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# Removing snow from synthetic and natural turf fields



> 1. SNOW REMOVAL on rain tarp with a drain pipe bucket plow and turbine blower.
 > 2. PLOWING SNOW with retro-fitted bucket with guard. >> 3. RETRO PLOW BLADE on utility vehicle. >> 4. RETRO FITTED bucket on tractor. >> 5. SCREEN DRAG on dusting of snow.
 > 6. SNOW BLOWING a natural grass field. >> 7. GREEN DYE sprayed on snow to accelerate melt.

**S SPORTS TURF MANAGERS** there are many challenges we face and many of these are weather related. While working in the Northeast, my biggest challenge was dealing with winter conditions, in football season or in early spring with field hockey or baseball.

I have found through trial and error a number of ways to deal with snow on both synthetic and natural grass fields; the most important strategy was to have a plan of attack ahead of time, before Old Man Winter throws multiple inches of snow or ice at you. If you are not prepared the result will be a lot of lost valuable time in the removing of this frozen precipitation. Establish what the plan of action will be in advance and be sure to factor in "the worst case scenario" while also having a Plan B.

#### **PLOWING OPTIONS**

Here are a couple of plowing options that can be used to successfully remove snow on either synthetic or natural grass:

If a rain tarp is available, tarping the surface before the event allows you to remove the snow/ice AS SOON AS IT BEGINS TO FALL. Using high-powered, PTO-driven blowers allows you to prevent as much accumulation on the tarp as possible; this requires being on site as soon as the snow or freezing rain begins to fall, and proactively removing the precipitation, working from the center of the field and working your way out to the sidelines.

The snow has to be a dry snow for blowers to work. If it's a wet snow you can remove the snow by using rubber tip snow plows, or other snow plow options listed below. Do not allow the snow to **accumulate more than 1 inch before beginning the removal**. Also, plowing off the

**CAUTION:** When plowing off of the rain tarp, plow in the direction in which the tarp was laid, and modifying the plow blade to prevent snagging and tearing the rain tarp.

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rain tarp makes for a cleaner surface in the end.

CAUTION: When plowing off of the rain tarp, plow in the direction in which the tarp was laid, and modifying the plow blade to prevent snagging and tearing the rain tarp.

Plowing an uncovered surface with a pickup trucks or utility work vehicles works fine, but you must **retrofit the plow blades**. Here are some ideas:

Use pressure treated wood/recycled lumber. Hardware needed: long lag bolts, washers, and nuts and one 2 x 4 x 8-inch or 4 x 6 x 8-inch piece of lumber. I remove the snow shoes from the plow (will still be used as the receiver



>> PLOWING and snow blowing off rain tarp.

for the pressure treated wood). Take the lumber or whatever you find that will keep the blade from coming in contact with the surface.

On the bottom side of the lumber recess drill two holes (large enough for the lag bolt head with a washer) in alignment with the plow shoe receivers; the recessed drill hole should be deep enough to allow for a lag bolt head to sit flush with the bottom of the board. Place a support washer at the head of the bolt for reinforcement. Run the lag bolt up thru the board and thru the snow shoe



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ring on the back of the plow. Add washers above and below the lag bolt as you would with the snow shoe for spacers and secure bolt with a locking nut.

Another idea is using a Drain Pipe bucket plow. You need a 15-20-foot by 18-inch diameter drain pipe, ratchet straps, and a tractor with bucket. Strapping the drainage pipe to the bucket increases the plowing swath; when you plow have the lift bucket up, tilt bucket forward, lower to turf and plow.

#### SYNTHETIC FIELDS

When plowing synthetic fields you don't need to scrape the surface clean. If you try it will result in the removal of

crumb rubber and the chance of turf damage. Instead, drop the plow to the surface and then raise it slightly (1/8 to ¼ inch). Leaving this small amount of snow is what you want to achieve. Synthetic turf heats up so fast that even 1-2 inches of snow will rapidly melt off if there are slightly exposed areas of green turf.

After the majority of snow has been removed, black crumb rubber (synthetic field) or black sand (natural grass) can be spread over the field. Allow this to sit 20–30 minutes and then run a field groomer over this last bit of snow and it will quickly dissolve. I have also seen green dye sprayed over the last 1 inch of snow that will absorb more sunlight and accelerates the melt.

If only 1-2 inches of snow has fallen on synthetic turf, I have been able to just drive a utility vehicle in a crisscross pattern across the field (like a mowing pattern) to achieve melting; by compressing this little bit of snow in the tire tracks it accelerates the melting.

Snow blowers also work well. But remember to **NOT SCRAPE IT CLEAN**. Leave a ¼ inch of snow, followed by an application of crumb rubber or black sand.

Don't be too concerned with plowing against the seams of the synthetic turf. As long as you're not scraping it clean and take your time, it will be fine. If you try to cowboy plow the removal of the snow and the plow begins to bounce it could result in extreme turf damage.

If a large amount of snow is called for, get after it as soon as there is an inch of accumulation and keep repeating the removal process throughout the storm.

When the field is scheduled to be used in early spring (March/April), I recommend you remove the snow after each storm event throughout the winter. Removing all but 1 inch will prevent a lot of heartache come March. It's much easier to remove 1 inch of snow in the spring than to remove 3 feet of frozen, hard-packed snow.

Steve LeGros has been in the turfgrass industry for 28 years as a turfgrass/stadium operations manager, and since 2007 has been consulting with turfgrass management and facilities operations on all levels of athletic fields.





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## Non-traditional funding alternatives for public athletic facility projects

UNDING FOR PUBLIC ATHLETIC FACILITY PROJECTS has changed dramatically in the last decade. The days where a municipality could go to a town meeting and seek an override approval for 100%, or float a bond for 100%, of an athletic facilities project are essentially over. The fiscal reality is that municipalities have been forced to consider steep financial cuts to schools and public safety services (police and fire). The "extras," such as athletic facility enhancements, have, out of necessity, taken a back seat.

Although traditional funding is not readily available, the demand for public athletic and recreation facility enhancements has actually risen. This is due to continued population growth in urban areas, enhanced diversity of sports, and increased gender equity in sports. Municipalities are now compelled to find "out of the box" ways to meet this growing demand, and the solution begins with creative funding. To be successful in raising the funds for an athletic or recreation project, the municipal or non-profit Owner should assemble a fundraising group that considers the following options concurrently:

#### **PUBLIC AND PRIVATE GRANTS**

The first constituent of a funding group should always be an experienced grant writer. If

there is no grant writer on staff, hiring a professional grant writer will greatly increase the odds of receiving public and private grants.

Public Grants. Public grants vary from state to state and from municipality to municipality. There is a federal program called PARC (Parkland Acquisitions and Renovations for Communities) and each state implements block PARC grants; \$97 million was awarded in 2010 alone. The Department of Urban Development has community block grants that some communities will qualify for based on net income and demographics. The EPA provides brownfield grants for the redevelopment of impacted parcels of land. There are ReLeaf grants available from federal agencies for the planting of trees and landscaping that can be associated with park projects. For example, there is a federal land and water conservation fund that has resulted in the funding of thousands of outdoor recreation facilities.

These public grants rely heavily on feasibility studies that demonstrate the viability of the project and accurate cost estimates. It is important for the granting authority to be convinced that the project is valid and feasible, and that the funds allocated for the project would result in the successful completion of a fully serviceable facility that meets a previously un-resourced community need.

**Private Grants**. Private grants, although a bit more constrained lately, are playing an im-

#### **Facility&Operations**

#### By William J. Seymour, PE

portant role in the non-traditional funding of public projects. Municipalities can apply for grants from US Soccer, US Tennis Association, Nike Endowments and Foundations, the NHL, etc. These organizations and others have been involved in providing funding for public projects. They provide these grants as a way to propagate their particular sport or interest. Therefore, it appears they are more likely to provide grants for building new facilities as opposed to renovating existing facilities. A successful private grant solicitation or submission should demonstrate how the awarded grant will facilitate the propagation of the interested sport. For example: Is there un-resourced soccer demand in your community? If so, and if US Soccer grants \$150,000 for your project; will it result in new field inventory that will service that otherwise un-resourced demand (thereby furthering interest in that sport)?

Like public granting authorities, private granting authorities also look for the applicant that has "real" plans, budget, and milestone schedule. Due diligence and feasibility studies are necessary to help convince granting authorities that the project is worthwhile. If the private grant is awarded, they want to know that the financial resource will result in the successful outcome of a project that furthers their interests.

#### **PRIVATE FUNDING**

Grassroots fundraising efforts (e.g. selling brick pavers, parking spaces, seats, and candy bars) can sometimes be disappointing as far as how much money they can generate (often less than 10-20% of the project budget). The biggest advantage these efforts provide is public awareness and involvement. This can be quite helpful when seeking permitting and other municipal public funding since you've enfranchised a number of people into the process as advocates.

The first step in developing significant private funding is to form a private fundraising conduit for the money raised: a booster club, a "Friends of (insert name) Field," and/or a 401(c) 3 that can receive tax exempt moneys. The Booster organization can be the conduit for fund raising, corporate sponsors, youth sport user fees, concessions proceeds, individual donors, etc. The Boosters can gift these revenues to the public owner. Alternatively, the Boosters often complete the sports facility enhancements themselves under a private procurement, which may have cost and project control benefits.

#### **SPONSORSHIP**

One of the more lucrative fundraising opportunities is corporate or individual sponsorship associated with naming rights of the facility. The fundraising committee should determine the municipality or school's policy with regard to naming rights before initiating the fundraising drive, and identify naming opportunities (field, track, scoreboard, press box etc.) It's important that you present a possible donor with a policy that details the recognition they would receive. If they can see that their donation would result in significant name recognition; there is a higher likelihood of success.

Another avenue of sponsorship would be approaching prosperous citizens in the community. Part of the fundraising group's challenge is to first determine who these people are through local community groups (alumni groups, philanthropic groups, the Kiwanis, the Rotary, the Elks, the Chamber of Commerce, etc.). The fundraising chairperson is often approached to make presentations to these various community organizations. Oftentimes, these well-heeled individuals of the community can be identified and approached through this type of networking. This is more effective than knocking on people's doors. It's important that these approaches are made with mature marketing materials (glossy project descriptive information with colored renderings, feasibility studies, and budgets) in hand to facilitate the conversation and encourage the potential donor to become involved in the project.

#### **PUBLIC/PRIVATE PARTNERSHIP**

A public/private partnership strategy can be a bit more complicated but municipalities are becoming increasingly reliant on them. This type of partnership comes in two forms:

**Use.** This is the partnership frequently seen between a municipality and an institu-

tion. The institution is often a small or community college that is landlocked but has growing athletic requirements. By reaching out to a local community with available land, but constrained funding, the two parties enter into an understanding. The private organization builds an improved/expanded facility on public land with additional capacity for the community, and the institution is able to use it (often with use and scheduling preference). These partnerships are becoming increasingly popular and they are a win/win for both entities to meet their need for expanded facilities of higher quality than either could achieve on their own.

**Profit.** Under this scenario, a for-profit, private organization enters into an agreement with a municipality whereby they would develop an athletic or recreation facility on public land with facilitated permitting, public services, and tax incentives. They may gift a portion of the facility (e.g. a soccer pitch) outright and retain control of a for-profit facility, or they may operate the overall facility for profit but give the municipality use at reduced rates. One complication that can arise



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with this arrangement is that often a public owner cannot simply enter into this agreement with a private entity without going through an RFP process. The municipality typically has to advertise the opportunity, define the selection criteria, review all the proposals, and come to a decision based on the best value for the community. This requirement will vary from state to state.

#### DONOR IN-KIND GOODS AND SERVICES

The donation of in-kind goods and services is another way to help fund an athletic project. The fundraising group should identify early on the various businesses in the community that could potentially perform in-kind services for the project. For example, stone, asphalt, and concrete; earthwork and landscaping; topsoil and seed; site and athletic lighting; and fencing.

An effective way to learn about, and approach, these companies is through networking with the Chamber of Commerce and various philanthropic groups within the community. There are challenges associated with in-kind contributions. Since these services and goods are donated, they are often the last priority for otherwise profit-making companies. As a result, donor projects can take longer than expected and may not be built to the same quality as a normally competitive, bid project. They can be disjointed since coordinating the various subcontractors and materials as they arrive on the job site can be challenging for the owner. But, if a municipality is willing to put in the extra time and effort necessary, these projects can result in a cost-effective and functional facility that may not exist, were it not for these donated goods and services. Typically, a design professional (who may also donate services) is engaged to provide the design and permitting for the full potential build out of the facility so that permits are in place as the materials and services become available, and the facility is developed over time.

#### **DEVELOPER OFF-SITE IMPACTS**

Another potential fundraising opportunity is developer off-site impacts. When a developer comes into your community proposing a multi-family residential or commercial development, they could be exacerbating a traffic problem or putting extra burden on municipal services such as water and wastewater utilities, schools, etc. It is common practice for municipal zoning and planning boards to require the developer to perform off-site impact mitigation by replacing a sewer, widening an intersection, or adding traffic light(s) as part of the acceptance for the developer's project. Some municipalities have told developers that they are beyond their capacity in terms of their ability to support recreational facility use, and as such are requiring developers to develop recreational facilities to mitigate the impact of their proposed project on the community. Town-wide recreation needs assessments documenting recreational facility shortfalls in the town are needed by local planning and zoning boards to set the stage for this discussion.

#### **UTILITY LEASES**

There are a number of utility companies willing to provide significant funding for athletic facility enhancement in return for the rights to develop private utilities on public



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