenix. It was the spirit of teamwork in the air.

That day more than 50 professional sports turf managers from the National Football League and Major League Baseball converged on the baseball field at North High School in central Phoenix and completely renovated the playing surface as a community service project. Using equipment and materials provided by Covermaster, Toro, and Turface Athletics, the skilled volunteers dragged and raked the infield, leveled the playing surface, rebuilt the batter's box and pitcher's mound, and mowed, edged, and striped the turf.

"This really gives us the opportunity to work together, and we don't usually get to do that," said Bob Christofferson, head groundskeeper for the Seattle Mariners and one of the organizers of the event. "Since we have NFL and MLB guys here, we'll definitely learn a lot from each other."

"This is probably the most exciting thing that's happened here in 15 years," said Zack Munoz, principal of North High School, who was previously athletic director. "We were so excited to be chosen, and to have them give us a major league-type of field is just phenomenal."

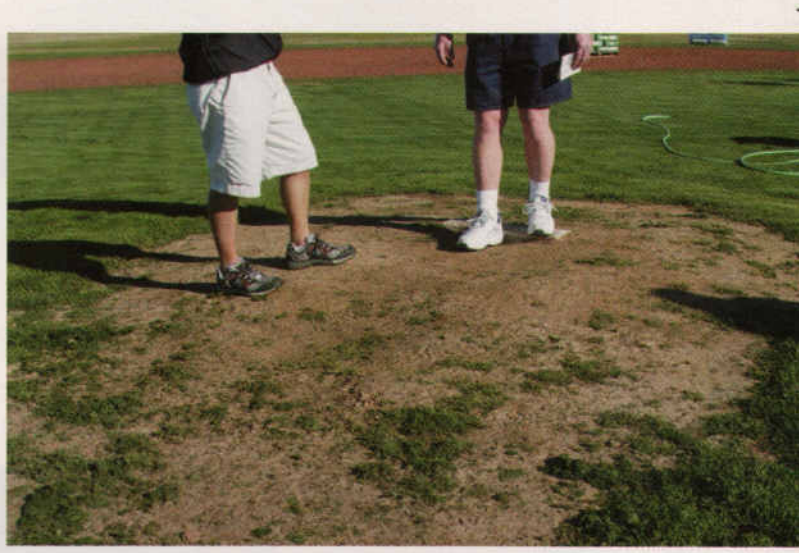
North is an inner-city school with approximately 2,500 students. The school has only one baseball field and due to the high traffic and low maintenance budget, conditions had become less than ideal. But after the volunteers were finished, it was transformed into a veritable field of dreams.

"The biggest thing was to give back to the community," said Christofferson. "We have a team of talented professional working together here to make this field better than it was before."

Later in the week, the Sports Turf Managers Association (STMA) used the field to conduct seminars and workshops on pitcher's mound maintenance and repairs, infield preparation, field logo painting and stenciling, line painting and field layout, game day cosmetics, and other topics. The North High School staff attended so they can learn how to maintain these high-quality playing conditions.

"Toro is extremely proud to be a part of this great event," said Dale Getz, national sports fields and grounds sales manager for Toro. "Grounds managers take immense pride in their work and often have to face the reality of fields weary from over use. By pitching in to renovate this field, we will not only improve the field, but the community pride of the athletes and spectators that use the facility. The field managers and sponsors really teamed up in a big way to make this school's dream a reality." ST

Canyon Communications, Mesa, AZ, supplied this article, www.canyoncomm.com.



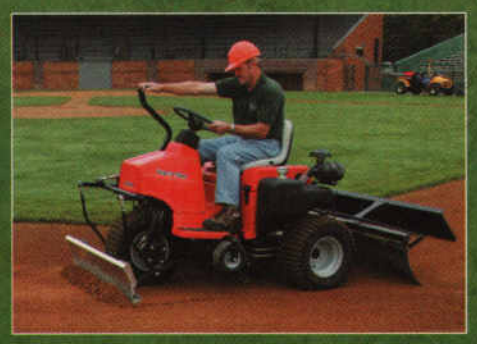
Photos courtesy of Profile Products.

Joe Harris, Superintendent,
Doubleday Field,
Cooperstown NY

"With up to 5 games a day, the Smithco Super Star AFC makes my life a lot easier."

This year Doubleday Field was voted Schools and Parks Baseball Field of the Year by *Sports Turf Magazine.* Which is quite an accomplishment when you consider that between April and October over 350 games are played there. "We have as many as 5 games a day," says Joe Harris, Doubleday Field superintendent. "We use our Smithco Super Star to condition the field before every game." And no matter what the conditions - wet or dry - Smithco has the implements to get the job done.

SMITHCO SUPER STAR AFC	
Power	2-wheel drive 16 HP Vanguard OHV engine
Drive	High efficiency drive wheel motors; hydraulic to wheels; hydraulic control system linked directly to engine
Braking	Positive dynamic braking through hydraulic system to each drive wheel
Electrical System	12-volt, 15 amp
Construction	Welded steel tubular frame with 9" ground clearance
Speed	0-12 mph



The Super Star is loaded with features, including an advanced highly-responsive hydraulic drive system and hydraulic controls for all implements. The 16 HP gasoline engine is powerful, air-cooled and operates with a surprisingly low sound level. Offered with a newly designed scarifier with exact depth control and step-through chassis, tilt-steering wheel and mid-back seat for operator comfort. Patented "Speed Boss", set by the superintendent, governs conditioning speed.

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Buyer's Guide for Synthetic Turf Field Construction

Today more synthetic turf fields being installed than ever before, from the local park to the NFL. Why the boom? One reason is that the cost has come down; there are many more options so that a turf field can be built within the budgets of most organizations and institutions.

Also, the product has been improved. Even some who were adamantly opposed to the older short pile nylon turf products have become advocates for the new long pile, infill turf, which looks and feels more like natural grass.

In some areas of the country, drought and/or water restriction is another force driving the installation of synthetic turf. Unlike natural grass, turf requires no regular irrigation, though for some sports at the highest levels, players may prefer a field that has been watered before play.

But the most attractive characteristic of synthetic turf fields is that they can be used day-in and day-out. In short, the installation of synthetic turf maximizes the productive use of a field, providing many more athletic and recreational opportunities for a school or community.

With turf fields becoming less expensive, more user-friendly and offering greater use at a better cost per hour of use ratio, what's the downside? This is a very new industry and, thus far, largely unregulated. To get the most value from a sizeable investment, an owner must take care in defining needs, exploring available options and making appropriate choices.

Courtesy of the Motz Group, Cincinnati, OH

American Sports Builders Association (ASBA) put together this Buyer's Guide to provide an overview of the process, along with some basic guidance to aid you in making the decisions necessary in developing a synthetic turf project.

Define your needs

Early in the project, an owner must decide on its scope. What sports or activities will take place on the field? The specific sports or other activities (e.g., band practice) to be played on the surface may influence the appropriate length of turf, as well as the depth and type of infill.

At what level will these sports be played? The level of competition will determine which governing body and, therefore, which rules will prevail. Governing body rules will specify the necessary field dimensions and surface types, as well as the size of required runover areas.

Will a track surround the field? If so, which field events are planned and which of them may be placed in the infield? Some of the field events traditionally conducted in the infield, such as the hammer throw, will need to be relocated as they may damage a synthetic field.

Most multi-purpose fields will require some compromise between what is optimal for one program or sport versus the performance characteristics and requirements of another. Carefully defining needs and establishing priorities will go a long way toward insuring that the facility, once built, performs as well as possible.

Develop a budget

How much can you afford to spend? Developing a budget may be the most difficult step in the construction process. You may have to make some concessions, but in order to make informed choices you need to determine priorities. For example:

* Do you need a completed facility now or can you wait a while for fencing, lighting, seating or other aspects of the project?
* Have you decided upon a given surface or specific site, or are you willing to consider alternatives?
* What site conditions will you be working with? Irrigation and drainage issues? Soil conditions and quality?
* Do you have an existing grass field to convert or will you be working with previously undeveloped ground?

Remember that as in most projects, it is easy to spend more than you had in mind. Working within a budget involves considering various options and making informed choices, but choices don't have to mean compromising the end result. Knowledge of what factors are most important to the facility you are planning and a desire to seek creative solutions can bring the project in at a reasonable cost.

In budget planning, consider not just initial cost but long-term cost. Before committing to a turf project, be certain that you can afford the schedule of maintenance recommended by the supplier of your chosen turf system, as well as a reserve for eventual repair and/or replacement. It may be wise to consider a maintenance contract with the installer or with an expert maintenance company to keep your turf in the best possible condition and to extend its useful life.

Consider a design professional

It is often desirable to employ a licensed design professional, consultant, or other expert to assist in planning, building, or retrofitting a synthetic turf field. Depending on the scope of the project, employing the services of an expert can actually help control job costs by better translating the needs of the owner into

Advertisement

Glued vs. Sewn Synthetic Turf Seams

by Norris Legue, Synthetic Surfaces Inc.

Cry Foul - If advocates of adhesive-bonded seams compared a properly prepared glued seam to a sewn seam made with weak clothing thread, the sewn seam advocates would "cry foul". However, oppositely, advocates of sewn seams often fail to mention that a failed glued seam was an attempt to "cut costs" by using cheap glue; and/or a narrow width of it ; and/or a thin film of adhesive. Superior seams made with high quality adhesives are never discussed by sewn seam advocates for obvious reasons.

Facts - The truth is that both seaming methods are good when properly done with the combination of both gluing and sewing being better than each alone. However, it's often either sewing or adhesive but not both. With the above thoughts in mind, some important information follows.

True long term savings and cost reduction result by ...

It is an accepted fact that an assembly is less likely to break if the stress is distributed evenly over a large area. That's one reason why the role of adhesives is increasing at some expense to mechanical fasteners that concentrate stress.

With mechanical fasteners, holes are made in both surfaces and the fastener passed through them for joining and securing. Stress is concentrated at the point of fastening. Some examples of mechanical fasteners are rivets, nuts/bolts, wire, thread, staples, cord, etc. Sewing is an example of thread or cord being used as a mechanical fastener.

With adhesives the bond is spread over a much larger area thus reducing localized stress. That's one reason why from a seam standpoint, total gluedowns are the best because stress from athletic activities and weather changes is distributed over the entire field instead of concentrating it only at the joined seams. Total glue downs also prevent game line movement ("dancing lines" in trade jargon), plus it helps prevent turf from lifting and blowing away in high wind conditions such as hurricanes, typhoons, tornados, dust and sand storms.

However, most (but not all) of the newer type fields which fill the turf matrix with sand and/or rubber granules are not glued to a solid base but instead rely only on glued or sewn seams to hold it together. Broken seam - loose field.

Using cheap/low quality adhesives can ultimately cost a fortune ...

With glued seams, the wider the tape and adhesive on it, the greater the seam strength and stress distribution. With sewing, the quality of the sewing and durability of the thread are very important provided the thread is not cut.

Special Outdoor Adhesives Required - Because of stress and attack from outdoor exposure, short-term lab tests and a few field tests cannot always be relied upon to predict an adhesive's worldwide, long-term exterior durability for seaming and/or total gluedowns. Good short term results may become long term "time bombs". Also, there is much more to a good outdoor adhesive than just durability after cure, such as easy handling and installation properties.

Installation - The adhesive must also have three key handling properties for economical installations. It must be usable under widely variable weather conditions; have high green strength due to its tacky, tenacious gripping properties (high grab) to overcome wind, rain and turf curl during installation; and a "wide outdoor working-time window". That's some reasons why for over 26 years, a growing family of one-part, high green strength urethane adhesives have been used worldwide more than epoxy, hot-melt, or both one and two-part, oily, slippery, low-green strength urethane adhesives.

False Savings - Using cheap/low quality adhesive can ultimately cost a fortune but there are still those that insist upon "saving money" by using them. Furthermore, additional "savings" are sought by causing a gallon or kilo of adhesive to go much further by: bead (strip) gluing; and/or applying just a narrow adhesive width; and/or low thickness of adhesive. However, the bottom line is: True long term savings and cost reduction result by using a high quality adhesive and a properly bonded seam.

In summary, for seam reliability, our order of preference is: total gluedown with both glued and sewn seams; total gluedown with glued seams on tape; loose lay with glued seams on wide tape; loose lay with sewn seams; and loose lay with just edge gluing. Additionally, when gluing, select a proven one-part, high grab urethane adhesive with handling properties designed to fit the system being installed.

proper direction for construction, and by helping to avoid costly mistakes. A professional architect, engineer or landscape architect, trained and experienced in synthetic turf construction, or an experienced installer, will help you identify your needs and refine that information to the specific requirements of your site.

An expert can assist you in determining the scope of work to be included in the job, in planning the facility, in determining a realistic budget for the project, in evaluating and comparing bids, in overseeing the work in progress and in solving any problems that occur during construction.

However, be sure to choose an expert with specific related experience. Third generation (long pile, infill) turf is relatively new to the marketplace. There are many design professionals, manufacturers, installers and others claiming expertise in this highly specialized field. In fact, anyone can claim to be an expert. It is important to research the credentials of your proposed consultant before choosing an individual or firm.

Perhaps the best way to find a qualified professional is by contacting colleagues who have recently completed similar projects and asking for a recommendation.

In any case, when you contact a prospective consultant, be sure to ask questions about the firm's experience in turf field design. Contact references and visit completed projects. Ask for proposals and compare them carefully. Be sure you understand what is and what is not included in the proposed contract. Finally, once you choose a professional, carefully negotiate fees and services and secure a signed letter of agreement or contract, which clarifies all aspects of your arrangement.

Choose a site

Where will you build? Before you contemplate new construction, be certain that you have an acceptable site. Whether new construction or replacement of a natural grass field, numerous factors make the design phase critical.

For new construction:

* How large a site is available? If the field is to be surrounded by a track, a site no less than five acres, a minimum of 600 feet long by 300 feet wide will be required. Additional area must be allowed for grading, drainage, the anchoring detail, player seating and walkways, and for facilities such as bleachers, lighting, walkways, fencing, etc.

* Does a potential site allow for proper drainage and storm water management? It is best to locate a field on a relatively level site, higher than surrounding areas. Additional filling or drainage work required by a low site may add substantially to construction costs.

* Is the site reasonably level? While the field and any surrounding track will be sloped slightly for drainage, for all practical purposes, the track must be level in the running direction.

* What type of soil exists at the site? The best soil is hard, well drained and non-heaving. Locations with peat, clay, topsoil, shear sand or other unsuitable materials should be avoided, if possible. In practice, however, sites available for fields are often sites that have been avoided in previous construction because poor drainage, unsuitable soils, and other problems. Consult with a soils expert before developing a construction plan. Site problems can be overcome with expert design and engineering, but this will add to the cost of the project.

* Is the site accessible for construction? Field construction requires the use of heavy equipment, which must get to the site. The need to move or to avoid obstructions, such as fences, trees, buildings, grandstands and bleachers, may add to the cost of construction.

* Where are underground utilities (electricity, water, gas, telephone, sewer, etc.)? While the finished facility will require utility service, the presence of underground utilities in the field area will complicate construction. It is advisable to employ a licensed surveyor and contact specific utility companies for line mark out to locate utility easements. It may be necessary to relocate some or all of these utilities, which will add to the cost of the project.

* Where is the prevailing wind? Where does the sun rise and set? Most commonly, the preferred orientation for a field is north-south.

Whenever a facility will be used for multiple sports or events, event-by-event design considerations will add to the complexity of the overall project and will have a significant impact on the size of site required and possibly on construction costs.

For retrofitting a synthetic turf field into an existing facility, the primary concern will be protecting existing structures during construction, which requires heavy equipment, substantial excavation, and the delivery and placement of tons of material. Most vulnerable will be a running track that surrounds the field. If a track is present, the field contractor will need to bridge and protect the track surface and edge, and even with reasonable care, some damage may occur. Your budget should include the funds that may be required to repair the track once the field has been completed. In fact, if possible, it is advisable and cost effective to repair and resurface the track completely at the conclusion of field construction.

If the existing track has no curb, it will be necessary to prepare the inside edge for anchoring the turf. You should consult with both your design professional and turf contractor on the anchoring detail in a retrofit project. Tying together and coordinating track and field drainage also will be critical to the project's success. Accommodating the track, however, is not the only concern in reconstruction projects. Installing an appropriate base for a synthetic turf field may necessitate a change in elevation for the field itself, which, in turn, will require that football goal posts, player benches, and other structures on or near the field be re-set. A licensed design professional or contractor experienced in these projects will help the owner to identify in advance, and plan for, all the impacts of the field reconstruction project.

Choose a surface and develop specs

Another important choice in planning a field is the specific type/brand of synthetic turf. It is important to research the brands you may be considering. Where is the product made and by whom? What is the relationship between the manufacturer and the installer, if any? Who carries the warranty and how long have they been in business? An experienced design professional may help you sort out and evaluate the advertising claims of various brands.

The important thing to note is that each brand of synthetic turf is a system, made up of similar but variable components, each of which plays a role in producing the physical properties and performance characteristics of that system.

These components include:

Base construction. The first step in constructing a synthetic turf field will be to strip the site, cut, and fill to level, grade and compact the soil. Next, drainage pipes will be installed and connected to a collection system surrounding the field. Generally, a geotextile separation fabric then is installed to separate the subsoil from the base.

The base then will be constructed. The base provides a stable platform for the synthetic turf and aids in drainage. Two types of bases commonly are used for synthetic turf fields:

* An unbound base consists of loose laid aggregates. The aggregates chosen may be graded (based on highway specifications) or may be a carefully chosen mixture of course and fine aggregate, capable of compaction yet allowing free draining. The latter form is known as a "dynamic base." It is important to obtain expert advice on the design of a dynamic base so that the finished base can be compacted and fine graded as necessary, while the drainage is retained. In general, an unbound base promotes drainage.

* An engineered base consists of an aggregate foundation topped by an asphalt pavement, installed in one or two courses. An engineered base may add stability and enhance planarity.

Either type of base will be designed for specific site conditions and to accommodate the local climate, especially freeze/thaw activity. An owner should not overlook the importance of base design. A well-engineered and well-constructed base contributes importantly to both the performance and durability of a synthetic turf system.

Shockpad. Some, but not all, synthetic turf systems incorporate an elastic layer, or shockpad, between the base and the turf. Various materials are used, including rubber mats and felt pads, as well as rubber granules mixed with polyurethane binder on site and laid with a paving machine.

Carpet (sometimes called fabric). The carpet consists of a yarn or fiber (most commonly polyethylene, polypropylene or a blend of the two) of varying thickness (expressed in microns), which may be straight, twisted, curly or textured. Most commonly, the yarn is produced in sheets, which are split into thin strips or ribbons and then slit with razors to create multiple strands. The ribbons are then twisted together and tufted through a backing cloth to form the carpet. This type of carpet helps to stabilize and prevent excess movement of the infill. Alternatively, some carpets are manufactured from single strands of yarn, known as monofilament.

The quantity of yarn used and the distance between the tufts (or stitch gauge) will vary from system to system. Some systems use more yarn or closer tufts; others use more infill. Yarn quantity is expressed in units of tex, a ratio of mass to length, or in weight (ounces per square foot).

Backing cloths also vary. A good backing cloth is easily tufted, resists fraying, absorbs coatings, is UV and rot-resistant, and has high dimensional stability. This means that the finished product will not creep or stretch, minimizing line movement.

Once the yarn has been tufted into the backing cloth, coatings, including polyurethane and latex coatings, may be applied to the backing to help to hold the tufts in place (called increasing the "tuft bind") and to increase the dimensional stability of the finished carpet. In some brands, the coatings are applied only to the individual tufts, leaving the areas between the tufts uncoated for drainage. In others, the entire backing is coated and the carpet then is perforated for drainage if designed for outdoor use. If perforated, the size, number, and placement of perforations will vary from brand to brand. If carpet is to be used indoors and drainage is unnecessary, it may be ordered without perforations to increase its strength.

Once the carpet has been installed, the fibers may be further fibrillated to give them the look and feel of natural grass.

Seaming. Carpets are produced in rolls generally 3.5m to 4.5m wide (15 feet). These normally are laid across the field for its full width and seamed together. Seams may be secured by sewing, by use of adhesives, or both, with or without seam tapes, depending on the system. What is important is that the joints be neat, virtually invisible and durable.

Infill. The carpet then is filled with particulate material, the type and depth of which will vary from system to system. This "infill" holds up the long fibers in the carpet and contributes significantly to the performance characteristics of the system.

Infill materials most often are granulated rubber or rubber and sand, either layered or mixed. The rubber may be styrene-butadiene rubber (SBR) granules, black in color and produced from re-cycled tires, or ethylene propylene terpolymer (EPDM) granules, specifically produced to be granulated and available in black or in colors. SBR is considerably less expensive, but some have expressed concern because of the possible inclusion of contaminants, such as heavy metals, in recycled tire rubber. It is important to inspect the rubber being used on the project for these contaminants and for overall quality and conformity to the published specifications.

Clearly, the components and the construction of synthetic turf systems vary. Depending upon the system, different components may play more or less of a role in the ultimate performance of the system. Some of the components described are incompatible with others. What is important is that you determine priorities and

carefully query the manufacturer and/or installer regarding the particular components and some or all of the following characteristics of the proposed system:

Construction
Slope
Depth
Permeability
Stability
Suitability for local weather conditions

Physical Properties
Tuft bind
Seam strength
Dimensional stability
UV stability
Permeability
Wear testing

Performance/Safety Properties (Preferred performance properties may be sport specific)
Shock absorbency
Ball roll
Ball bounce
Traction - Rotational friction and sliding
Vertical deformation

Any budget for a synthetic turf field should provide for some testing. For example, a survey of planarity and percolation of the base before installation of the carpet is recommended. Materials delivered to the job should be sampled before they are installed to insure that they are in compliance with the specifications. And, the completed system should be tested on site to confirm that the performance properties are as promised by the manufacturer or installer. The system should be tested again after the first year, when rain, freeze/thaw and use have settled the materials. It may be necessary to add fill at that time.

Another important area to explore before choosing a system is the recommended maintenance regimen for the systems being proposed. There is no question that some synthetic turf fields have been in place for years with little or no maintenance. It is equally clear that optimum maintenance schedules that enhance performance and extend the useful life of these relatively new systems, still are being developed. However, it is likely that any warranty will depend on adherence to recommended maintenance practices, which may include some or all of:

* Dragging or brushing to redistribute infill
* Brushing to lift pile
* Brushing and/or vacuuming to remove debris
* Localized topdressing at heavy wear areas
* Grooming to relieve compaction of the infill
* Removal of moss, algae and/or weeds.

Once a surface is chosen, you should draft specifications. The more specific and detailed your specifications, the more likely that prospective builders will submit comparable bids. Specifications should outline the scope of work, including subbase and base preparation, materials and accessories to be provided. Be sure to make clear in your specifications whether particular materials are required, or whether substitutions or equivalents are acceptable. Specifications also should outline performance criteria and testing to be conducted at the conclusion of construction. It may be advisable that you utilize a design professional to assist in developing specifications.

With so many systems available, it is important that an owner give a great deal of attention to choosing the best surface for a particular installation. Factors impacting that choice include initial cost, maintenance cost over the expected life of the surface, life expectancy, surface wear, reparability and performance characteristics, along with factors related to the reputation, experience, stability and responsiveness of the manufacturer and installer.

It is important to acknowledge that this product is breaking new ground.