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## Frequently Asked Questions:

### Athletic field improvements needed at Mount Greylock Regional High School

- What is the plan and why is Mount Greylock Regional High School investing in athletics?
  - Since the fall of 2016, multiple sub-committees have been formed to address necessary improvements to the MGRHS 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 High School site was conducted as part of this process that resulted in several rounds of planning studies that evaluated the existing site and identified areas for improvements.

Components addressed in the studies include:

- Providing accessible routes, including paths and parking, to all athletic facilities. Such improvements are a requirement of the Building Project through the Massachusetts Architectural Access Board to meet ADA compliance standards. (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 High 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.

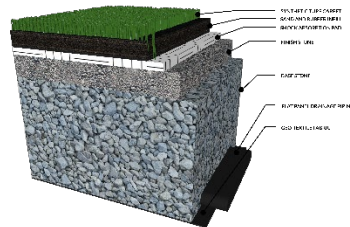
(Link to US Department of Education Title IX and Sex Discrimination: [https://www2.ed.gov/about/offices/list/ocr/docs/tix\\_dis.html](https://www2.ed.gov/about/offices/list/ocr/docs/tix_dis.html))
- Providing quality, playable fields on a safe, consistent, dependable basis. Fall and spring sports (girls' 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 off-site to play their home games at MCLA and Williams College when available, representing cost implications and inconvenience to 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. It also takes a toll on students. The plan includes the construction of a synthetic turf field that would 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.

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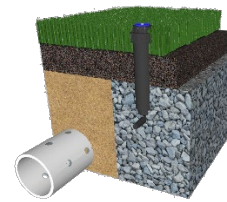
- Why is Mount Greylock Regional High School installing a synthetic turf field?
  - The fields at Mount Greylock Regional High School are heavily utilized, especially the principal game field, John Allen Field, and have become increasingly so over recent years with the addition of lacrosse to the spring athletic program. This expanded use has placed increased demands on the playing surface during the fall and spring seasons and has been detrimental to the quality and usability of the playing surface.
  - 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.
  - Synthetic turf represents a sustainable solution that 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, affording use when grass fields are unplayable.
  
- What about the current grass playing fields?
  - John Allen Field will remain available as a grass playing field for use by all sports that currently use it.
  - The synthetic turf field will be strategically located on the site of the former school building, thereby not removing any existing grass playing fields. It will be closer to the parking lot and locker rooms.
  - It is labor intensive and expensive to effectively improve and maintain natural grass fields to exclusively meet the demands Mount Greylock Regional High School has for field space. Natural grass needs continual repair and maintenance (including watering, mowing, fertilizing, and aerating) to keep the surface safe and playable.
  - Due to the varying climatic conditions, whether it is rain, snow, or heat, and short growing season in Williamstown, it is difficult to allow repairs and maintenance to take hold. 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 timely and overlap with when the fields are in greatest demand.
  - Because the athletic fields are in high demand and heavily utilized, shutting a field for a season or more to restore a natural turf field would displace teams.
  
- What are synthetic turf fields and what are natural grass systems made of?
  - Synthetic Turf systems are typically made up of three (3) critical components:
    1. The drainage system: a series of flat drains connected to a perforated perimeter pipe that conveys water that is not infiltrated out of the system.

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2. Base Stone System: There is an 8"-10" stone system which 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

- 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. A 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 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.
  - Additionally, grass systems require irrigation systems to maintain healthy stands of grass and allow for recovery.
  - Lastly, 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.
- How does synthetic turf impact the environment?
    - Synthetic turf has several positive impacts on the environment that vary based on the climate it is installed in. In New England, the most significant positive impacts include water conservation and maintaining water quality.
      - On average in a warm 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. Except for certain organic infill products, synthetic turf does not require daily watering in New England.
      - Synthetic turf does not require supplemental nutrients such as fertilizers and pesticides which are often used on natural grass athletic fields to promote growth and regeneration of the living plants. Excessive use of these supplements can have a lasting negative impact on the environment because a

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certain amount of the chemicals are washed away via storm water and carried into our major water ways.

- Have other communities in the State of Massachusetts investigated concerns regarding run-off of crumb rubber infill on boarding waterways?
  - 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.”
- Is synthetic turf safe?
  - Numerous independent organizations as well as state and federal agencies have validated the safety of synthetic turf fields.
    - In October 2010, 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, 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>
    - In July 2010, the Connecticut Department of Public Health announced 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 California EPA released a report dated July 2009 which indicated there is a negligible human health risk from inhaling the air above synthetic turf.

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- Independent tests conducted by the New York State Department of Environmental Conservation and New York State Department of Health, released in May 2009, proved there were no significant health concerns at synthetic turf 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.
- The 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)”.
- The Massachusetts Department of Public Health has evaluated the 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>

- As demonstrated above, numerous state and public agencies and independent health organizations have concluded that there is no positive correlation between crumb rubber and cancer. Along with crumb rubber, there are also numerous other options for infill available and the school is bidding those options as a potential alternate to the project.

Link to the Washington State Study:

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

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

- 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>

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- 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. Playability is enhanced since the fields remain uniform and consistent, season after season. In addition, while turf grass managers recommend against using a natural 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 around 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>

- 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.
- What are the differences in maintenance costs and practices in synthetic turf vs. natural grass?
  - Synthetic turf maintenance
    - The following is a list of synthetic turf maintenance practices:
      - Grooming: The field is required to be groomed and swept every 100 hours of use (approximately 2 weeks)
      - Painting: Line painting for field lines that are not inlaid within the field.
      - Magnet: Removal of metals from the field once per season.
      - Spot Grooming: Spot brushing high use areas.
      - Replacement Areas: replacement of high use areas (Typically years 8)
      - Addition of 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

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

- Natural grass maintenance

The following is a list of natural grass maintenance practices:

- Mowing
- Watering
- Aerating
- Fertilization
- Weed and Pest Control
- Line Painting
- GMax /HIC testing
- Slice seeding
- Dethatching

3 – 5 years to establish

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>