

Arlington High School Building Committee

Meeting Materials Package – 03/05/24

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Vote Language

- Motion to approve the 02/06/24 AHSBC Meeting Minutes.

## Arlington High School Building Committee

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**Meeting Date:** Tuesday, March 5<sup>th</sup>, 2024, 6:00 p.m.  
**Location:** Conducted via Remote Participation

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- ❖ Skanska Update
  - ◆ Athletic Field Discussion / Scheduling a follow-up meeting
  - ◆ Multistack
- ❖ Consigli Update
  - ◆ Schedule Update
- ❖ Subcommittee Reports
  - ◆ Communications
  - ◆ Finance
  - ◆ Interiors
  - ◆ Landscape & Exteriors
  - ◆ Memorials
  - ◆ SMEFPF
  - ◆ Security
  - ◆ Temp Use-Phasing
- ❖ Meeting Minute Approval
  - ◆ AHS Building Committee February 6, 2024 minutes
- ❖ New Business
- ❖ Adjournment

*The listings of matters are those reasonably anticipated by the Chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law.*

Members of the public are asked to send written comment to [kfitzgerald@arlington.k12.ma.us](mailto:kfitzgerald@arlington.k12.ma.us). Documents regarding agenda items will be made available via the Town's website.

<https://www.mass.gov/doc/open-meeting-law-order-march-12-2020/download>

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## **DRAFT Memorandum: For AHSBC review and input only**

**To: Arlington Conservation Commission**

**From: Arlington High School Building Committee**

**Re: Extension of Order of Conditions**

**Date: March 20, 2024**

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### **Introduction**

This memo provides background and rationale for the Arlington High School Building Committee's (AHSBC) request for an extension of an Order of Conditions for 174,000 square feet of synthetic turf fields with crumb rubber infill at the new high school. The Order was granted for three years by the Conservation Commission on July 23, 2020, after it reviewed plans for the fields and a drainage system designed to mitigate infill runoff into Mill Brook.<sup>1</sup> By voting favorably, the Conservation Commission determined that the AHSBC met its burden of proving that the fields would "not have a significant or cumulative effect upon the wetland values protected by the Bylaw."<sup>2</sup>

The Conservation Commission has jurisdiction to review work on the high school fields because they are located within 100 feet of a water resource, Mill Brook, which flows into Mystic River and eventually to Boston Harbor.<sup>3</sup> Mill Brook stretches for three miles throughout the Town of Arlington, crossing or running alongside parks, parking lots, the Minuteman Bikeway, and roadways, including Massachusetts Avenue.<sup>4</sup> Thousands of vehicles, bicycles, and pedestrians wearing rubber products come near Mill Brook daily, generating substances that enter the brook and have contact with fish and other wildlife.<sup>5</sup>

At the July 2020 meeting with the Conservation Commission, the AHSBC presented a project schedule showing that work on the fields would be undertaken in 2024 and completed in 2025. Following the vote, the project's contractor began to purchase materials and sign subcontracts for all bids in accordance with the Order of Conditions. This allowed the Town to lock in prices at 2020 rates. The project team has adhered to the Order of Conditions and pursuant to the Order, the team and AHSBC

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<sup>1</sup> N. Stevens motioned to approve the project for 869 Mass Avenue under the Wetlands Protection Act and Arlington Bylaw for Wetlands Protection with the special conditions discussed by the Commission, P. Heidell seconded, D. White voted to approve, D. Kaplan voted to approve, C. Tirone voted to approve, S. Chapnick voted to deny, motion approved. <https://www.arlingtonma.gov/town-governance/boards-and-committees/conservation-commission/agendas-minutes>.

<sup>2</sup> Arlington Regulations for Wetland Protection, Section 3B. See <https://www.arlingtonma.gov/home/showpublisheddocument/64923/638174068252130000>.

<sup>3</sup> See Arlington Regulations for Wetland Protections, Section 2. [638174068252130000 \(arlingtonma.gov\)](https://www.arlingtonma.gov/home/showpublisheddocument/638174068252130000)

<sup>4</sup> Mill Brook Corridor Report, 2019. See <https://www.arlingtonma.gov/home/showpublisheddocument/46513/636921453433800000>.

<sup>5</sup> According to the Massachusetts Division of Fish and Wildlife, fish found in Mill Brook include American eels, Black Crappie, Bluegills, Golden Shiners, Largemouth Bass, Pumpkinseed, and White Suckers. Except for the American Eels, none of these fish can be found in the portion of the brook in the area adjacent to the fields or upstream from the part of the brook that abuts the new high school fields. The fields are located upstream from Cooke's Hallow, a section of the brook that drops and is marked by a small waterfall. Fish in the Mystic River include Alewife, American Eels, Blueback Herring, Bluegill, Brown Bullhead, Common Carp, Golden Shiners, Largemouth Bass, Pumpkinseed, White Perch, White Sucker, Yellow Bullhead, and Yellow Perch.



representatives appeared before the Conservation Commission on August 3, 2023, to ask for a three-year extension, reporting that work was underway, and expenses incurred per the original schedule on the fields.

Two days prior to the August 3, 2023, Conservation Commission meeting, a commissioner submitted an abstract indicating that 6ppd-quinone, a chemical in rubber, is responsible for urban runoff mortality in coho salmon.<sup>6</sup> The study was prompted by high fatality rates for coho salmon living in bodies of water near heavily trafficked roads. Tests conducted in static conditions concluded that exposure to 6ppd-quinone resulted in mortalities in brook and rainbow trout.<sup>7</sup> A commissioner stated that trout are indicator fish, meaning they are the first to decline in an adverse habitat.<sup>8</sup>

The commissioner said that the study represented new information, which allows the Conservation Commission to deny a request for an extension and require the filing of a new application for a permit to complete the remaining work “[W]here new information, not available at the time the permit was issued, has become available and indicates that the permit is not adequate to protect the resource area values identified in the Bylaw.”<sup>9</sup>

AHSBC representatives stated that the building committee did not plan to purchase a different infill than the one presented in the 2020 Order of Conditions granted by the Conservation Commission, and therefore the AHSBC would not be requesting a modification of the Order pursuant to Section 18 of the [Arlington Regulations for Wetlands Protection](#). However, AHSBC representatives agreed to review costs, risks, and benefits of alternative infills and report their findings to the Conservation Commission by the spring of 2024 when it needed to purchase infill for the new fields. As a result, the Commission voted to grant a one-year extension of the 2020 Order of Conditions to August 4, 2024.<sup>10</sup>

### **Arlington High School Building Project**

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<sup>6</sup> See <https://pubs.acs.org/doi/abs/10.1021/acs.estlett.2c00050>.

<sup>7</sup> According to the abstract, “Fish were exposed under static renewal conditions, and exposure conditions verified analytically. Mortalities in brook trout occurred between 1.2 and 20 hours, while mortality began after 7 hours and spanned 60 hours in rainbow trout. No mortalities were observed after exposure of either char or sturgeon for 96 hours.” See <https://pubs.acs.org/doi/abs/10.1021/acs.estlett.2c00050>.

<sup>8</sup> There are no trout in Mill Brook or Mystic River nor are these waterways stocked with trout. See: <https://www.mass.gov/info-details/trout-stocking-report>. In an email on Feb. 22, 2024, the chair of the Conservation Commission explained: “If an activity affects an area subject to protection under MGL chapter 131 section 40, they are to be regulated according to the WPA, in this case, the protection of wildlife habitat, and prevention of pollution. The conservation commission is not protecting fish they are protecting the habitat and the water quality.” Resource values include “aquatic species and their habitat.” See <https://www.arlingtonma.gov/home/showpublisheddocument/64923/638174068252130000>.

<sup>9</sup> Section 17B of the Arlington Regulations for Wetland Protection states that the Conservation Commission may deny an extension “where no work has begun on the project.” Commissioners noted that while work has begun, the AHSBC had not yet purchased the crumb rubber infill and can still evaluate other infills that may present less of an impact on Mill Brook.

<sup>10</sup> N. Stevens made a motion to extend the Order of Conditions for 869 Massachusetts Avenue for one year, until August 4, 2024. D. White seconded the motion. A roll call vote was taken. D. White – yes, S. Chapnick – yes, N. Stevens – yes, D. Kaplan – yes, C. Tirone – yes. <https://www.arlingtonma.gov/town-governance/boards-and-committees/conservation-commission/agendas-minutes>.

In 2013, the New England Association of Schools and Colleges (NEASC) determined that the facilities of Arlington High School were insufficient for teaching and learning. In 2014 and again in 2015, the school district and town leadership submitted Statements of Interest (SOI) to the Massachusetts School Building Authority (MSBA) to study options for the school, including the potential building of a new school. The MSBA approved the 2015 SOI, and in the fall of 2016, the Arlington High School Building Committee was formed to oversee the project.<sup>11</sup> AHSBC representatives participated in a process with the MSBA to select an Owners Project Manager and Architectural Design firm.

In partnership with the design team, the AHSBC oversaw a feasibility study from 2018-19, the schematic design was finalized in 2019, and in June of 2019, Arlington voters approved a \$291 million debt exclusion to fund the new high school, with approximately 30% of the funds coming from the MSBA. In presentations to Town Meeting, Town officials, and in voter forums, the AHSBC and design team shared detailed plans for the project, including plans for synthetic turf athletic fields.

In December of 2020, the AHSBC approved the guaranteed maximum price (GMP) for the project, and in that same month the Town signed a Project Funding Agreement Amendment (PFAA) with the Massachusetts School Building Authority. The GMP documents submitted to the MSBA included the costs and plans for synthetic fields as approved in the Order of Conditions granted by the Conservation Commission in July of 2020. Pursuant to the PFAA, the contractor for the project began soliciting bids for subcontractors and materials, including those associated with the approved synthetic fields.

### **AHS Project Timeline**

The new Arlington High school is being built in four phases, two of which are completed.<sup>12</sup> The first phase was the construction of the STEAM (Science, Technology, Engineering, Arts, and Mathematics) building and auditorium in front of the old school, which was completed in April 2022. The second phase was completed in December of 2023 and consists of the humanities wing, cafeteria, and Menotomy Preschool. Phase 3, the construction of indoor athletic space, outdoor amphitheater, and black box theater, is underway and is scheduled for completion in February 2025.

Site work on phase 4, including preparation of the artificial surface fields, will begin in the summer of 2024 and be completed by September of 2025 for the start of the school year, with landscaping completing in November of 2025. The project needs to order the infill product for the synthetic fields by June 30, 2024.

### **Benefits of turf fields**

Throughout the project, the AHSBC has been conscious and thoughtful of its responsibility to deliver to the Town an environmentally friendly facility and of our duty to create fields that protect the town's waterways, wildlife, and vegetation. This can be seen in many decisions made by the AHSBC, including retaining trees on the front lawn of the high school, the final landscaping design, and our goal of building a LEED-Platinum facility. When considering plans for the fields, the design team for the project reviewed

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<sup>11</sup> See 963 CMR 2.10 (3): <https://www.mass.gov/doc/963-cmr-2-school-building-grant-program/download>.

<sup>12</sup> See <https://ahsbuilding.org/> for more detailed information of the project timeline and other information.

various reports issued by the Town, including the May 2018 report titled “Community Resilience Building Workshop: Summary of Findings & Recommendations,”<sup>13</sup> which discussed Mill Brook.

After considering many options and environmental impacts, the AHSBC voted<sup>14</sup> to include synthetic artificial surface fields in the new Arlington High School to ensure that all students<sup>15</sup>, including student athletes, would have more playing, practice, activity, and exercise time outdoors. The AHSBC concluded that synthetic turf surfaces significantly reduce the number of times games, practices, and other outdoor activities are postponed or canceled because of the weather and increase students’ outdoor time. Educators noted that numerous studies show that exercising outdoors is better for mental and physical health.<sup>16</sup>

The high school has had a turf field for soccer, football, lacrosse, and other varsity sports that have been used successfully by all students since 2005. The new fields are being built on an area of Arlington High School that has been capped because contaminants were found deep beneath the surface in the late 1990s.

Arlington Public School leadership, including the high school principal, concluded that based on the school’s own experience with a turf field, artificial surfaces were safer for students than local grass fields, which are challenging and costly to keep in good condition in New England weather. The principal noted in public meetings that all 1700 Arlington High School students will use the field at some point during the year, and that hundreds of student athletes will compete on the fields in varsity and sub-varsity sports.

The educators’ observations about the benefits of synthetic surface fields were corroborated by presentations made to the AHSBC by a consultant hired by HMFH, the design firm for the high school project. The consultant’s research showed that synthetic infill turf fields provide the Owner and users of these fields with as much as three times the useful hours per field as high end, expensive-to-maintain natural turf grass fields. Turf fields are constructed of mostly synthetic materials, aside from the sand ballast typical of most infill materials, which sits on the carpet backing, and therefore do not undergo the constant wear and breakdown normally associated with natural turf grass fields. In addition to improved durability, synthetic infill turf fields, if properly engineered, provide a level of surface consistency, uniformity, and biomechanical performance equal to that of high-end natural turf grass fields. The consultant’s analysis showed that the required maintenance person hours for synthetic fields are less than 25% of that needed for a similarly sized natural turf grass field.

The consultant explained that a properly engineered and constructed synthetic infill turf field consists of a resilient pad beneath the carpet and infill system with less resilient infill located within the fiber matrix. The combination of these components provides a cushioning surface below the carpet and a firm athletic performance grass-like surface on top. The system designed for Arlington High School will have

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<sup>13</sup> See [2017-2018-mvp-planning-grant-report-arlington.pdf\(Review\) - Adobe cloud storage](#)

<sup>14</sup> For discussions and votes taken, please see: <https://ahsbuilding.org/meeting-agendas-and-minutes/>.

<sup>15</sup> AHS students must take four years of Wellness Education (formerly known as Physical Education) to graduate. See: <https://sites.google.com/arlington.k12.ma.us/ahs-scheduling/graduation-requirements>.

<sup>16</sup> Kimura T, Mizumoto T, Torii Y, Ohno M, Higashino T, and Yagi Y. *Comparison of the effects of indoor and outdoor exercise on creativity: an analysis of EEG alpha power*. *Frontiers in Psychology*, July 2023. (<https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2023.1161533/full#h2>)

GMAX scores (surface hardness score assigned to an athletic field) ranging from 80 to 120 (the ratio of the maximum acceleration experienced during impact), and head injury criteria values (the likelihood of head injury coming from impact) of less than 1,000 HCI (head injury criterion) for a one-meter drop in height. This results in key biomechanical performance characteristics in the range of a [FIFA-quality](#) field and reduces impact injuries to athletes.

The consultant explained that synthetic turf fields can be too hot to play at high temperatures, and several attendees of meetings about the project noted this as well. The high school principal responded by indicating that a hot surface almost always coincides with extreme heat, which results in the cancelation or postponement of games and practices.

After much discussion and review of several [studies](#)<sup>17</sup>, the AHSBC chose styrene butadiene crumb rubber as the infill for the synthetic fields. The product has the longest track record of safety and longevity in the artificial athletic surface industry, and it is the same product that Arlington High School has used for its synthetic surface field since 2005. The high school principal has noted that students and student athletes have had positive experiences using the current turf field at the high school. The specifications<sup>18</sup> for this product were included in the request for the Order of Conditions approved by the Conservation Commission in 2020.

#### **Impact of the new fields on Mill Brook: Drainage Strategy**

The AHSBC met its burden of proof that the project would not have a “substantial or cumulative impact” on the resource (Mill Brook) in 2020 and maintains that it continues to meet this burden today.

Following the August 2023 meeting with the Conservation Commission, the design team decided to modify the drainage system to include trench drain baskets, which will provide an additional filter to prevent the flow of turf infill into Mill Brook. The AHSBC made this adjustment in plans to provide an additional level of drainage protection for Mill Brook.

The drainage system designed and now purchased following the 2020 Conservation Commission vote will substantially mitigate turf field inflow to Mill Brook through the following strategy:

- The grass blades consist of a dual fiber system, both monofilament and silt film fibers, with infill material depths set to allow greater than average exposed fiber above the top of the infill.
- The fibers in the dual fiber system with increased exposed fiber height provide a level of fiber interlock, which reduces infill flyout and movement of infill via runoff.
- Directly under the carpet, blades, and infill materials is a permeable shock pad, which includes channels to direct the water to the trench drainage system along the field edges.
- Directly under the shock pad is an impervious layer barrier intended to prevent surface water from entering the contaminated groundwater below the site. The carpet backing and sand layer, which sits below the resilient portion of the infill material, acts as a filter to prevent water from passing through the synthetic turf field playing surfaces and directly into the soils below.

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<sup>17</sup> See also: <https://doh.wa.gov/community-and-environment/schools/environmental-health/synthetic-turf#> and <https://www.turi.org/content/download/11980/188623/file/TURI+Report+2018-002+June+2019.+Athletic+Playing+Fields.pdf>.

<sup>18</sup> The specifications showed that the product met U.S. safety standards, specified the use of U.S. made tires, which have higher standards for chemical compounds than tires made in many other countries, and other considerations.

- The sports fields and their associated resilient underlayment pad and liner are sloped to direct flow into the below grade perimeter trench drains.
- Runoff and pad level flow enters the trench drain and is directed into trench drain basins which will be equipped with a stainless-steel screened filter basket intended to intercept any solids which may get past the fiber matrix on the surface.
- In the trench drain basins, flow is directed through the filter screens before entering the subsurface piping system, and runoff travels into the subsurface detention via a closed piping and basin network. Both the trench drain basins and the drain inlet basins are equipped with sumps to further intercept any fine particles that may exit over the top of the surface trench drain inlet.
- Water from the inlet basins is piped to the subsurface detention chambers, which are a series of underground storage chambers. These chambers slow the water velocity increasing the ability to settle particulate matter, which may pass through the basket filter and sumps. The detention chambers are fully wrapped within an impervious membrane. Water flows from the chambers and into the on-site collection system, then onto Mill Brook.

The combination of the system components, the interlocking behavior of the dual fibers, the reduced volume of resilient infill materials, and the trench drain baskets minimize the potential of infill material migrating towards Mill Brook. The design of the drainage system sets a high standard for protecting waterways in Arlington, one that the Town can point to as it evaluates the impact of other projects on Mill Brook.

### **Maintenance**

The school district will adhere to the maintenance and operation plan in the appendix for the new turf fields. The trench drainage basins will afford the Town the opportunity to test the impact of any infill coming from the field as appropriate.

### **Costs expended on the turf fields pursuant to the 2020 Conservation Commission vote**

The AHSBC has awarded seven subcontracts related to the turf fields:

- Sitework – J. Derenzo
- Turf Fields – Spinturf
- Electrical (including stadium lighting) – Griffin Electric
- Athletic equipment – RH Lord
- Landscaping – Emanouil
- Concrete – Riggs
- Fencing – Union Fence

Any material changes in the plans for the fields will cause the locked-in subcontract values to increase to today's costs. If a contract is canceled, a subcontractor is likely to bring a loss of revenue claim against the project. In addition, the underdrain (Permavoid) system and turf perimeter trench anchor systems have been manufactured and are stored on site. The contractor estimates that based on March 2023 pricing (which is higher today), restocking the permavoid only materials would be \$200K, plus \$30K for trucking, loading, and unloading, resulting in a credit value of \$170,000.

Below is a summary of committed costs:

### Synthetic Turf and Equipment

Award Date: April 12, 2021

Award Value: \$1,234,700

### Site Work

Award Date: December 7, 2020

Award Value: \$517,000 (Permavoid and Anchor Trench System)

The infill selected for the project, crumb rubber produced by CRM, is included in the \$1,234,700 total costs for the synthetic surfaces.

### **Turf Infill Alternatives**

At the request of the Conservation Commission and pursuant to the one-year extension granted in August of 2023, the AHS project team evaluated several infill alternatives. Research shows that no infill product is free of concerns of the impact of chemical substances to the environment.<sup>19</sup> One study determined that Envirofill is not significantly superior to tire crumb in terms of “performance, cost, maintenance needs, and health and environmental impacts.”<sup>20</sup>

A Commissioner requested that the AHSBC evaluate Brock Infill, a product used at other schools in the area. The AHSBC representatives stated at the August 2023 meeting that it is not possible to purchase this product because the subbase materials and drainage system have already been designed and purchased. Brock infill requires a different sub-base design, and it is not possible at this point in the project to change the design or purchase new materials to support a Brock infill surface. Such a change would exceed the \$1.2M price tag for the turf fields, result in the cancellation of many subcontracts, and require the AHSBC to discard purchased materials.

The AHSBC has reviewed two classifications of alternative organic infill that can be used in the new AHS fields as designed: those made of soft and hard materials. The soft organic materials have both longevity and biomechanical concerns. Softer infill materials absorb moisture and include naturally processed coconut fiber, pure cork, granules, and other natural fibers. In “freeze-thaw” environments, the absorbed moisture expands and breaks the infill material down to a finer size. In extremely wet conditions, the ability to attenuate impacts is reduced giving the material a wide range of negative biomechanical performance behavior. A recurring issue with soft infill products is that the infill breaks down every few years because of cleat usage; the Town would need to purchase replacement infill every three to four years. As a result of this information, the AHSBC chose not to price any soft organic infill products.

Hard organic infill products include Envirofill, which is sand coated with acrylic, and products made from walnut shells, yellow pine, or olive pits. These products absorb less moisture than the softer materials but are hydrophilic to some extent (tendency to attract water). The walnut product, Safeshell, has been

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<sup>19</sup> See <https://journals.sagepub.com/doi/full/10.1177/1048291120906206#bibr4-1048291120906206>.

<sup>20</sup> Bauer B, Egebaek K, Aare AK. *Environmentally friendly substitute products for rubber granulates as infill for artificial turf fields. Report M-955/2018*. Oslo, Norway: Norwegian Environmental Agency, <http://www.miljodirektoratet.no/Documents/publikasjoner/M955/M955.pdf> (2018, accessed 14 December 2018).

in use for approximately a decade. It has shape-related stability concerns, which motivated a modified version of the product with a smaller granule size called Safeshell Smoothplay. This product is three years old, has been used in a few fields to date, and requires more experience and testing before the building committee is comfortable purchasing it. The specifications for the two Safeshell products require the school district to fluff the infill as it ages, which would be an added operational cost to the school district.

The AHSBC evaluated the costs and benefits of these three alternatives – Envirofill (an already priced alternate), Safeshell, and Safeshell Smoothplay – and concluded that using any of them was too high of a risk for the Town and its school system. The materials do not have long-term track records of success, are slippery for student athletes in cold weather, and have not been proven safer. Crumb Rubber infill remains the safest, most durable, and most proven product available currently. The committee and the Town are committed to studying alternative infills that can be installed in a decade when the fields need to be replaced. We ask the Conservation Commission to join the AHSBC in taking a long-term view of the infill used in this field.

### Summary of Alternative Infills

Below is an analysis of alternative products and costs examined by the AHS project design team.

Product	Materials	Cost (infill only)	Durability/ long term costs	Impact on athletes/ activities
<b>Crumb Rubber</b>	Synthetic Crumb Rubber	\$147,000	Most tested product on the market. Used in fields throughout the U.S. with good results in northern New England (MA, NH, VT, ME). Designed for one cycle (10-12 years)	Most comfortable for athletic competitions. The rubber compresses more when an athlete moves and turns.
<b>Envirofill (hard infill)</b> <i>(Project team has already priced this as an alternative)</i>	Sand coated with acrylic	\$430,200	This is a water-based paint product (not synthetic). It has a 16-year warranty.	Requires a thatch layer, which helps stabilize the envirofill. Athletes will notice a modest difference in the give of the surface when they turn and cut. It is not as stable as SBR crumb rubber. Traction is decreased with this product.
<b>Safeshell (hard infill)</b>	Safeshell (walnut base) and sand	\$256,050	Uncertain as to when the district will need to add material. This product may have usability issues in the spring and fall with freezing temperatures. The product requires periodic fluffing of the infill.	Has 100 installations (approximately) nationwide. It is less stable than envirofill because it is made of larger particles. Not as good for rapid turns and cuts as crumb rubber. Traction diminishes,

				particularly in colder weather.
<b>Safeshell Smooth Play (hard infill)</b>	Safeshell Smoothplay (walnut, but a much finer product) and sand	\$300,400	Will need to add material in 4-5 years. It will absorb water more than the Safeshell (good for cooling, not an advantage for longevity). This product may have usability issues in the spring and fall with freezing temperatures. The product requires periodic fluffing of the infill.	Not enough history for this product. A few installations, mostly in the Midwest. The product has potential and is one the Town should monitor in the coming years. Traction diminishes, particularly in colder weather.

### Contingency Funds

At the August 3, 2023, meeting, the Conservation Commission asked if the AHSBC could use contingency funds for an alternative infill. The AHSBC does not believe there are enough funds in contingency at this point in the product to make significant changes in the turf infill. Even if sufficient funds were available, the AHSBC, the school district’s leadership, and the project design team do not believe it is in the best interests of our students to purchase an alternative infill.

The construction project began in 2020 with total contingencies of \$9,383,826 (\$7,587,280 for construction, and \$1,796,546 for soft cost contingency). As of March 1, 2024, with an estimated 20 months remaining in the project, below is a summary of the contingencies and funds spent and available.

Contingency Type	Funds available at the start of the project	Contingency spent to date	Major items	Remaining Contingency	% used
<b>Construction</b>	\$7,587,280	\$4,412,218	Design coordination, owner and 3 <sup>rd</sup> party requested additional items, Phase 3-4 extension and unforeseen conditions	\$3,175,062	58%
<b>Owners Soft Cost</b>	\$1,796,546	\$1,654,480	Building insurance costs, additional designer services, Phase 3-4 extension, and supplemental funds for moving and testing	\$142,066	92%
<b>Totals</b>	\$9,383,826	\$6,066,698		\$3,308,128	65%



The AHSBC has used contingency funds for several unforeseen expenses. In 2022, as the AHSBC began planning the recently completed second phase of construction, the AHSBC determined that a shift in schedule would result in Arlington High School students being required to return to hybrid learning in the fall of 2023. Given the negative impact of the pandemic on our students, the AHSBC voted to spend \$1.2 million from the contingency to delay the demolition of a classroom building and athletic facility. This allowed students to have a normal start to the school year, with classes beginning in the new Humanities wing in the late fall of 2023.

There are several pending priorities, including a need to spend contingency funds on making seat modifications on the balcony of the new auditorium. We expect to have other components of the facility that will need adjusting as we near the completion of the project, and our goal is to have as much contingency available as possible for those needs.

Notably, the project is entering a phase of construction with higher risks. In 2020, the design team discovered contaminants deep in the surface of the field area, which resulted in the elimination of geothermal wells and a redesign of part of the project. Phase 4 of the project – the fields and parking lots – will include the construction of a barrier wall in the field area where we had hoped to place the geothermal wells. The AHSBC needs to ensure a healthy amount of contingency funds are available in case of any future issues in that area of the project.

It is worth noting that any savings from the project will result in the Town of Arlington borrowing less money and paying less interest on this project.

For these reasons, the AHSBC is not comfortable using contingency funds for an alternative infill.

### **Turf Field specifications**

If the extension of the Order of Conditions is granted, the Town plans to purchase a crumb rubber synthetic infill that is free of hazardous materials as defined by state and federal regulations. The purchase of infill needs to be completed by June 30, 2024.

The infill the AHSBC is seeking to purchase will conform to the Standard Consumer Safety Specification for Toy Safety and meet the following conditions:

- The infill rubber will be from recycled automobile tire crumb from tires manufactured in the U.S. only. SBR rubber will be free of hazardous materials as defined by current EPA regulations, 100% free of metals and metal cords, 99% free of non-metal fibers and other contaminants. The crumb rubber must be clean and free of rubber dust.
- Mineral Infill Material: Sand shall be rounded to sub-rounded silica sand quartz mineral sand, which is free of slits, clays, dust, and other contaminants.
- Infill Blending: infill materials shall be a mixture of synthetic material and sand granule homogeneously blended.

Please see the appendix for more information.

### **Financial Impact of a negative vote by the Conservation Commission**

The building project must procure artificial infill for the new fields by no later than June 30, 2024. A vote to deny the extension of the Order of Conditions by the Conservation Commission and require the submission of a new application may delay completion of the project, increase costs, and delay the ability of our students and student athletes to participate in activities on the fields. Delays in completing the project will result in delays in payments from the MSBA to the Town as well.

## **Conclusion**

The AHSBC respectfully requests an extension of the Order of Conditions for the following reasons:

1. The AHSBC met its burden of proof in 2020 by submitting plans to mitigate the flow of infill into Mill Brook, and the drainage plans, with the revision, show that the AHSBC continues to meet its burden of proof.
2. The drainage system described above and in detailed plans submitted to the Commission ensures that any infill runoff from the fields will not have a “significant or cumulative” effect on Mill Brook. The drainage plan is a model for other projects that may come near Mill Brook. Runoff from tire rubber, including tires on vehicles and bikes that pass by Mill Brook and sneakers, socks and other materials made of rubber impact Mill Brook likely at a much higher level than the new AHS fields.
3. The AHSBC and district leadership want the safest and most reliable synthetic surface for our students, and none of the alternatives meet these criteria. The AHSBC, with guidance from educators, has determined that crumb rubber infill is currently the best product for athletic competition and other activities. It is the same product that has been used successfully at Arlington High School since 2005.
4. The AHS project has proceeded since 2020 pursuant to the Order of Conditions granted by the Commission. The 2020 Order was for a crumb rubber field, and pursuant to the Order the AHS project purchased materials and signed seven subcontracts for work in the fields.
5. The AHSBC does not believe it is wise to use contingency funds on a surface with less history than crumb rubber, and the committee feels it is prudent to carefully manage the available contingency funds as we enter the final stages of this project.

The AHSBC believes it has a sound plan to protect the water resource under the jurisdiction of the Conservation Commission. The committee asks the Commissioners to consider that the newer organic infill products we were asked to evaluate will be tested over time, and within the next decade, the school district will have the chance to see how these products perform. Currently, however, the AHSBC has concluded that these products are not wise investments for the Town to make. When more data is available on the performance of these products, the Town may purchase a different infill product for the field when it comes to replacing the crumb rubber infill.

Thank you for reading this memo, and we look forward to answering your questions at the upcoming Conservation Commission meeting on April 4.

## **Appendices**

1. AHS Crumb Rubber and Sand Specifications
2. Turf and Drainage Information
3. Graphic describing the drainage flow system
4. Option Infill – US Greentech, Envirofill
5. Option Infill – Safeshell Walnut Shell
6. Option Infill – Safeshell Smoothplay Walnut Infill

1.08 SUBMITTALS

- A. Environmental Health and Safety: Fiber and Infill materials shall be tested for compliance with the following:
1. Provide Independent Compliance Testing for compliance with ASTM F2765-14 Standard Specification for Total Lead Content in Synthetic Turf Fibers
  2. Provide Independent Compliance Testing for compliance with ASTM F3188-17 Standard Specification for Extractable Hazardous Metals in Synthetic Turf Infill Materials.
  3. Provide Independent Compliance Testing by an accredited and or approved laboratory for compliance with State Regulations for Per and Polyfluoroalkyl Substances (PFAS) in solids using EPA 537.1 Modified with Isotope Dilution techniques by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) by a laboratory accredited and or approved for these tests. Reporting limits shall not exceed 0.5 µg/kg (NYDEC part 375), and the reporting criteria shall be less than or equal to 1.0 µg/kg (NYDEC part 375). Turf fibers and backing materials shall be sampled using State Approved Protocol for soil sampling and results shall be compliant with the state approved thresholds. The testing shall include the following PFAS.



Test Method	Compound	Abbreviation	CASRN	PubChem NIH Safety Class
EPA 537.1	Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6b	Corrosive-Irritant
EPA 537.1	N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6	ENV Contaminant
EPA 537.1	N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9	ENV Contaminant
EPA 537.1	Perfluorobutanesulfonic acid	PFBS	375-73-5	Corrosive-Irritant
EPA 537.1	Perfluorodecanoic acid	PFDA	335-76-2	Corrosive-Acute Toxicity-Irritant
EPA 537.1	Perfluorododecanoic acid	PFDoA	307-55-1	Corrosive-Irritant
EPA 537.1	Perfluoroheptanoic acid	PFHpA	375-85-9	Corrosive-Irritant
EPA 537.1	Perfluorohexanesulfonic acid	PFHxS	355-46-4	Corrosive-Irritant
EPA 537.1	Perfluorohexanoic acid	PFHxA	307-24-4	Corrosive
EPA 537.1	Perfluorononanoic acid	PFNA	375-95-1	Corrosive-Irritant
EPA 537.1	Perfluorooctanesulfonic acid	PFOS	1763-23-1	Corrosive-Health Hazard-Irritant-ENV Hazard
EPA 537.1	Perfluorooctanoic acid	PFOA	335-67-1	Corrosive-Health Hazard-Irritant
EPA 537.1	Perfluorotetradecanoic acid	PFTA	376-06-7	Corrosive
EPA 537.1	Perfluorotridecanoic acid	PFTrDA	72629-94-8	Unavailable at PubChem NIH
EPA 537.1	Perfluoroundecanoic acid	PFUnA	2058-94-8	Irritant
EPA 537.1	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	763051-92-9c	Unavailable at PubChem NIH
EPA 537.1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS	756426-58-1d	Corrosive-Irritant
EPA 537.1	4,8-dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4e	Corrosive-Irritant
EPA 533	Perfluorobutanoic acid	PFBA	375-22-4	Corrosive-Irritant
EPA 533	Perfluoropentanoic acid	PFPeA	2706-90-3	Corrosive
<b>Note: Includes compounds regulated in northeast states tested under both EPA 537.1 and EPA 533</b>				

2.05 INFILL MATERIAL

- A. Synthetic Infill and Mineral Material shall be free of hazardous materials as defined by current Local, State and Federal regulations. Infill shall conform to the Standard Consumer Safety Specification for Toy Safety. Synthetic surfacing manufacturer shall select infill materials that will assure their warranty of the synthetic turf system.
- B. Infill System: Synthetic/Sand Infill Material shall be installed at a material ratio that provides the performance characteristics required herein. The manufacture shall be responsible for providing the mix ratio and associated laboratory testing for compliance with performance requirements at the vendor specific ratios. All laboratory testing shall include reference to infill material ratios. Materials shall meet the following:
1. Infill System 1 Rubber shall be **recycled automobile tire crumb from tires manufactured in the United States Only (tires from SUVs or other vehicles or other sources shall not be acceptable)** SBR rubber free of hazardous materials as defined by current EPA regulations, 100% free of metals and or metal cords, 99% free of non-metal fibers and other contaminants. 100% of the rubber shall be smaller than 2.0 millimeters (#10 sieve) and no more than 2% passing the 0.600 millimeters (#30 sieve). The crumb rubber shall be clean and free of rubber dust. Recycled rubber from truck tires and industrial scrap or waste shall not be allowed. Variations are subject to review.

2. Infill Resilient Material shall comply with the following standards:
  - a. ASTM D395                      250 degrees F at 6psi at loading: Loss of rebound: <5%, Cohesive Behavior: None, Agglomeration: None, Permanent Particle Deformation: None.
  - b. ASTM D412                      500%
  - c. ASTM D624                      800 psi Min. (1 MPa=145.04 psi)
  - d. ASTM D792                      93.6 lbs/ft<sup>3</sup> Min (1.5 gm/cm<sup>3</sup>)
  - e. ASTM D5644                      Per EPDM Gradation Table above
  - f. ASTM F963                      Provide Independent Compliance Testing
  - g. DIN EN ISO 3451-1              >20%
  
3. Mineral Infill Material: Sand shall be rounded to sub-rounded silica sand quartz mineral sand which is free of slits, clays, dust and other contaminants. 100 percent of the sand shall be smaller than 1.18 millimeters (#16 sieve) and 98 percent shall be greater than 0.425 millimeters (#40 sieve). Testing shall be per ASTM F1632.

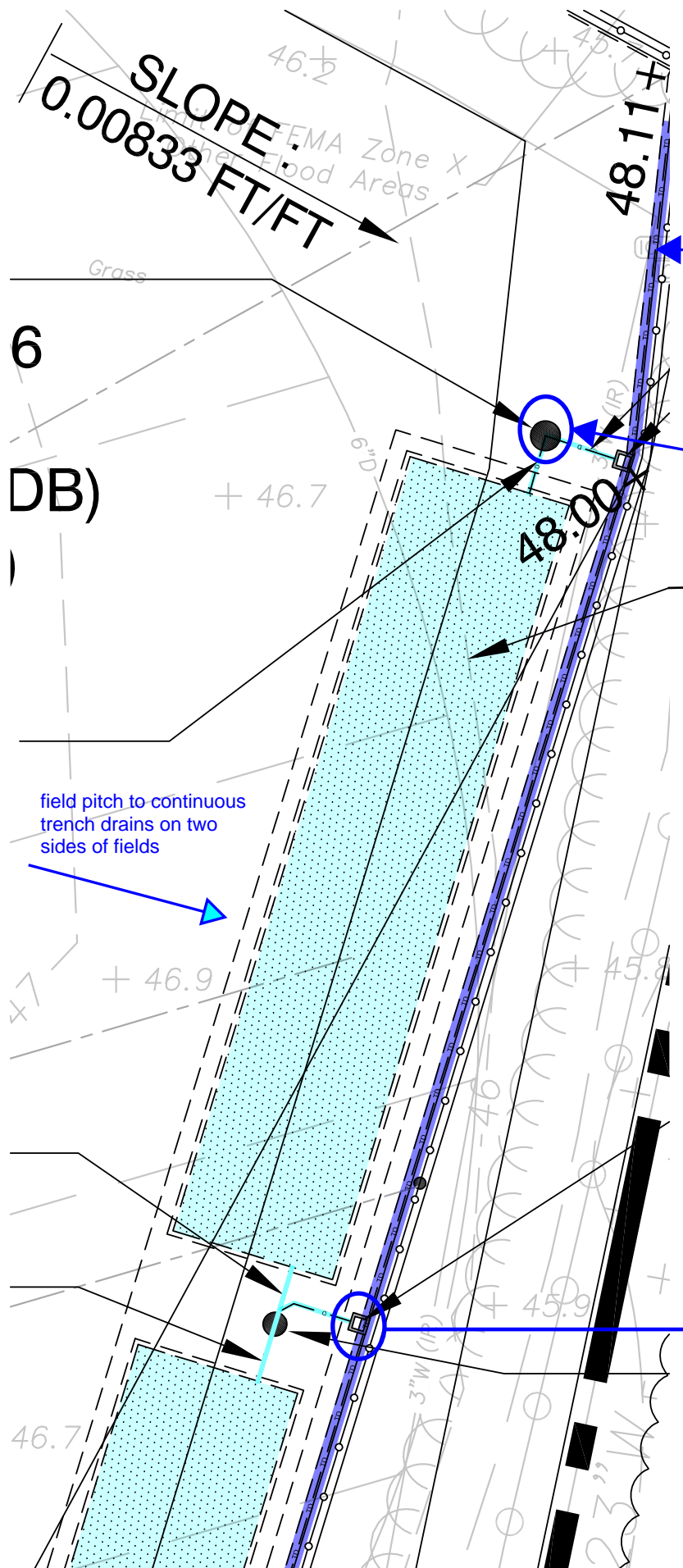
SAND MINERAL INFILL GRADATION	
Sieve Size U.S. No.	Typical Percent of Total within Range
16	0
18	<5%
20	10.0 to 40.0
25	20.0 to 50.0
30	20.0 to 60.0
35	20.0 to 50.0
40	10.0 to 40.0
50	<5%
Pan	<2%

- C. Infill Blending: Where required by Manufacturer's installation requirements, Infill material shall be a mixture of synthetic material and sand granule homogeneously blended. Sand component shall not be less than 60% or more than 80% by weight. The percentage of sand in the turf system may be adjusted as required to meet required performance criteria and avoid patent infringement. If infill ratios require modification to comply with the Performance Requirements in Article 3.08 the Manufacturer shall advise the OWNER in writing for Owner Approval of system modification and provide technical data indicating the requirement for the modification.
  1. Total settled infill depth shall be averaged over the entire field and shall be 1.50-inch depth for 2.00-inch fiber.
  2. Theoretical exposed fiber face weight shall represent the face weight of fiber located above the estimated settled infill depth of 74% of fiber height Regardless of any requirements set forth herein no system shall have a theoretical exposed fiber face weight which is less than 12 ounces per square yard minimum.

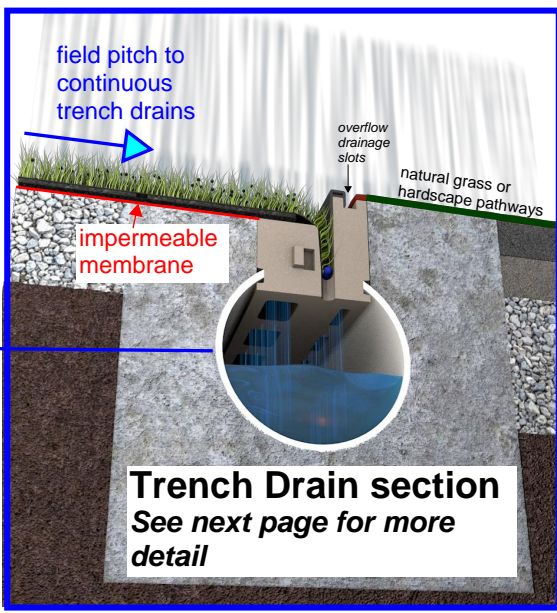
This ratio of sand and rubber crumb is different than most synthetic fields using the combination of rubber and sand. Typically the ratio is 70% Rubber and 30% sand. Here we will use a lower % of rubber due to the type of cushioned matt used under the synthetic turf carpet

SYNTHETIC INFILL / SAND RATIO	
Infill Composition by Weight	Based on manufacturer's requirements to meet require performance characteristics.
Infill System Depth	1.50-inch depth for 2.00 inch fiber after initial installation of infill material. This depth represents substantially 74% full.

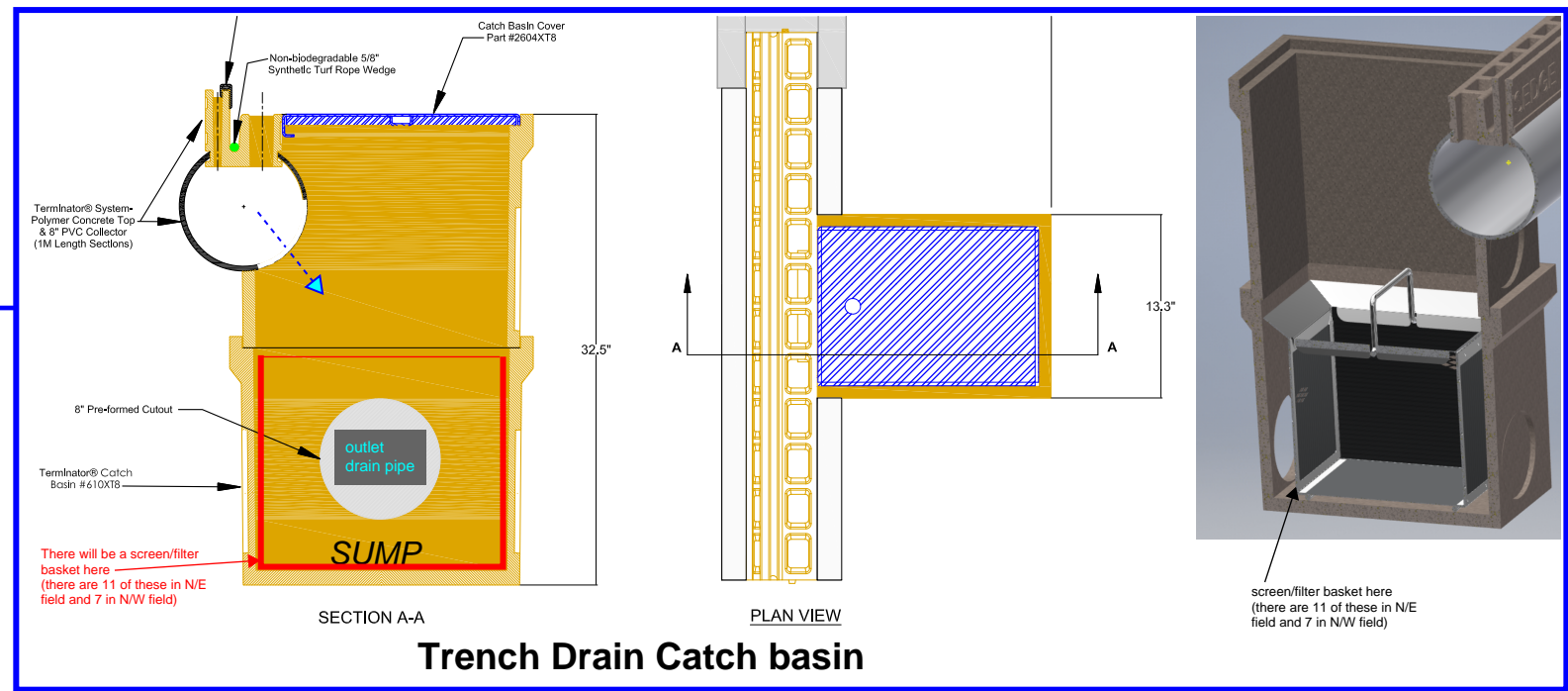
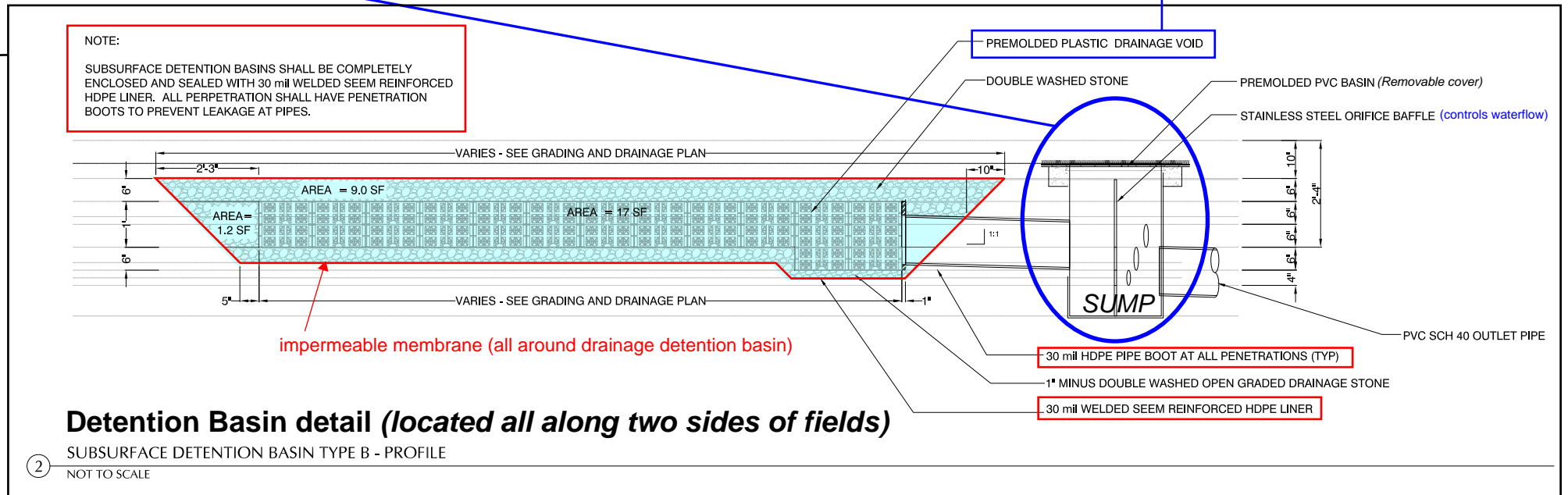
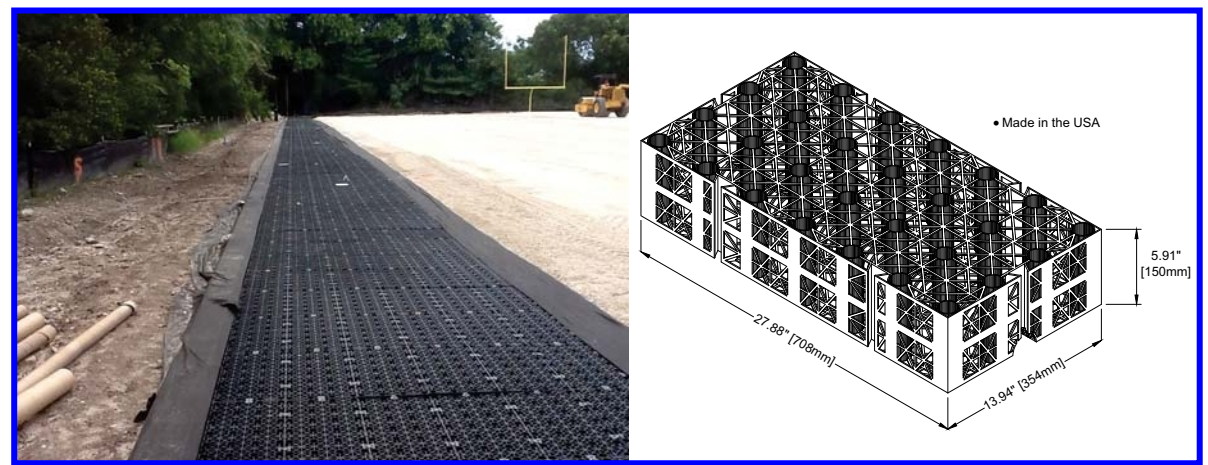




Representative partial plan of detention basin, collector pipes and trench drain

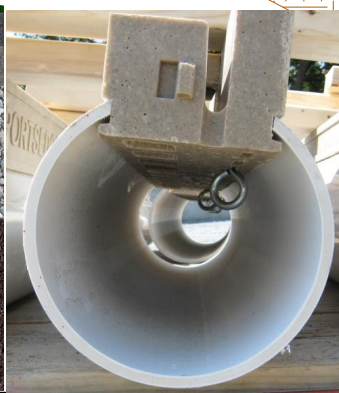
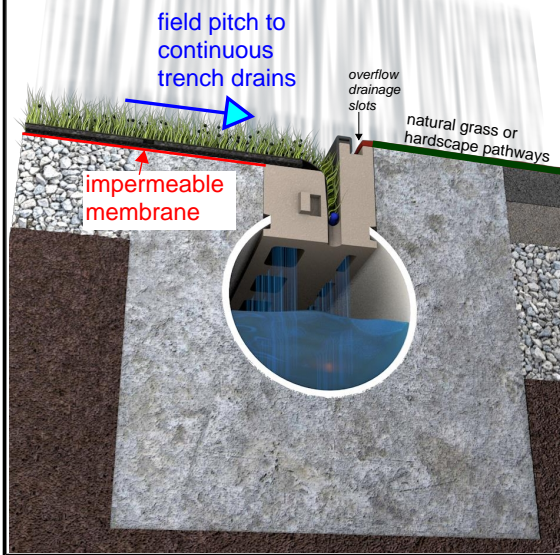
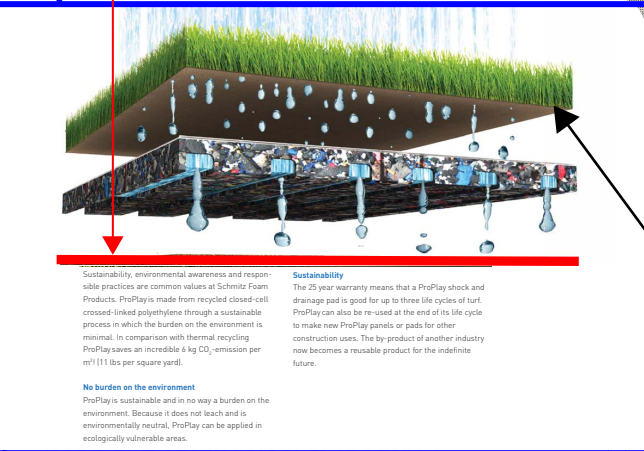
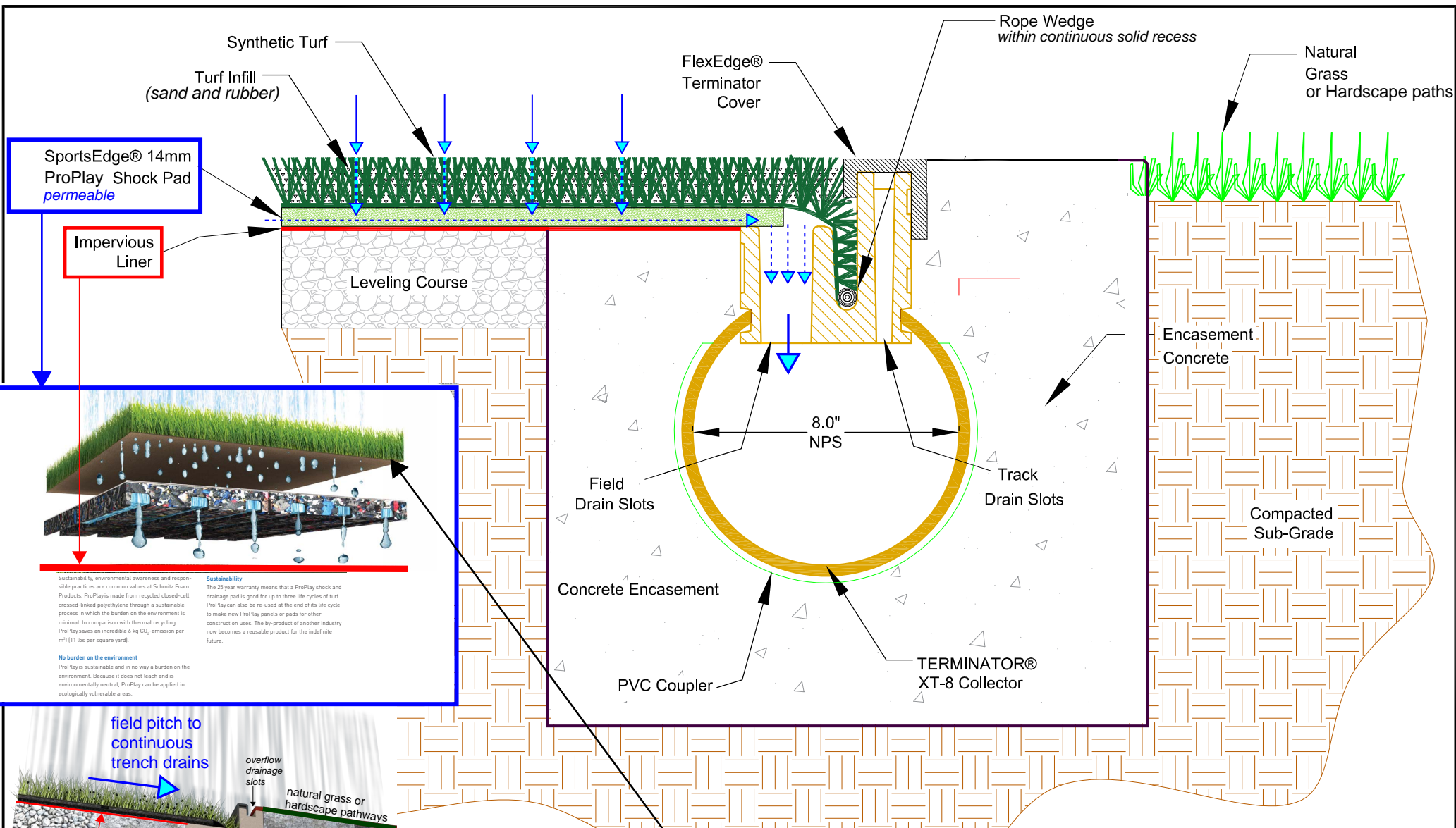


Appendix 2



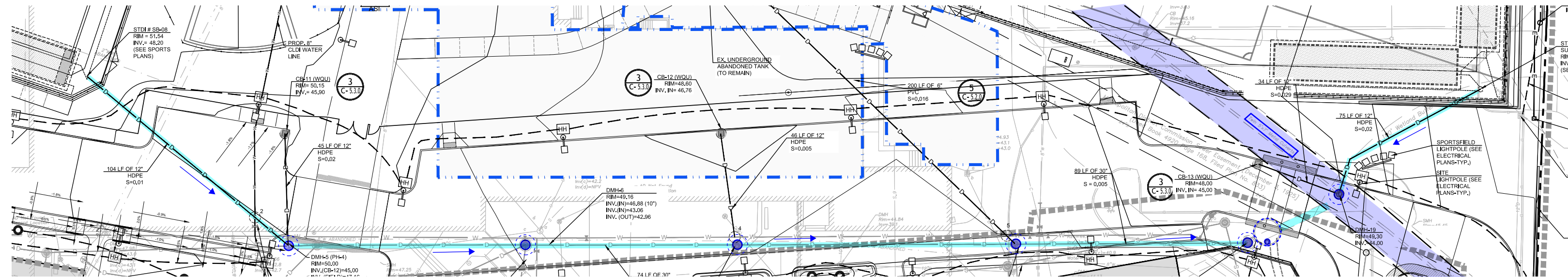
AHS  
synthetic turf  
drainage  
information



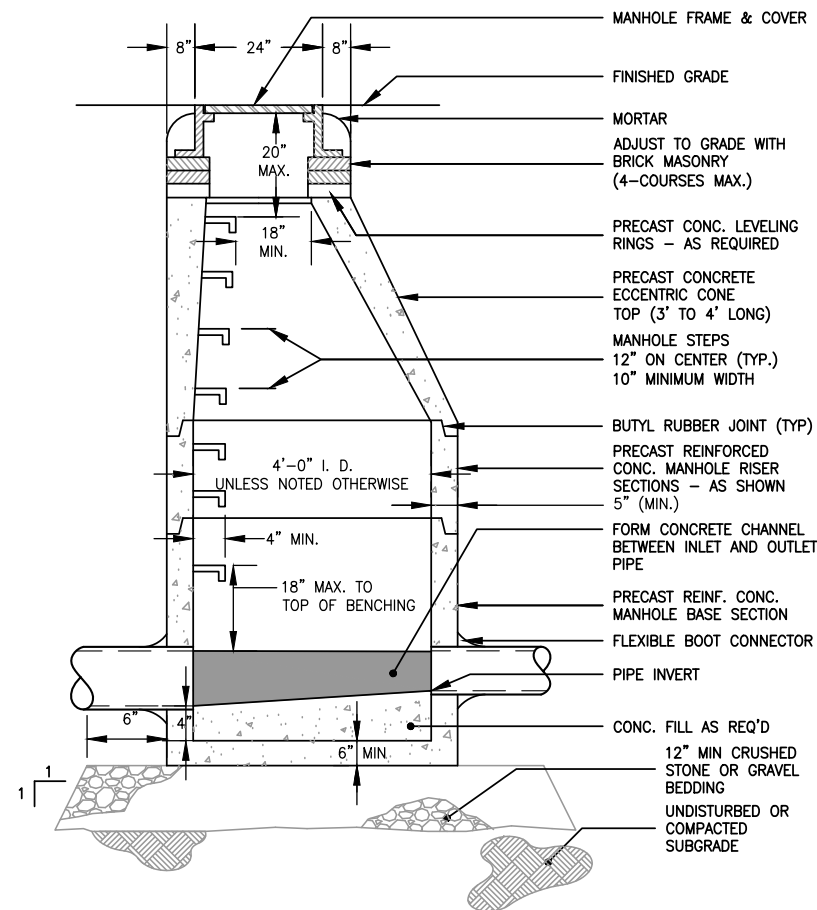


Sprinturf has the most dual fiber fields in the nation. DFE Extreme fields feature a 330 micron plus monofilament and a 120 micron plus slit film. Exclusively made in-house and in America.

The combination of monofilament and parallel-fibrillated fibers interlock to nearly eliminate infill flyout – a common complaint amongst athletes, coaches, and parents.



**Partial Plan showing the two fields (south-east corners) collection drainage tying in to site storm drainage**







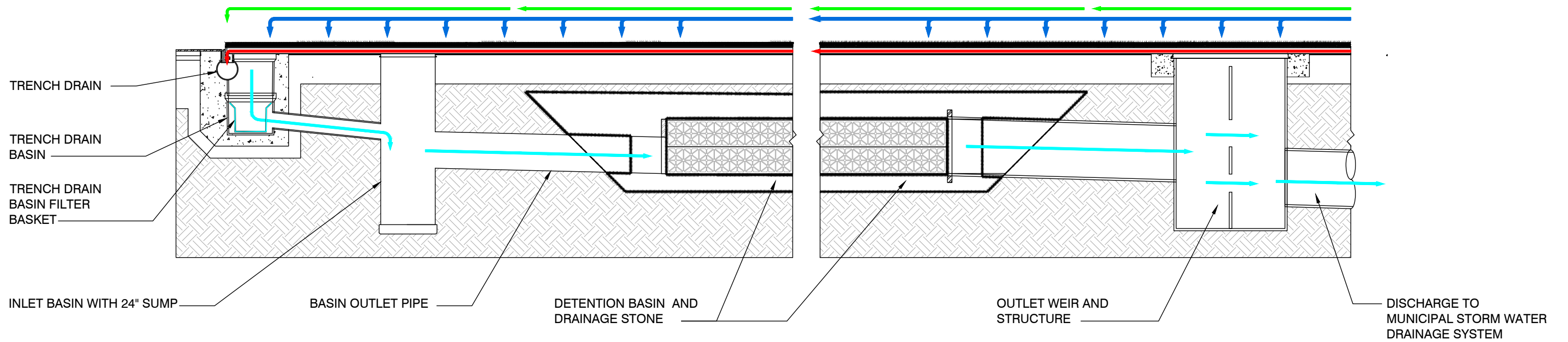
**Typical site Storm Drainage Manholes**



Appendix 3

STORMWATER MANAGEMENT SYSTEM FLOW REGIMES:

- FIELD INFILTRATION FLOW 
- FIELD SURFACE FLOW TO SLOT DRAIN 
- FLOW WITHIN UNDERLAYMENT PAD 
- FLOW WITHIN PIPING AND DETENTION SYSTEM 



SYNTHETIC TURF STORMWATER MANAGEMENT SYSTEM DIAGRAM

Appendix 4

This is what is priced as an alternate for the athletic fields (\$430,200)

*USGreentech*

# THE PERFORMANCE YOU'VE ALWAYS WANTED.

The last infill you'll ever need.

**envirofill**  
SPORTS



# THE TURF INFILL CHAMPION

## Maximum Playability

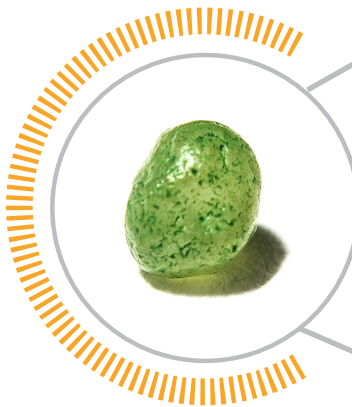


“ A safe, long-lasting and high-performance infill that looks, feels and plays great. ”

- Lisë Reid CPSI, Parks Director

**Envirofill®** is the new approach to building firm, fast and safe fields. It's tough enough for any game and players love it for its safety and performance. **Envirofill** has been made in Texas since 2005 from non-toxic components and is backed by a 16-year warranty.

## Benefits



- **Maximum playability.** Athletes benefit from Envirofill's firm, fast, and safe surface. Its highly-rounded quartz core resists compaction so the surface plays consistent.
- **Low maintenance.** Envirofill is field-owner friendly. It is free of watering, doesn't require frequent top-off and eliminates stress. These factors and more make it the infill of choice for facilities that want to focus on game time strategy rather than costly field recovery.
- **It's cleaner.** Microban® antimicrobial protection is infused into Envirofill during the manufacturing process to help prevent the growth of bacteria, mold, and mildew that can cause stains, odors, and product deterioration.
- **It's reusable.** Because of its superior durability, Envirofill can be repurposed for multiple turf lifecycles with no decrease in performance.

Envirofill's exclusive partnership with Microban provides an added level of antimicrobial protection for the lifetime of your infill.



[www.envirofillinfill.com](http://www.envirofillinfill.com)

Contact us today at: 800.548.0402

**USGreentech**

**envirofill**  
SPORTS



**ENVIROFILL TECHNICAL DATA SUMMARY**

Envirofill is an acrylic-coated, round sand infused with Microban technology that is used as synthetic turf infill in sports systems.

**PHYSICAL PROPERTIES**

	Bulk Density	Size Range	Specific Gravity	Mohs Hardness	Sphericity	Roundness	Angle of Repose
<b>Envirofill 12/20 (Green, Tan)</b>	100 lbs/ft <sup>3</sup> (1601 kg/m <sup>3</sup> )	>95% retained on 12-20 sieve (1.68mm - 0.841mm)	2.65	7	0.6+	0.6+	30°

Packaging: 3,000lb (1360kg) supersacks. Also available in 50lb (22.7kg) bags, 62 bags per pallet.

**100% MANUFACTURED IN THE UNITED STATES WITH KNOWN AND VETTED COMPONENTS.**

**ENVIRONMENTAL PERFORMANCE\***

Heavy Metal Analysis			PAH Review	Carcinogenic Review	Human Health Risk	Flammability	
ASTM F3188 (US Heavy Metal Test)	EN71-3 (European Toy Standard)	CAM17 (California Title 22 Metals)	Polycyclic Aromatic Hydrocarbon Analysis	California Prop 65	California Office of Environmental Health & Safety	Pill Burn	Radiant Panel
PASS	PASS	PASS	NONE DETECTED	CERTIFIED EXEMPT FROM LABELING	PASS	PASS	NFPA CLASSIFICATION: 1

**PERFORMANCE**

**Recommended System Performance Data**

**Turf:** Monofilament / slit film 1.625" | 46oz face weight | 17oz slit, 22oz monofilament, 7oz thatch

**Infill:** 7.0lbs± Envirofill

**Pad:** ProPlay 23, Brock SP14+

**Performance Data\* (as reported by SportsLabs Report No 91900/2062)**

	Force Reduction (%)	Vertical Deformation (mm)	Energy Restitution (%)	355A "Flat" Gmax	Critical Fall Height (m)	Rotational Resistance (Nm)	Ball Rebound (m)	Infiltration (in/hr)	Abrasion Index
Score:	63	7.3	33	108	1.3	43	0.93	97	20.3
Desired Range:	57-68	4-11	-	85-125	>1.3	27-48	0.6-1.0	>7	<35

Test results above were conducted with ProPlay 23 over concrete.

\* Formal results for these tests are available upon request.



# INFILL GROWN BY MOTHER NATURE.

Peace of mind for everyone.

**safeshell**<sup>®</sup>



# A NATURAL PRODUCT. That's Also Low Maintenance.



## Why Safeshell®?

**Safeshell** is a naturally occurring product from the farms of America! It has a rich earth tone color and is allergen free. **Safeshell** is used with a **Round Raw Sand Ballast Layer** and has evaporative cooling properties, keeping your playground cooler. It also has an 8-year warranty when used with a recommended infill system.

**Safeshell** is the low maintenance organic infill option made of 100% USA-grown walnut shells. **Safeshell** is a patent-pending infill crafted from a blend of well-rounded Black walnut shells and English walnut shells.

## Benefits



● **Cooler temperatures.** Safeshell absorbs water with minimal expansion and releases it slowly over time to keep surfaces cooler. No water? That's okay. A Safeshell system is still cooler than traditional infill.

● **Organic.** With Safeshell you get peace of mind that your infill is made from wild-grown and food-grade components. One less thing Moms need to worry about.

● **Low maintenance.** Safeshell offers all the benefits of an organic infill without the added maintenance. It doesn't float and stays in place even on active areas.

● **Safe.** We use a chemical-free process that eliminates residual allergens which remain on the shell after separation of shell from nut. This patent-pending process reduces allergens by 99.9% which is below the FDA limits for allergen-free foods. We partner with an ISO-certified, third-party lab to constantly verify the results.

Safeshell is 100% natural and domestically-sourced walnut shells.



[www.safeshellinfill.com](http://www.safeshellinfill.com)

**safeshell**®



# EVERYTHING YOU LOVE ABOUT A NATURAL INFILL.

Developed with athletes' comfort in mind.



**Safeshell SmoothPlay™** is a low maintenance natural infill option made of 100% USA-grown walnut shells that is cooler with less friction and high durability. Due to its fine granular size, it settles easily into dense turf systems, and is recommended for soccer, baseball, and American football.



**Reduced friction.** Designed with a smaller granular size resulting in a less abrasive surface. Abrasion is reduced by up to 42% compared to traditional crumb rubber and sand systems.

**Cooler temperatures.** Excels at evaporative cooling - the key to a cooler playing surface. Safeshell absorbs water with minimal expansion and releases it slowly over time to help keep surfaces from heating up. No water? That's okay, even dry, Safeshell plays cooler than crumb rubber.

**Low maintenance.** Stays in place and doesn't change in hot or wet climates. SmoothPlay is 2-3x heavier than other natural infills, helping it stay in place under intense play. It doesn't float which helps keep migration to a minimum and will play the same wet or dry.

**Naturally durable.** The most durable natural infill, Safeshell SmoothPlay, is made from one of the toughest shells on the planet, reducing product degradation. With its 8-year warranty and limited top-off, Safeshell SmoothPlay helps reduce the cost of ownership and keeps the athletes happy.

**safeshell**  
SmoothPlay™

**PERFORMANCE IS BUILT**

# SEE HOW IT PERFORMS

## SAFESHELL SMOOTHPLAY TECHNICAL DATA SUMMARY

### PHYSICAL PROPERTIES

	Bulk Density	Size range	Specific Gravity	Allergen level	Micro-Deval ASTM D6928-10	Absorption ASTM C127	Roundness
<b>Safeshell SmoothPlay</b>	38 lbs/ft <sup>3</sup> (0.61 g/cm <sup>3</sup> )	18-40 (1.0mm - 0.42mm)	1.25	Non detectable	3.7%	43.89%	0.6+

Packaging: 2,000lb (907kg) supersacks.

### PERFORMANCE

#### System Performance Data

**Turf:** Monofilament / slit film 1.75" | 46oz face weight

**Infill:** 5.0lbs± Round Sand | 1.5lbs± Safeshell SmoothPlay

**Pad:** ProPlay 23

	Force Reduction (%)	Vertical Deformation (mm)	Energy Restitution (%)	355A "Flat" Gmax	Critical Fall Height (m)	Rotational Resistance Wet/Dry (Nm)	Ball Rebound (m)	Infiltration in/hr	Abrasion Index
<b>Score:</b>	59	7.7	38	109	1.33	41	0.95	35	13.8
<b>Desired Range:</b>	57-68	4-11	<35	85-125	≥1.3	27-48	0.6-1.0	≥14	-

Tests were conducted with ProPlay 23 over concrete.

\* Formal results for these tests are available upon request.

### INFILL RATIO RECOMMENDATION

1-1.5lbs Safeshell SmoothPlay per square foot with 16-30 round sand ballast

Safeshell SmoothPlay is a 100% natural and domestically-sourced walnut product.



**safeshell**  
SmoothPlay™

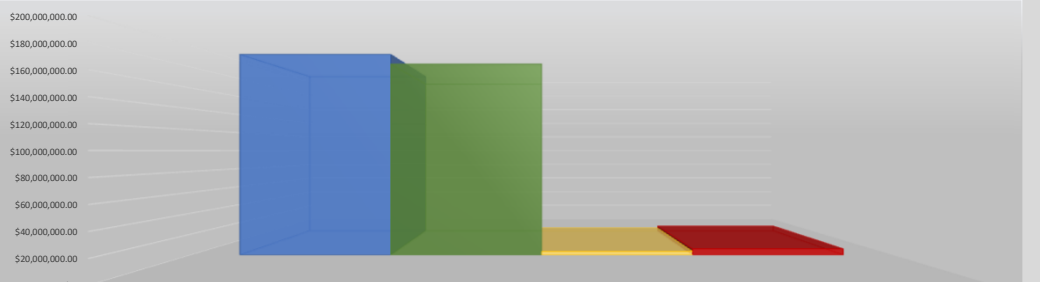


## FINANCIAL

### Change Order & Contract Status

Original Contract Amount:	\$ 234,562,347.00
Previously Approved Change Orders:	\$ 3,678,852.00
Current Contract Amount:	\$ 238,241,199.00
Verbally Approved Changes:	\$ 502,440.00
Submitted Changes:	\$ 519,678.00
Pending Changes:	\$ 286,113.00
Total Potential Changes:	\$ 1,308,231.00
Projected Contract Amount:	\$ 239,549,430.00

### Billing Status



Billed to Date	\$ 192,085,650	Retainage Held	\$ 3,365,116
Paid to Date	\$ 182,822,181	Amount Outstanding	\$ 5,898,353

### Allowance Status

Original Allowance Budget	\$ 4,321,945.00
Expended to Date	\$ 3,689,399.00
Remaining Allowances	\$ 632,546.00

### Holds Status

Original Holds Budget	\$ 626,664.0
Expended to Date	\$ 163,829.00
Remaining Holds	\$ 462,835.00

### Contingency Status

Original Cont. Amount:	\$ 6,967,419
Expended to Date	\$ 6,186,334
Remaining Contingency:	\$ 781,085

### Procurement Overview

Percent Complete:	100.0%
Buyout Savings / (Bust)	22,853
Buyout Savings / (Bust) %	0%

## EXECUTIVE OVERVIEW

- Phase 3 demolition was completed in early February. J.Derenzo/Keller mobilized at the end of January for pre-excavation and PIFs installation which is scheduled for completion in early March. Bldg. A concrete foundations are set to begin in March.
- PH 2 punch list completion continued in February for Bldg. B/C2. Significant portion of open items complete over February Break. Currently, overall punch list totals: (75) open items, (48) items ready for review. Subcontractors will continue to finalize punchlist over the schools Good Friday holiday and April Vacation.
- Decisions required. A) District to provide direction for Phase 3 Super Graphics & Signage for formal issuance of design files in order to produce submittals, procure/release materials. B) Design for west parking lot PV.
- As of the 2/28/24 Schedule Update, Phase 3 TCO is currently on schedule for February 2025 turnover. Phase 4 and overall project completion are currently on schedule, and new fields are on track for use at the return of the Fall 2025 school year.

## SCHEDULE

### Project Milestones

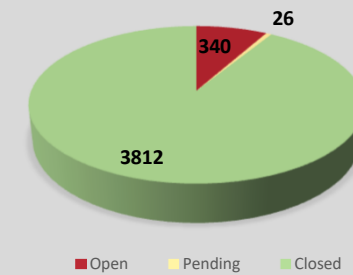
Milestone	Target	Actual	Variance
Completion of Phase 1 (Temporary Certificate of Occupanc	2/11/2022	2/11/2022	0
Completion of Phase 1 - Auditorium (TCO)	4/4/2022	4/14/2022	0
Completion of Phase 2 - B & C2	10/30/2023	10/30/2023	0
Complete Link and Connector Demo	12/1/2023	12/1/2023	0
Completion of Phase 2 - PreK	12/15/2023	12/15/2023	0
All Demo & Abatement Complete (Phase 3)	2/6/2024	2/6/2024	0
Underslab MEP Complete - Building A	4/24/2024		0
Deck & Detail Complete (Building A)	6/13/2024		0
Completion of Phase 3	12/16/2024		0
Completion of Phase 4	10/20/2025		0

### Roadblocks

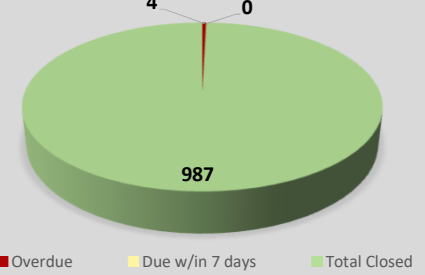
Item	Ball In Court	Due Date
#2024 - RFI-308.2 - Ph 2 + 3 Signage Decision & Design	HMFH	10/9/2022
#2037 - Ph. 2 + 3 Dedication Plaques Design	HMFH	10/9/2022
#2038 - RFI-308.2 - Room Naming Design	HMFH	10/16/2022
#3416 - PV Design for West Parking Lot	HMFH	11/25/2023

## QUALITY

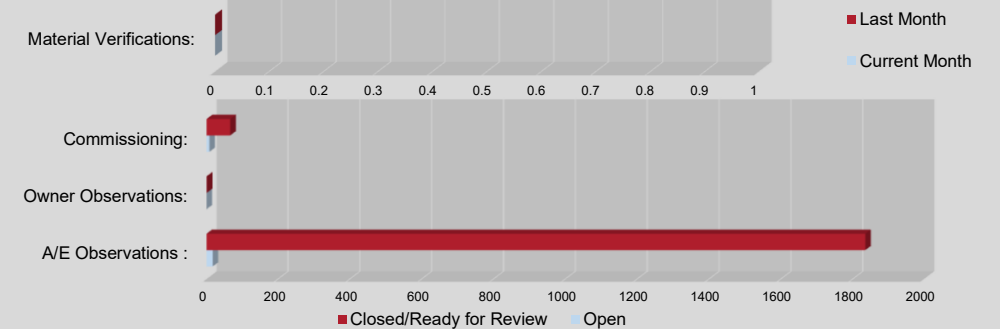
### Construction Submittal Status



### RFI Status



## Observation Review



### Safety Update

Current Project Safety Score:	98.9%
Total Man Hours to Date:	744,904
OSHA Recordables to Date/Month:	2/0

### Workforce Utilization Reporting

Minority Participation	24.5%
Women Participation	3.8%

## PROGRESS PHOTOS





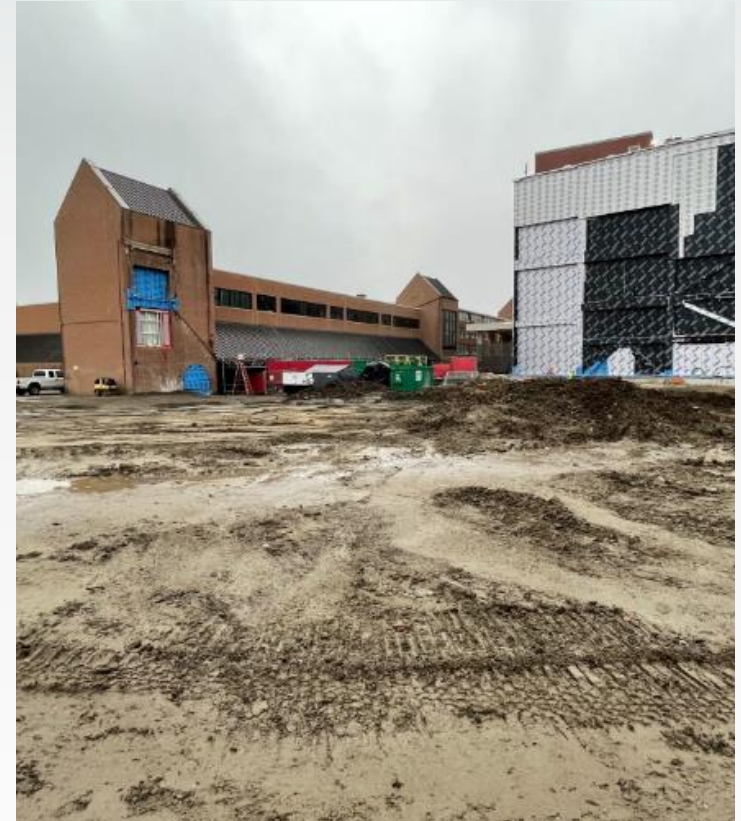
# Arlington HS – February Progress Photos



Overall Site– Drone (PH 3)



# Arlington HS – February Progress Photos



Phase 3 Site Prep + PIF Mobilization

# Arlington HS – February Progress Photos



PIF Installation Ongoing (PH 3)



# Arlington HS – February Progress Photos



Bike Ramp Survey

# Arlington HS – February Progress Photos



Permanent Fencing Installed at Pre-K (PH 2)

**Arlington High School Building Committee**  
Minutes

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**Meeting Date:** Tuesday, February 6, 2024, 6:00 p.m.  
**Location:** Conducted via Remote Participation

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Jeff Thielman, School Committee Representative, Chair  
Elizabeth Homan, Superintendent, Co-vice chair  
Jim Feeney Town Manager, Co-vice chair, absent  
Alex Magee, Deputy Town Manager  
Kirsi Allison-Ampe, School Committee Representative, absent  
Francis Callahan, Community Member Representative  
John Cole, Permanent Town Building Committee  
Tobey Jackson, Community Member Representative  
Matthew Janger, AHS Principal  
Ryan Katofsky, Community Member Rep  
Brett Lambert, PTBC Representative  
Kate Loosian, Community Member Representative  
Michael Mason, APS Chief Financial Officer, absent  
William McCarthy, AHS Assistant Principal  
Judson Pierce, Community Member  
Paul Raia, Disabilities Commission Rep  
Rob Behrent, Facilities Dir, Town of Arlington  
Amy Speare, Community Member Representative  
Shannon Knuth, Teacher Representative  
Kent Werst, Teacher Representative, absent

Jim Burrows, Victoria Clifford, absent, Sy Nguyen, Jessica Mendez, Skanska  
Lori Cowles, Arthur Duffy, absent HMFH Architects, Inc.  
John LaMarre, Chris Weber, Consigli  
Karen Fitzgerald, AHSBC Recording Secretary

Mr. Thielman opened the meeting at 6:01 p.m.

Skanska Update

Project Adventure proposal Approval

The proposal for the Project Adventure had been reviewed and discussed at the last Finance subcommittee meeting and tonight they are recommending approval from the full AHS Building Committee for the climbing wall and issues a purchase order for the amount of \$175,996.75.

Frank Callahan had missed the last meeting but asked how this came up as proprietary, and why Project Adventure is the only company that can do this for Arlington. Lori did say that the Director of Wellness asked for them and Matt Janger agreed and said since Arlington has worked with Project Adventure before and we have this equipment in other schools, they can



maintain it, are able to provide service for the equipment, and provides curricular for us, this is a top rated long standing company. After the discussion the following motion was made:

On a **motion** by Matt Janger, seconded by Ryan Katofsky, it was moved to approve Project Adventure's proposal for the climbing wall and issue a purchase order for the amount of \$175,996.75.

Roll Call: Liz Homan, Yes, Alex Magee, Yes, Frank Callahan, Yes, John Cole, Yes, Tobey Jackson, Yes, Matt Janger, Yes, Ryan Katofsky, Yes, Brett Lambert, Yes, Kate Loosian, Yes, Judson Pierce, Yes, Rob Behrent, Yes, Amy Speare Yes, and Jeff Thielman, Yes. Unanimous

#### ◆ Synthetic Turf Update

Jeff Thielman said the Conservation Commission voted to grant the AHSBC a one-year extension of an Order of Conditions for the turf surface of the fields in August 2023. The Conservation Commission requested that the AHSBC look at alternative fills and report back by no later than August 4, 2024. The project has a deadline of purchasing infill for the fields of approximately June 30, 2024.

It was noted that the project already has contracts with the materials and procured drainage for the field turf and had a plan in 2020 for a synthetic turf and it was approved. Many of the materials associated with the turf fields have already been purchased, which limits potential changes in the surface. The AHS Building Committee will appear before the Conservation Commission this spring (date to be determined) to discuss details of the sports field drainage from the turf to minimize infill runoff to Mill Brook, the water resource under the authority of the Conservation Commission.

HMFH provided graphics and explained the design of the drainage system, and the firm showed steps being taken to prevent the run off from the turf fields from entering Mill Brook. The committee does not have any alternative infill proposal that it recommends at this time and any change would necessitate usage of the project's contingency funds.

Work on the fields must commence in the summer of 2024. Jeff indicated that he will be meeting with the design team to prepare for a meeting with the Conservation Commission this spring to show how the drainage system works and to restate the reasons why the AHSBC voted for the synthetic turn infield fields. Jeff, Jim, Liz and Alex will meet set up a separate meeting and go through the findings with the Chair and the committee will explain the data and why Arlington went in this direction, the process and the design to the Conservation Commission.

#### Consigli Update Schedule Update

- Phase 3 demolition continued through January. Demolition of the FUSCO building structure has been completed. Ongoing existing building slab/foundation removal is ongoing and set to be complete by 2/9/24. Haul out of material will continue into February.
- J.Derenzo/Keller mobilized at the end of January (1/29) to start work of Temp SOE. Pre-Ex will start to take place in early February.



- PH 2 punch list completion continued in January for Bldg. B/C2. Significant portion of open items complete over MLK Day. Currently overall punch list totals: (188) open items, (77) items ready for review. Subcontractors will continue to finalize punch list over the schools February Break.
- Decisions required. A) District to provide direction for Phase 3 Super Graphics & Signage for formal issuance of design files in order to produce submittals, procure/release materials. B) Design for west parking lot PV. C) Design for EV Charging Meter
- As of the 1/25/23 Schedule Update, Phase 3 TCO is currently 2/14/25. While phase 3 turnover was shifted from December 2024 to February 2025, Phase 4 and overall project completion are currently on schedule, and new fields are on track for use at the return of the Fall 2025 school year.

Subcommittee Reports

Communications - Amy spoke on a successful AHS Open House on January 20<sup>th</sup> with over 2,000 visitors. ACMI provided a short video on spaces and is on our website. Need to set up meeting.  
 Finance – Alex said the committee meet on January 11 reviewed Payments, change orders and all approved.  
 Interiors, Landscape & Exteriors – Interiors subcommittee needs to set up meeting.  
 Memorials – Bill found 1932 School Committee files and Amy is interested in reviewing that for her blog.  
 SMEFPF - no report.  
 Security and Temp Use-Phasing - no report.

Meeting Minute Approval

Approval of AHS Building Committee minutes of 1/9/2024.

On a **motion** by Kate Loosian, and seconded by Amy Speare, it was voted to approve the minutes of January 9, 2024.

Roll Call: Liz Homan, Yes, Alex Magee, Yes, Frank Callahan, Yes, John Cole, Yes, Tobey Jackson, Yes, Matt Janger, Yes, Ryan Katofsky, Yes, Kate Loosian, Yes, Bill McCarthy, Yes, Judson Pierce, Yes, Rob Behrent, Yes, Amy Speare Yes, and Jeff Thielman, Yes.

New Business

None

Adjournment

On a **motion** by Kate Loosian, and seconded by Amy Speare, it was voted to adjourn the meeting at 6:58 p.m.

Roll Call: Liz Homan, Yes, Alex Magee, Yes, Frank Callahan, Yes, John Cole, Yes, Tobey Jackson, Yes, Matt Janger, Yes, Ryan Katofsky, Yes, Kate Loosian, Yes, Judson Pierce, Yes, Rob Behrent, Yes, Amy Speare Yes, and Jeff Thielman, Yes.

Respectfully submitted by  
Karen Fitzgerald, Executive Assistant and AHSBC Recording Secretary  
3/1/2024JT