felt it was needed. The first one I attended related to irrigation scheduling. This is one area where I think a lot of people need education. You can not just set a program on your controller and let it run. I learned to always check my soil moisture levels and air temperature and humidity for a specific region. I also spoke with Don Savard of Salesianum High School in Wilmington, DE. He wrote a very good article a few months back about doing an irrigation audit; I am planning on doing one myself this spring with his help and expertise.

The second session I was looking forward to attending was how to manage a synthetic field. This is such a hot topic now in schools; I wanted to get all the research that I could just in case this ever comes up at my school. All of our fields at Kingsway are natural turfgrass and they are continually getting better. Synthetics are what everyone is talking about these days and I have learned that the more educated you are about these fields, the better you can prepare when the school board wants to install one. You can talk with the board about what you have learned and hopefully with your knowledge you can all work toward achieving a great field.

The last session that I was really looking forward to attending was one focused on managing turf without pesticides. This is probably the biggest topic currently being discussed within schools and many other most segments of the green industry. Many ideas were brought up on ways to control all kinds of pests with new and innovative ways without resorting to pesticides. In my state of New Jersey, the use of pesticides in turf - whether it is an application intended for crabgrass control or vegetation control along fence lines - is becoming harder and harder, so new ways need to be examined. This should be the one session everyone at the conference attends. There are more and more pesticide regulations and we all need to do our part in limiting the use of pesticides when we can.

The Kindergarten through 12th Grade (K-12) membership segment of STMA should ideally have the most members and should be the biggest group attending at the annual conference. Most of these individuals have the least amount of training and knowledge. I was included in this group until I started attending the annual conference. We have the most to gain by attending. The education sessions can teach a new sports turf manager many things that professional and collegiate managers already know; however individuals just starting in the industry may not have a high degree of knowledge. Conference attendance could be a great jumping point to much better fields and improved professional abilities. I am hoping that this message can be passed on to many K-12 districts that are not currently members of STMA; hopefully they will become members. We can all learn from one another and by attending this conference, or any conference, we can help improve the safety and playability of sports fields.

Kevin Shipman is Sports Turf Manager, Kingsway High School, Woolwich Township, NJ.
Effectively Incorporating Synthetic Turf Fields into Athletic Programs: A Groundskeeper’s Perspective
By Matt Olivi

As the popularity of both competitive and recreational sports continues to grow in our region, so does the demand for turf playing surfaces that are safe and aesthetically pleasing. As turf managers, we are constantly battling the daily traffic on our natural turf fields. The resulting soil compaction can be devastating with even the most thorough and well-planned turf maintenance programs. Finding the time and resources to maintain our fields between practices and game times for every sport that our facilities cater to is often a difficult task. As synthetic turf fields are rapidly becoming a considerable part of the turf industry, they can be viewed as a great tool for maintaining the playability and beauty of our natural turf fields.

Approximately three years ago, the Piscataway School District, in cooperation with the Piscataway Recreation Department, installed a synthetic field in place of a natural turf field in a heavily trafficked high school football stadium. As in most cases where a natural turf field is replaced by a synthetic one, there has been and will continue to be healthy debate relating to the safety, cost-effectiveness, environmental impact, maintenance and installation issues of this synthetic field. As turf managers, we are all aware of such debates and may or may not have formulated our own opinions for or against these relatively new fields. This article attempts to offer a positive outlook for proponents of both natural and synthetic turf.

Since the installation of synthetic turf in the Piscataway High School football stadium, there has been a noticeable difference in the appearance and playability of the natural turf fields that make up the majority of the sports field surfaces in the school district. Over the past few years, the natural turf has

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Well-written technical specifications for an athletic field construction project are necessary for the successful completion of the project. All contracting, both public and private, is based on technical specifications. The specifications are used to qualify contractors, choose specific materials, specify agronomics, establish construction procedures, specify equipment, and set quality standards for the project. The specifications can be used for any and all reasons. Notably, the specifications need to clearly state your instructions so that all bidding contractors and procurement or purchasing officers understand them and that the bid-winning contractor understands what is required to perform the work.

Being a construction contractor who has completed construction projects in 12 states, I have read hundreds of specifications for all kinds of jobs: some good, some bad and some really bad. I have to read and understand all specifications because of financial liability. When I accept and sign a contract, the sole responsibility of that project is mine; so, it is critical that I completely understand the technical specifications. From my experience, most specifications are written poorly and not thoroughly researched resulting in unaddressed issues. This is where the end user receives incomplete projects or unexpected additional costs. There is the equally unfortunate issue of projects being under-budgeted from the start and owner's rationalization is, "At least we did something." While this is worth noting, the focus of this article is on the authoring of technical specifications.

The process should start with listing all the specifications you have for your project. Considering we are dealing with sports fields, the wording should be industry specific. You will have to integrate purchasing language into the specification to ensure it is enforceable by law. Any public bid has to be advertised publicly with all information disclosed to all potential bidders. This is critical because if all considerations are not met, anybody can challenge the results for the bid. This often results in no project at all or a watered down version of your project. Either way the end result can be negative.

So, we have to write specifications that attract qualified contractors. Ask for a minimum length of time for construction of similar or like projects. Ask for referrals from the clients of these projects and/or contact information to follow-up. Ask for experience with similar products or installation of products. You want to hire a sports turf construction contractor not a site contractor. For example, you do not have a plumber do electrical work so why would you have a road builder build an athletic field? I am not saying a road builder can not do the work; I am saying that they have a lot more examples of why you do not want to hire them in the first place (i.e. most high school fields).
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in America). If a site contractor must be employed, at least have a site contractor mass grade and sports field contractor finish grade and grass the field.

A typical athletic field construction project includes removing or demolishing an existing field, stripping and storing topsoil, rough grading the subgrade, replacing topsoil and adding topsoil as needed, amending topsoil based on soil test results, laser grading the finish grade, soil preparation and grassing. This is just an example of a typical renovation of a field. The first step is identifying what needs to be accomplished and how you want it accomplished - of course, the variations are endless. Now that you have identified what services are needed, you will need to explain in technical terms every item in detail.

Field removal or demolition (demo) will need to have a construction entrance/exit to access the work area. A typical installation has 6 inches of soil removed and replaced with a geotextile woven liner and #4 large gravel placed in entrance to clean-off vehicle tires that leave the construction site. Provisions for the removal of the construction entrance should be detailed. The demo should also list how to remove the existing sod and store onsite for future use. It takes about 6 months to break down the organic matter for use as topsoil. Hauling it away should be a last option considering we are in the green industry. After completion of demo, the next phase is to remove the existing topsoil and store it onsite. Instructions should include stripping the topsoil without contaminating or mixing it with fill soil. Storage should be provided on the construction site. Other instructions could include screening the topsoil for rocks and/or debris.

Rough grading the subgrade is a critical stage because the soil needs to mirror the finish grade. In most applications of reconstructing an existing field, utilizing the existing soil may be sufficient and is the most economical way reconstructing a field. Utilizing the existing soil and avoiding the import or export any soil will reduce costs. Compaction of fill soils in the subgrade is a standard practice - if fill soils are less than 2 feet, usually the subgrade can be compacted with the equipment doing the work. Remember you are reconstructing an athletic field not building a parking lot; over-compaction of soil will make it difficult to grow grass. Keeping equipment on-the-job increases costs; thus, excluding the use of a smooth drum roller could be considered for cost savings. If there is unsuitable soil because it is soft and it will not compact, this should be taken care of in the subgrade by removing and replacing it with dry, firm soil that compacts.

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gradually improved in terms of blade density and soil permeability. The turf has come back thicker and stronger each year as there has been significantly less traffic on these fields. As athletic administration has been urged to limit the use of game fields for team practices and gym class use, the obviously more durable synthetic turf in the football stadium has been able to absorb a great deal of this traffic that used to damage the natural game fields. For example, on an average day, there used to be as many as six gym classes of well over twenty students playing on the natural turf varsity soccer field. As the field was constantly being used all day long, its playability was greatly undermined by mid-season despite the aeration and top-dressing efforts of the grounds crew to alleviate as much soil compaction as possible. Fortunately, as efforts to divert such traffic clearly had positive results, the Piscataway Soccer Club, also sharing the same natural turf fields, recently began using the synthetic field for the majority of its winter season games as well.

As a groundskeeper, it is always more challenging and rewarding to maintain an aesthetically pleasing natural turf field that meets community demands for playing consistency. As we all know, the communities we serve sometimes overlook the efforts of those managing and maintaining their athletic fields. However, I hear about more and more compliments every season in regards to the improvements of our natural turf fields in Piscataway. In combination with the efforts of an experienced and well-trained grounds crew, utilizing the synthetic turf as a resource for heavy sports field trafficking has produced very positive results.

As turf managers in many different affiliations, we will always have different opinions and arguments in the debate of synthetic vs. natural turf fields. However, I think one thing we will all be able to agree on is the beneficial playability characteristics and the large amount of traffic that synthetic fields can accommodate while still maintaining their pleasing appearance. As the use of sports fields and the corresponding maintenance costs are not likely to decrease in the future, perhaps we can look at synthetic turf as a necessary component of a versatile sports facility.

Matt Olivi is Sports Turf Manager, Piscataway Board of Education, Piscataway, NJ; and a member of the SFMANJ Board of Directors
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