

Athletic fields improvements needed at Mount Greylock Regional School

Frequently Asked Questions:

- **Why is Mount Greylock Regional School (MGRS) investing in athletics?**
 - Since the fall of 2016, multiple sub-committees have been formed to address necessary improvements to the MGRS campus; these needs were not included in the scope of the Building Project.
 - A review of the entire athletic complex for the Mount Greylock Regional School site was conducted as part of this process. This then resulted in several rounds of planning studies that evaluated the existing site and identified areas for improvements.
 - Presently it is the responsibility of the Phase II Capital Gift Subcommittee comprised of members of the school committee, athletic staff, parents and students to lead the effort. They were appointed by and report to the MGRS School Committee.
 - The Phase II Subcommittee works with Traverse Landscape Architects who were hired by the school to develop and design the plans for improvements.

Plans for improvements include:

- **Meeting ADA compliance standards.**

Providing accessible routes, including paths and parking, to athletic facilities. Such improvements are a requirement of the Building Project through the Massachusetts Architectural Access Board. Link to MAAB Rules and Regulations: <https://www.mass.gov/aab-rules-and-regulations>
- **Complying with Title IX regulations.**

Title IX is a comprehensive federal law that prohibits the exclusion from participation in, be denied benefits of, or be subject to discrimination under any education program or activity receiving Federal Financial Assistance. In short, equal facilities for all. The current shortfall in the Mount Greylock Regional School athletic facility is softball. The plan provides improvements to the existing softball field, located next to the varsity baseball field, including a new infield, dugouts and backstop. Link to US Department of Education Title IX and Sex Discrimination: https://www2.ed.gov/about/offices/list/ocr/docs/tix_dis.html
- **Providing quality, playable fields on a safe, reliable basis.**

The fields at Mount Greylock Regional School are heavily utilized, especially the principal game field, John Allen Field, and have become increasingly so over recent years with the addition of lacrosse to the spring athletic program. This expanded use has placed increased demands on the playing surface during both the fall and spring seasons and has been detrimental to the quality and usability of the playing surface. Fall and spring sports (girls' and boys' soccer, football and girls' and boys' lacrosse) have been unable to play their home games and often not conduct practices due to unsafe,

poor field conditions resulting from overuse and adverse weather conditions. Teams are being bused or driven by parents off-site to play their home games on the synthetic turf fields at MCLA and Williams College when available, representing cost implications and causing disruption for players, staff and parents. Additionally, the postponement of games results in a concentrated schedule of make-up games that pose an increased injury risk due to insufficient recovery time for athletes and conflicts with other aspects of the school calendar, both academic and extracurricular.

The plan calls for the construction of a synthetic turf field that will significantly increase the hours of available field use to meet the needs of the school while allowing for rehabilitation of the natural grass fields, especially John Allen Field, for improved safety and quality.

- **Addressing other shortcomings – principal priority, a track.**

The other key athletic resource not presently available to our students is a track.

Practices for track and field are largely dependent on the availability of the Williams College track and field facility which is also where “home” meets are held. This requires busing students to practices and meets at Williams.

The construction of a new all-weather track located behind the school, at the location of the former cinder track, is included in the plan.

- **Why is Mount Greylock Regional School installing a synthetic turf field?**

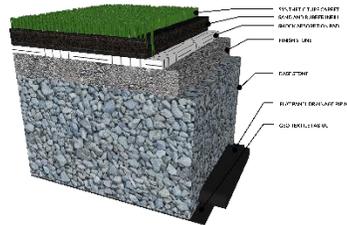
- Synthetic turf provides a safe, reliable, consistent playing surface for the current and future athletes at the high school in all weather and all seasons.
- The synthetic turf field will serve as an added resource for the student athletes and PE, significantly increasing the amount of play time by affording use when grass fields are unplayable.
- The synthetic turf field also helps the school expand its ADA objective given synthetic turf affords accessibility that a natural grass surface does not.
- The minimal level of maintenance required for a synthetic turf field makes it a sustainable solution that does not impose significant additional demands on the school buildings and grounds staff or operating budget.

- **What impact does synthetic turf have on playing time?**

- Synthetic turf playing fields exponentially increase playing and practice time because they can be used daily and in all types of weather, without worry of damage to the playing surface. Playability is enhanced since the fields remain uniform and consistent, season after season.
- For Mount Greylock Regional School, it is estimated that Physical Education (PE,) representing approximately 370 students per day, will gain 1 – 2 days per week in the fall for outdoor activity and during the spring months, March – May, it will afford the opportunity to participate in outdoor play that is virtually non-existent at present. The potential overall annual gain is 7 – 10 weeks of outdoor PE.

- Team sports will no longer have to cancel or move practices and games due to field conditions.
 - While turf grass managers recommend against using a natural grass field for more than 20 – 24 hours per week or 680 – 816 hours per year for a three-season window, synthetic turf can be utilized nearly 3,000 hours per year with no "rest" required. Link to STMA Guide on Natural Grass Vs. Synthetic Turf: <https://www.stma.org/wp-content/uploads/2018/09/STMA-Syn-and-Nat-Guide-4th-Edition-FINAL.pdf>
- **What about the current grass playing fields?**
 - All current grass fields will remain, including John Allen Field, for use by all sports that currently use them.
 - While, overall, natural grass may provide the most desirable playing surface, meeting the school's demands for fields requires the addition of a more durable system (i.e., synthetic turf field).
 - To effectively improve and maintain natural grass fields to exclusively meet the demands that Mount Greylock Regional School has for field space requires continual maintenance and repair (including watering, mowing, fertilizing, and aerating) to keep the surface safe and playable. This is labor intensive, expensive and beyond the capacity of the school.
 - Due to increasingly varying climatic conditions, rain, snow, or heat, and the short growing season in Williamstown, it is difficult to allow repairs and maintenance to take hold on grass fields. These weather conditions, combined with the high impact play typically seen at the high school level, place significant demands on the amount of required maintenance and limit the availability of the fields.
 - Grass is dormant in the spring and fall when the fields are heavily used resulting in damage occurring before maintenance programs can start.
 - Key components of grass maintenance programs are time sensitive and overlap with when the fields are in greatest demand.
 - There is no water source presently available to support irrigation of the grass fields. The school water is supplied by wells which have significant demands placed on their capacity with the completion of the new school building and the requirements of the fire suppression system. Contamination also exists in some areas making drilling for new clean wells more challenging.
 - Because the athletic fields are in high demand and heavily utilized, shutting a field for a season or more to restore a natural grass field would displace teams.
- **What are the components of synthetic turf fields and natural grass systems and how are they maintained?**
 - Synthetic turf systems are typically made up of three (3) critical components:
 1. Drainage system: A series of flat drains connected to a perforated perimeter pipe that conveys water that is not infiltrated out of the system.

2. Base stone system: An 8"-10" stone system that includes washed stone followed by 1"-2" of a washed topping stone. This stone system allows for the movement of water.
3. Synthetic turf system: The synthetic turf system includes a shock pad, turf carpet (primary backing, secondary backing and fibers) and infill.



Synthetic Turf System



Natural Grass System

Synthetic turf systems require minimal regular maintenance:

- Brushing is required every 100 hours; it is anticipated this will translate to once a month at MGRS when school is session.
 - No watering is required.
 - No use of fertilizers, herbicides or pesticides is required.
- Natural grass systems come in a wide range of designs. The most common system used is a grass system with native soils. These systems are made up of four (4) critical components:
1. Perimeter drainage system: This system can be modified with additional 2" lateral drainage to assist in the movement of water in poor draining soils.
 2. Base stone system: 8"-10" of well-draining stone to allow water to move through the soil layers.
 3. Loam: A good quality modified soil to bring to a well-draining sandy loam.
 4. Turf grass: Typically, in the northeast, this system is made up of a hybridized Kentucky Blue Grass selected for its resistance to cold weather and ability to recover.
 5. Additionally, grass systems require irrigation systems to maintain healthy stands of grass and allow for recovery.

Grass systems require regular, consistent maintenance:

- Minimum weekly lawn mowing and regular seasonal maintenance, such as aeration and overseeding, are used to maintain grass fields.
- Fertilizers, pesticides and other supplements are commonly used on natural grass athletic fields to maintain their quality and consistency.
- On average in a typical New England summer a natural grass athletic field uses between 400 and 500 gallons of water per day in order to maintain a healthy playing surface.

- Constant attention is imperative to the success of a grass system; if neglected, prior care and maintenance is forfeited often requiring replacement of the grass surface.
 - Note that there is not an organic athletic field system; there are only organic maintenance practices. Typical field construction, including costs, applies to a field whether it is maintained organically or with synthetic fertilizers.
- **Is synthetic turf safe?**
 - Numerous independent organizations as well as state and federal agencies have validated the safety of synthetic turf fields. The states of California, New York, New Jersey, Connecticut and Massachusetts, as well as the Netherlands, are among the most prominent and pertinent. There are presently over 12,000 synthetic turf fields in the United States with 1,200 – 1,500 new installations each year. Crumb rubber infill is the most commonly used infill. It has been the subject of 88 separate scientific studies. They have concluded that there are no elevated risks to human health nor the environment.
 - The New York State Department of Health has provided extensive information on the use and play of synthetic turf fields and crumb rubber infill that address heat stress, injury, infection, latex allergy and chemical exposure. This report was most recently updated in October 2018 and provides an extensive list of resources on the topics of synthetic turf.
Link to the NYS DOH report: https://www.health.ny.gov/environmental/outdoors/synthetic_turf/crumb-rubber_infilled/fact_sheet.htm
 - The California Office of Environmental Assessment completed its multi-year study of air quality above crumb rubber infilled synthetic turf, and bacteria in the turf, in October 2010 and reported that there were no public health concerns. They have continued and updated their study in 2016.
Link to the OEHHA Study: <https://oehha.ca.gov/risk-assessment/document/safety-study-artificial-turf-containing-crumb-rubber-infill-made-recycled>

Also, the California EPA released a report dated July 2009 which indicated there is a negligible human health risk from inhaling the air above synthetic turf.
 - The Connecticut Department of Public Health announced in July 2010 that a new study of the risks to children and adults playing on synthetic turf fields containing crumb rubber infill shows "no elevated health risks."
Link to the CDPH study: <https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/communications/pdf/ArtificialTurfFs2015decpdf.pdf?la=en>

- The US EPA has recently released its Part 1 of its further studies and research regarding the topic which is “the largest tire crumb rubber study conducted in the United States” provide the following general assessment, “In general, the findings from the report support the premise that while chemicals are present as expected in the tire crumb rubber, human exposure appears to be limited based on what is released into air or simulated biological fluids (gastric fluid, saliva and sweat)”.

Link to the EPA Study Part 1: <https://www.epa.gov/chemical-research/federal-research-recycled-tire-crumb-used-playing-fields>

In July 2008, a U.S. Consumer Product Safety Commission staff report approved the use of synthetic turf by children and people of all ages.

- Outside the US, the Dutch RIVM (National Institute for Public Health and the Environment) issued a comprehensive paper in 2017 entitled “Playing Sports on Synthetic Turf Fields with Rubber Granulate” concluding it is safe to play on such fields.

Link to the Dutch study: <https://www.rivm.nl/bibliotheek/rapporten/2017-0016.pdf>

- The Massachusetts Department of Public Health has evaluated the many studies and have published their assessment of the studies and potential risks.

Link to Mass DPH FAQ: <https://www.mass.gov/service-details/artificial-turf-fields>

- The Washington State Department of Health investigation found that artificial, crumb-rubber fields are not causing increased rates of cancer in local soccer players – a University of Washington associate women’s soccer coach initiated concerns about crumb rubber infill in 2009.

Link to the Washington State Study:

<https://www.doh.wa.gov/CommunityandEnvironment/Schools/EnvironmentalHealth/syntheticTurf>

- **What are the concerns with heat and synthetic turf?**

- During the summer months on hot sunny days, when synthetic turf is exposed to direct sunlight, synthetic turf fields have reported surface temperatures significantly hotter than the surface temperature of a natural turf field. In such conditions, many coaches will schedule practices and games for the cooler times of day and limit the number and duration of practices. They should also follow the heat-acclimation guidelines published by the National Athletic Trainers' Association.

Link to the National Athletic Trainers’ Association heat acclimation guidelines:

<https://www.nata.org/practice-patient-care/health-issues/heat-acclimatization>

- Specific to Mount Greylock Regional School, on days of excessive heat, the grass fields will provide the obvious choice for any practices or games.
 - Further, the Massachusetts Interscholastic Athletic Association (MIAA) has recently issued a Heat Modification Policy, effective July 1, 2019, that all schools, statewide, must follow for conducting all sports during times of extremely high environmental conditions.
http://miaa.net/gen/miaa_generated_bin/documents/basic_module/MIAA_Heat_Modification_Policy_Revisions_FINAL_11619.pdf
- **How does synthetic turf compare to natural grass on player injury rates?**
 - Three 2010 long-term studies published by researchers from Norway and Sweden compared acute injuries on synthetic turf and natural grass. The studies examined the type, location and severity of injuries sustained by hundreds of players during thousands of hours of matches and training over a four to five-year period. Many types of acute injuries to men and women soccer players, particularly knee injury, ankle sprain, muscle strains, concussions, MCL tears, and fractures were evaluated. The researchers concluded that the injury risk of playing on artificial turf is no greater than playing on natural grass.
 - **Is there a concern for the increased potential to develop staph or other bacterial infections on synthetic turf? Do synthetic turf fields need to be disinfected?**
 - Penn State University's Center for Sports Surface Research did an extensive study on the development of staph infections in synthetic turf and natural grass. In both cases they found that there is "no evidence of anyone getting staph infection directly from synthetic turf" and that synthetic turf is "not a hospitable environment for staph bacteria".
The study also indicates that UV rays in the turf create an environment that is not a breeding ground for turf and acts as disinfectant.

Link To Penn State's Center for Sports Surface Research, "Synthetic Turf and Staph Infections – Cause for Concern?:
<https://plantscience.psu.edu/research/centers/ssrc/documents/staph.pdf>
 - **What about environmental concerns associated with stormwater run-off? Have other communities in the State of Massachusetts investigated concerns regarding run-off of crumb rubber infill on boarding waterways?**
 - The synthetic turf field system is designed to capture stormwater runoff from the field through its drainage system and infiltrate storm water back into ground avoiding as much run-off into waterways as possible.
 - The Conservation Commission in the Town of Newton required as part of the installation of its synthetic turf field in 2009 to provide environmental testing on the storm drainage

system including the migration of crumb rubber particles in the trench drains and manholes, lead wipe sampling and wetland soil sampling for a period of three years from 2010-2013. All reports and studies are currently available as public record in the Town of Newton, Massachusetts.

Over that time the study concluded the following:

- “Lead was not detected on the football field surface.”
- “Metals were found in the wetland soil samples at concentrations consistent with MADEP published background levels for natural soil.”
- “Trench drains and in-line catch basins appear to be functioning as designed. Crumb rubber was present in small to moderate amounts. Storm water structures (trench drains and in-line catch basins) should be cleaned as soon as practicable once construction is complete to minimize crumb rubber from being flushed into the storm drainage system (and exiting the site) by heavy spring rains.”
- “Any collected crumb rubber should be kept onsite and be re-deposited on the turf playing fields.”

- **What are the differences in maintenance costs and practices in synthetic turf vs. natural grass?**

- Synthetic turf maintenance:

- Grooming: The field is required to be groomed and swept every 100 hours of use.
- Magnet: Removal of metallic objects, e.g. hairpins, from the field once per season.
- Spot grooming: Spot brushing high use areas once per season.
- Replacement areas: Replacement of high use areas (Typically year 8)
- Adding infill (Typically year 8)
- GMax/HIC/Rotational Resistance/Vertical Deformation testing (Typically years 9-12)

(Note: Grooming equipment is included in the construction costs.)

8 years of one-time annual visits, including grooming, seam repair, and testing, are included in the construction costs.

8-year warranty with an anticipated lifespan of 10-12 years based on estimated usage.

Annual Costs: \$6,000-\$8,000

Additional Costs of \$12,000-\$15,000 (typically year 8) to address replacement areas and additional infill.

- Natural grass maintenance:

- Mowing
- Watering
- Aerating
- Fertilization

- Weed and Pest Control
- Line Painting
- GMax /HIC testing
- Slice seeding
- Dethatching

3 – 5 years to establish a grass field

Consistent levels of annual care and maintenance required.

Annual Costs: \$12,000-\$14,000

Link to STMA “A Guide to Synthetic and Natural Turfgrass for Sports Field”:

<https://www.stma.org/wp-content/uploads/2018/09/STMA-Syn-and-Nat-Guide-4th-Edition-FINAL.pdf>

- **Who is Traverse Landscape Architects and what is their experience?**

- Traverse Landscape Architects is a highly regarded landscape architecture firm based in Providence, RI. Arthur Eddy, one of three principals at the firm, and Justin Robertshaw head up the athletic vertical of the company. Art has been a landscape architect for over 16 years and has been involved in many athletic projects throughout New England. Justin Robertshaw has been a landscape architect for over ten years and his focus has been solely on the design and oversight of athletic projects.

Both Art and Justin have worked on a wide range of athletic projects including natural grass fields, synthetic turf fields, tracks and hard court sports facilities at the recreational, high school and NCAA level.

Link to Traverse Landscape Architects website: www.traversela.com