

football games and 30 lacrosse games in the spring will cost approximately \$4,000 annually (not including equipment and labor). (Provided by John Gaffney, Central Henrietta Schools, Henrietta, NY.)

Managing special events

Is there anything special required to host non-sports events for synthetic turf and natural turfgrass, and how will the special event affect the warranty?

These events could include concerts, graduations, dirt shows, fireworks, overflow parking, etc. Care must be taken to protect each type of field surface. Typically, a sports turf manager will place a protective covering over the turf and will develop a plan to safeguard the turf during the event. Types of materials that should be considered to protect the field surfaces for staging and roadways are: 3/4-inch plywood (may require two layers); pre-manufactured road mat; and geotextile blanket.

Other materials are available for flooring protection under the staging and for the seating areas. These products should be investigated to find the one that best suits the event situation. The use of these additional materials to host such events should be taken into consideration and incorporated into the overall cost to produce the event.

For synthetic turf, concerns from these events include: burns from fireworks, cigars and cigarettes; surface contamination (debris);

security; and the weight of materials (staging) resulting in major damage to the grade, which can be expensive to repair.

Flooring that is more specialized for seating may be necessary for certain events (graduation and concerts). Warranties should be reviewed before holding events to prevent voiding them.

For natural turfgrass, preventive fungicide applications may be necessary based on the climate conditions and the duration of the event. Surface contamination (debris), weight of materials (staging) are concerns that should be addressed during planning. Sod and grade may be affected by the weight, length, and type of event, which could result in repairing the grade or replacing the sod. When planning for the event, the field's normal schedule must be able to accommodate the additional time necessary following the event to repair the turf. If the length of the event has caused irreparable damage to the turfgrass, time and resources must be allocated to replace it.

Developing an equipment list

Your sports turf manager will develop a capital budget and replacement schedule, and a utilization schedule to optimize the use of all equipment and accessories. School districts and parks districts often share equipment among different departments. Care should be taken to use all equipment per the manufacturer's instructions.



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Synthetic turf

- Grooming equipment; typically some type of broom, brush or tine that is dragged over the field to stand the synthetic fibers up and to distribute the crumb rubber.
- Utility cart for grooming/cleaning equipment, pushing snow or operating sprayer.
- Spraying equipment to stop weeds from growing through the synthetic surface, to lessen the static charge from the crumb rubber, and to apply wetting agents.
- Sweepers to remove trash and other materials from the playing surface.
- Blowers (backpack and 3-point hitch) to blow clean the turf of trash.
- Vacuum to remove small items, such as sunflower shells and peanut shells.
- Topdressing equipment to periodically re-dress areas that have lost crumb rubber.
- Sanitation equipment and sprays for the spot removal of bacterial growth from bodily fluids

Optional:

- Pressure washers or other flushing equipment to remove unwanted fluids or contaminants.
- Spiking equipment for de-compaction and/or to help with redistribution of crumb rubber.
- Irrigation system (some manufacturers require irrigation to maintain warranty)
- Painters for adding additional lines and mechanical scrubbers for cleaning painted lines on the synthetic turf.
- Special rubber blade snow plow

Natural turfgrass

- Mower; rotary or reel depending on turf species, quality requirements, etc.
- Irrigation system
- Aerator: core or plug type, typically pulled behind a tractor or utility vehicle.
- Fertilizer spreader/weed and pest control sprayer; typically pulled by a tractor or utility vehicle.
- Line Painter: available in walk-behind or riding configurations

Optional:

- Blower and/or sweeper for debris /litter management
- Deep tine aerator
- De-thatching equipment, typically pulled behind a tractor
- Seeder, typically pulled behind a tractor
- Topdresser; utility vehicle mounted or pulled behind a tractor

Addressing heat on fields

There are temperature differences between synthetic turf and natural turfgrass fields. On synthetic fields athletes may experience high field temperatures on sunny days. One study published in the Journal of

As with any major asset,
synthetic and natural
turfgrass fields need
well-planned and funded
management programs to
protect your investment.



Installation of a special logo on a synthetic field. Photo by Darian Daily.

Health, Physical Education, and Recreation, showed surface temperatures as much as 95 to 140 degrees Fahrenheit higher on synthetic turf than natural turfgrass when exposed to sunlight.

High humidity can also cause a high heat index that can cause fields to have high surface temperatures. Higher temperatures transfer heat from the surface to the sole of an athlete's foot, which can contribute to serious heat-related health problems. Watering the field before a game on a sunny day may lower the surface temperature. However, more research is needed to determine the effectiveness of pre-game watering. If the majority of your games are played in the daytime in a hot, humid, or sunny climate, you may need to alter your game schedule and work with your sports turf manager to implement specific techniques to reduce the field's surface temperature.

In these situations, it is strongly suggested that you purchase an infrared thermometer so that the surface temperatures can be monitored continuously and activity delayed if the temperature rises above a set level. Some have set this temperature at 125 degrees. For more information, go to <http://cropsoil.psu.edu/mcnitt/Infill7.html> and <http://cropsoil.psu.edu/mcnitt/infill7a.cfm>.

Natural grass has been shown to be a temperature reducer. According to a United States Golf Association study, natural grass keeps areas cooler on a hot day. The temperature of natural grass rarely rises above 85 degrees Fahrenheit, regardless of air temperature.

Athletes' health and safety

The most important element of a sports turf manager's job is to provide the safest fields for athletes, regardless of the level of play.

In addition to heat, limited research has been conducted on the safety and playability of synthetic surfaces. These surfaces continue to evolve, so long-term data is not available. The National Collegiate Athletic Association (NCAA) is collecting injury data from numerous men's and women's sporting events across the U.S. but presently does not have sufficient data. Research studies are being conducted on field hardness and epidemiological issues.

Because these are new surfaces, environmental issues such as disposal of these materials (which contains metals) and their ability to be recycled has not yet been addressed by the EPA.

It is important to budget for the future disposal of a synthetic field. A typical cost range is: Tear-out and Disposal=\$1.75 to \$2.25 per sq.ft. (range provided by Tony Strickland). This does not include transportation costs or additional landfill surcharges for environmentally controlled products.

Properly maintained natural turfgrass provides a less abrasive surface for play than a synthetic surface. Studies by the USGA have shown turfgrass to be a natural filter of environmental pollutants. There are no disposal issues with natural turfgrass field material.

Assessing warranties

Warranties provide the sports turf manager with assurances from the provider that the product is what was specified in the contract and that it will perform as expected. A warranty should not be confused with the expectation for the life of the product.

What are some key points of the warranty?

Synthetic turf: measurable benchmarks (Clegg impact testing, GMAX); pile fiber loss; shock-absorbency; drainage; seam and inlay integrity; events that would void warranty.

Some synthetic turf installers will have a separate warranty for the adhesive that was used during installation. The adhesive manufacturer should provide this information. Warranties may have exclusions. Examples may include:

- Use of improper cleaning methods
- Acts of God and other conditions beyond reasonable control
- Normal wear
- Failure to properly maintain, protect, or repair
- Burns, cuts, accidents
- Failure of subbase
- Use of incorrect grade of infill
- Failure to maintain infill at correct level
- Use of improper footwear or equipment

Currently, the Synthetic Turf Council is working to develop a wear warranty that will help ease fears and give "realistic expectations" of the life of a field. For more information regarding this topic go to www.syntheticurfCouncil.org.

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Natural grass usually has limited warranty coverage for newly constructed and renovated fields only, typically from grow-in until the start of play. Drainage and irrigation are usually covered for the first 12 months. The following may be defined in the warranty:

- Installation benchmarks (survey/grading marks)
- Soil testing (particle testing-sand specific)
- Seed/sod testing (verify product) and certified as weed-free
- Events that would void warranty
- A recommended maintenance schedule

A warranty is a promise to perform from the contractor. It is best to investigate the financial strength of the product manufacturer and check existing customer references to determine how different companies honor warranty obligations. Failure to follow prescribed maintenance practices can void a warranty. Insured warranties help ease fears that the warranty is protected in case a company goes out of business. Most bonds will protect the field in case of bankruptcy by the contractor. Insured warranties are not all the same. Make sure that you read the warranty, ask questions about the warranty and get answers in writing. Consult with a non-biased party to determine if they are worth the extra monies that they cost.

Other Considerations

As you evaluate your specific needs for a new sports field, you may want to consider the following:

STMA Task Force

There were many in the industry that provided information for the Guide. Special recognition goes to the STMA Synthetic/Natural Turfgrass Task Force for their dedication to this 10-month project and for their collaborative work on this guide.

Task Force members include:

Chair Abby McNeal, CSFM, The Chicago Fire
Mike Boekholder, Citizens Bank Park, Philadelphia
Darby McCamy, Evergreen Synthetic Turf LLC
Mike McGraw, Surface Solutions North America
Dr. Andrew McNitt, Penn State
James Newberry, Graff's Turf Farms
Dr. A.J. Powell, Jr., University of Kentucky
Tony Strickland, CSFM, Athletic Construction, Inc.
David Wallace, Tee and Green Sod, Inc.

- Hiring an independent consultant to represent your interest. Only select qualified consultants. You may want to seek a certified sports field manager, a sports turf manager, or an agronomist who has prior experience with the construction of natural and synthetic sports fields.

- The qualifications of the contracting firm, and in particular the experience of the project manager assigned to your project. The number of fields the project manager has installed is particularly important. Other information to obtain could include the company's project references, length in business, insurance coverage, litigation history, warranty coverage, etc.

As you move through the qualification process, you may want to ask these questions of a contractor:

- Explain the most common things that can go wrong with a project and how you fix those things?
- How can we save money on the construction of this field?
- How do you see the field performing in light of the usage we have described? ■



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John Mascaro's Photo Quiz



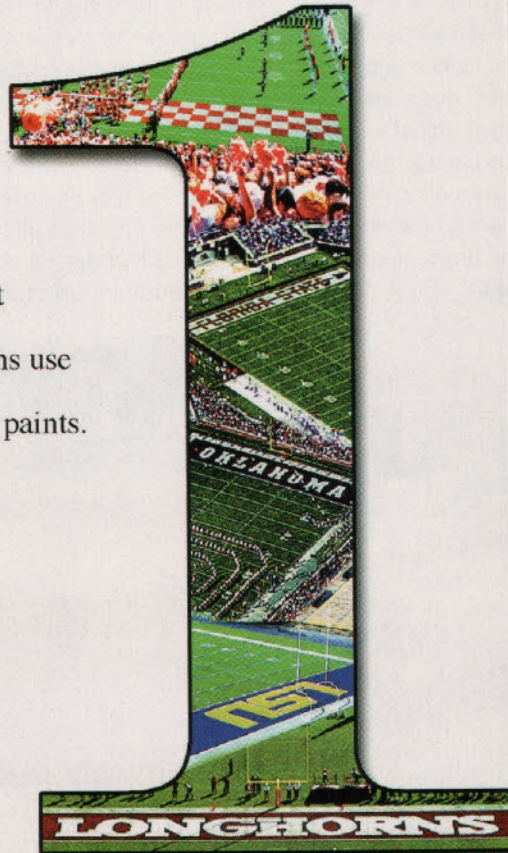
Answer:
from page 26

The brown turf was a result of a Recreational Vehicle (RV) Show on the stadium field. This photo dates back to 1990 when Dolphin Stadium in Miami was just 3 years old. As with many new privately built stadiums, they book as many different events as possible to generate revenue. A promoter talked the management in allowing them to cover the field with geotextile fabric and display the RVs on the natural grass Prescription Athletic Turf Field. The photo on the photo quiz question's page (inset) shows the damage left after the vehicles and geotextile were removed. What the photos do not show are the depressions that were left behind. In a couple of areas, the weight of the vehicles even crushed some of the underlying drainage lines. Needless to say, this event was never again repeated on this field.

If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 3669 NW 124th Avenue, Coral Springs, FL 33065 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of SportsTurf magazine.

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Spring sports' headache: water

By Floyd Perry

Today many major athletic conferences require a full infield tarp to save weekend series and the team's travel expenses from being washed away. That's fine for the big boys but what about the rest of us, in parks and recreation and high school? How do we create an opportunity to play after some serious rain and how do we dry a field once the game has started?

There are a couple of ways that might help but they're not diesel fuel, gasoline, sawdust, or helicopters. Over the past fifteen years, since I've been traveling the country educating groundskeepers and viewing more than 18,000 athletic facilities, many turf managers have created some easy to use and inexpensive means to solve the "down water" problem. Farmers and construction personnel have used some of the methods for years as their workday is very valuable to the success of the end product. As groundskeepers, many of us are using time-tested means from other industries on our clay infield surfaces with the same rate of success to the end product: playing the game!

Two parts of the water removal issue are: a) elimination of standing water in large and small puddle sizes and then, b) the drying of saturated or moist clay surfaces so the game can begin or continue after the majority of the water has been eliminated.

Let's begin the water removal problem before the season starts and before the rain falls by incorporating calcined clay (MVP, a coarse particle calcined clay) into the top four to six inches with a RotaDairon machine, for example, which creates a superior blend at one ton per 1000 square feet. By accomplishing this task during October, November or December, you will be able to see the highs and lows of the playing surface and areas that may need extra attention during your preseason window.

Second move

The second part of your preseason infield preparation is the drilling of a series of French drains or drilling and filling in areas that you know are low from previous season's thunder showers. Both of these techniques use MVP, which creates a test tube wicking action from surface to subsurface in a relatively short timeframe.

One gallon of water weighs 8.34 pounds and will percolate vertically if the clay soil affords that ability. A 1 1/2-inch layer of clay over these openings allows for quality infield performance and successful daily dragging and repair. Both techniques also work very well on outfield turf surfaces that are compacted and hold water.



Avoid using sawdust!



Sponge to absorb surface water

The third part of your preliminary clay preparation work is laser leveling your surface to create a percentage pitch for water runoff. Laser leveling has some super effects for short-term performance but as the daily dragging and raking take place, the grade is eliminated or altered due to surface reshaping.

As the season is about to start, the key to your rainy day attack is to be prepared for the worst, but be ready for anything. A couple of little tricks that have proved successful for coaches, team members and groundskeepers are in the accompanying pictures. Try everything once then settle in on what works best for you on your fields, under your weather conditions and with your staff's equipment and supplies.

A. Have Turface ready to go and in a location that is close to the playing site. Both calcined MVP and QuickDry are necessary for all conditions of moisture.

B. Have your small tools (blow pack, sponge, sump pump, leaf rakes) in storage and gassed up and ready for a thunder buster.

C. Have your grooming vehicles ready in case the water removal process takes place after the scheduled workday. One 3-wheeler with the correct rear attachment is worth five staff members with leaf rakes.



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IRRIGATION & DRAINAGE



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Sponge roller on mesh biber

Many of these photos only cover parts of the water removal process. Turf managers across the country have tricks that work for them their respective areas that may not work elsewhere. Attempt to communicate with your neighbors. Don't be afraid to ask questions and don't be limited to just one or two ways to "skin a cat."

Rainwater is tough but today's progressive turf managers are leading the charge to solve "our biggest maintenance headache."

Floyd Perry, Jr., is president of Grounds Maintenance Services in Orlando. He received the STMA's Dick Ericson Award in January, which honors a sports turf manager who positively impacts the sports turf industry and exhibits effective team leadership. He can be reached at 407-903-1220. ■



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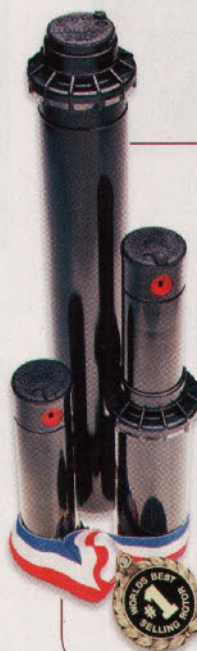
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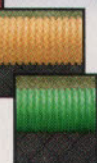


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