DATE: Dec. 17, 2020
TO: Chris Huntress
FROM: Alex Elvin
RE: MVC follow-up questions to HAI/MVRHS responses dated May 26, Nov. 13, Dec. 2, and Dec. 12

**MAY 26 RESPONSES**

(9) Is the high school currently using best maintenance practices?

Response: The standards for Best Management Practices for Athletic Field Maintenance vary widely depending on the resources used as a reference. To that end, STMA (Sports Turf Manager's Association) announced on May 15, 2020, that they are beginning to prepare a recommended "Best Management Practices Guideline for Athletic Field Maintenance." Their guidelines are expected to be released next year. We would be happy to answer any specific questions regarding the existing maintenance of the athletic fields. We have asked Mike Taus, Director of Facilities, to join one of our upcoming discussions regarding your review of the submitted DRI application.

Questions for MVRHS Facilities Director Mike Taus: What best management practices is the high school currently using for the maintenance of its natural grass fields? Assuming proper construction of the fields and adequate budgeting for maintenance, are there different management practices that would allow the fields to withstand greater usage? If so, a) what are those practices, b) how much more field use could they allow per year, and c) why does the school not use them currently? Does the high school maintenance staff have adequate training to apply the proposed BMPs?

(16) How will fertilizers for the grass field be controlled so as not to negatively impact users or the environment?

Response: The following is the fertilization program as outlined in the Turf Field Annual Maintenance Plan included in the Athletic Field Master Plan and provided to the MVC as part of the DRI submission (…)

If nitrogen is applied at the rates specified in, and otherwise in accordance with, the Island fertilizer regs, how much of that nitrogen is typically absorbed by the field, and how much goes into the groundwater? If fertilizer-grade urea cannot be applied to the synthetic turf field to melt ice, what is proposed to be applied to enable the field to be used in freezing temperatures?

(20) Will user fees for community use of the athletic facilities increase as a result of the project?

Response: MVRHS has a current policy applicable to the use of all of its facilities, including payment of a user fee. Said fees can be an essential revenue source, which can help cover the maintenance costs for its facilities. For example, user fees charged to groups using the Performing Arts Center are used to pay for that facility's maintenance costs. The MVRHS School Committee reviews these fees and policies regularly.

Question for MVRHS: Please provide the current fee schedule, and explain how the fees might increase after the project is completed.

(25) Are there more head and knee injuries with artificial turf than natural turf?

Response: Injury rates to both head and lower extremities have been studied extensively in the US and abroad. Depending on the source, I could provide you with dozens of studies that show synthetic turf or grass to be considered a safer playing surface. The following is a link to the Penn State Center for Sports Surface where you can find 51 independent studies regarding player safety. (…)

What are the concussion rates for the proposed system?

(26) Will the synthetic field get hotter than a typical grass field? Please provide details.

Response: According to Penn State Center for Sports Surfaces synthetic turf can get 35° to 55° F (20° to 30° C) hotter than natural grass. These studies were conducted on synthetic turf using SBR Crumb rubber as an infill product. As mentioned in response #13, the multi-purpose synthetic turf field proposed for MVRHS will include a natural, organic infill product called BrockFILL. One of the many advantages to using an organic infill product is the infill's natural properties hold and retain moisture, providing considerable temperature reductions when compared to traditional SBR rubber infill turf fields. In testing provided by the manufacturer, the BrockFILL field measured 33 degrees cooler than a traditional crumb rubber field. Plus, the lower thermal conductivity of BrockFILL reduced heat transmission through shoes and skin. The difference is even greater after a rain. Please refer to the attached BrockFILL brochure, including information on heat reduction, for additional information. MSDS sheets and physical samples have been sent to your office under separate cover.

Assuming a clear, hot summer day, what is the range of how much hotter the proposed synthetic turf would be, compared to natural grass turf? Please note the assumptions underlying your answer.

**OCT. 26 RESPONSES**

(8) Provide a field disinfection plan that meets new Covid response protocols and follows manufacturer guidelines. (Provide sign-off from manufacturer?)

Response: Our recommendation for a synthetic turf field disinfection program follows the recommendations of the CDC, and is further detailed in our September 28, 2020 response to question 3c from your peer review agent, Horsely Witten. Also, attached you will find a response form Greenfields USA regarding their review of our specific recommendations for disinfection of the proposed field.

Please specify which cleaning and disinfection chemicals/products will be used for spot-cleaning the field. Are there studies showing that rain water is enough to ward off bacteria like MRSA?

**NOV. 13 RESPONSES**

(3) Is there currently a licensing agreement between HAI and the high school, or between Daedalus and the high school? If so, please provide a copy.

Response: Neither my office, nor Daedalus, have a licensing agreement with the MVRHS.

Question for MVRHS: Please provide whatever written agreements are in place between the MVRHS and each of HAI and Daedalus.

(5) If later phases of the Athletic Field Master Plan do not proceed (or only proceed after a number of years), what are the implications for the Phase 1 project, in terms of usage, costs, field overlap, usability of remaining fields, etc.?

Response: There are no implications to the phase one plan costs should later phases not be constructed. The usage numbers provided on July 15, 2020 are calculated to be at the end of phase one construction. The overlap and usability of the remaining fields are shown on the overall campus circulation plan dated June 2, 2020 submitted to the MVC on June 5, 2020.

What would be the implications, in terms of usage and the quality of the synthetic field and field #2, if future phases of the master plan are not completed?

(6) Please clarify whether user fees will apply to field use by non-MVRHS students, and provide a copy of the current field use policy.

Response: According to Mr. Richard Smith, Assistance Superintendent, MVPS has never instituted fees for participation in MVRHS athletics and does not intend to do so based on the proposed construction. Community organizations using our facilities are required to complete a permit application which requires the user to abide by certain conditions, as well as the payment of a reasonable user fee, in accordance with the policies established by the MVRHS School Committee. A copy of the current MVRHS Field Use Policy will be provided under separate cover.

Question for MVRHS: Is the field use policy the same as the MVRHS Student Handbook?

(18) Please describe what happens to synthetic fibers over time (from wear and tear), including at what point in their life it will occur with MVRHS projected usage. Please also provide photos of synthetic fields after a variety of years of use.

Response: Over time synthetic turf fibers can fold and lay over. The product we are offering, Ironturf by Greenfields/Tencate is a woven turf. The fibers are woven in bundles, enabling the turf to stay upright. Included in the product are the two most durable fibers in the industry, TenCate XPS and TenCate Diamond. We are gathering photos of synthetic turf fields at a variety of years of use and will submit those shortly under separate cover.

Please provide the photos of synthetic fields at various stages in their life cycles, including ones nearing end of life (these don't have to be the same products as proposed). Please comment on the effect of UV rays on the grass blades over time.

(21) Warranties and Insurance
a. Are there warranty-voiding conditions?
Response: No.
b. Provide indications of out-of-warranty costs experienced by other users.
Response: Basic grooming and regular maintenance are required during the warranty period. Please refer to question & answer #14, above for details.
c. Is there a plan for transitioning maintenance work to MVRHS staff once the product is out of the maintenance agreement AND the warranty period?
Response: Yes, please refer to question & answer #14, above for details.
d. Who provides indemnities to MVRHS, and what is their insurance coverage?
Response: The selected turf manufacturer would provide indemnities to MVRHS. The required coverages are itemized below.
e. Is liability insurance for the two options (synthetic and natural turf) the same?
Response: Yes, and MVRHS has confirmed that the construction of facilities included in Phase One will not increase their present liability coverage expenses.
As you are aware, this project will be subject to the Massachusetts Public Bid laws found in MGL Chapter 30, Section 39M. As such, our construction specifications for public bid will outline the criteria for acceptance required of any synthetic turf vendor wishing to submit their product as equal to our written specifications. The warranty requirements are contained in several specification sections within the bid documents, including Section 01 78 36 WARRANTIES, Section 32 18 23.29 SYNTHETIC FIELD SPORTS SURFACING, and Section 32 18 23.30 SYNTHETIC FIELD UNDERLAYMENT. I have attached our letter to you, dated July 28, 2020, discussing the relevant sections of the specifications that address warranties for your review and consideration. (…)

Are there separate warranties for each element of the field? Please provide documentation. Will these be personalized warranties, and can you provide examples of personalized warranties from other HAI projects?

Please provide a copy of the current insurance policy that covers the fields. Does the policy cover replenishment and/or replacement of synthetic products following a major storm? If not, where would that funding come from?

**DEC. 2 RESPONSES**

(3) Will replacement also be covered by donations?

Response: Yes, replacement can be covered by donations. Such donations can accrue over time like those revenue sources of the Performing Arts Center (PAC) or budgeted as determined by the School Committee.

Question for MVRHS: Please provide documents/confirmation that the replacement of the synthetic field will be covered by donations.

(4) How will future phases be funded?

Response: The application before you does not contain future phases. We respectfully request that all questions be focused on the scope of work contained within our application. The impact of future phases regarding funding, budgets and environmental impacts would be the subject of a future DRI review process and would be required to comply with the requirements in place at that time. The new 400m track for our students is an immediate need. MVRHS school committee members are elected, in part, to develop budgets that meet the needs of students while respecting the thresholds of taxpayers. We respectfully ask for your support in allowing us to complete the task of providing upgraded athletic facilities for our current and future students.

What are future phases of master plan Option B likely to cost over 20 years?

(5) Provide intensity factor for field use estimate.

Response: MVC's independent peer review agent, Horsley Witten, in their September 12, 2020 High School Athletic Field Case Study, recommended that we apply an "intensity factor to account for differences in field stress by sport...similar to Falmouth's weighted estimate." As an example, the Falmouth study assigns an intensity factor of 1.0 to girl's soccer, while boy's football received an intensity factor of 2.0. This is intended to show that the wear from high school football on a natural grass athletic field was twice as intense as the wear from high school girl's soccer. If we were to apply all of the Falmouth "intensity factors" to this project, we would see our annual field use hours jump from 3850 to 4976, as shown below. This represents an increase of 23% and would further indicate that the current field use is beyond the capacity of the existing natural grass fields and that the MVRHS campus could benefit from the addition of one synthetic turf surface.

Please detail all of the assumptions in the field use analysis provided. In particular, please comment on each of the points raised by Richard Bennet in his email correspondence dated March, 4, 2020, specifically his point 2.

(11) Provide a fire safety plan for the synthetic field.

Response:
A. Synthetic Turf is considered non-flammable. Greenfields/Tencate's Material Data Safety Sheets reference a flashpoint in excess of 600 degrees Fahrenheit.
B. Toxicity of smoke from a potential fire: Inhalation measures are listed as Non-Applicable, with guidance for respirators during an indoor scenario. (There would be no indoor scenario in this application)
C. Greenfields/Tencate's Material Data Safety Sheets reference the following special fire fighting procedures: Use water to cool fire exposed surfaces and to protect personnel. Wear self-contained

breathing apparatus when fighting in contained area. (As this is an outdoor athletic field, this would not be considered a contained area.)
D. The proposed eight lane running track acts as a fire break. The synthetic turf field is separated from all mature trees by the proposed 400m running track. The closest distance from the turf to the existing mature trees is 41'-6". As a point of reference, the existing fire break roads in the State Forest are 20' in width.
E. Please refer to the IronTurf Ultra Green Synthetic Turf product MSDS sheet provided by Tencate/Greenfields submitted under separate cover Alex Elvin on 11/16/20 via email.

Please reference the specific organizations and provide specific documents that conclude that synthetic turf is non-flammable. The Iron Turf MSDS states "material will burn in a fire," and combustion products contain carbon dioxide, carbon monoxide, various hydrocarbons. (Standard 29 CFR 1910.1200, referenced in response to question 1 on Nov. 13, refers to hazardous chemicals, not flammability.) Please also provide the COD FF 1-70 test results for the Iron Turf product.

(12) Breakdown of high school's 2019 annual budget for athletic fields maintenance.

Response: MVRHS spent approximately $153,649 in FY19. The MVRHS has not tracked a further breakdown of the high school's 2019 athletic field expenses.
The extreme amount of hours being programmed for high school athletics is the main reason our existing fields are failing, and not the annual maintenance program. By introducing one synthetic turf field to take over 1800 annual hours of athletic use we can significantly improve the quality of our remaining natural grass surfaces. Please refer to our November 13th response to question #4 regarding the STMA's recommended annual hours of use for natural grass athletic fields.

Question for Mike Taus: How is the high school budget for athletic field maintenance spent? Has the high school spent its entire field maintenance budget on field maintenance in the last 3 years? If not, what portion was spent?

(13) What is the cost to maintain proposed field house and other non-field facilities?

Response: The proposed field house construction is no longer anticipated as part of Phase One construction. It would be premature to estimate the annual maintenance cost of the future building until such time as a wastewater connection is designed, reviewed and approved by the Oak Bluffs Board of Health.
As the balance of the Phase One scope of work includes replacing and updating existing dilapidated facilities, we do not anticipate a significant increase in maintenance costs at this time.

Confirm that the field house is no longer part of phase one. If so, those plans would need to return to the MVC for review. Please provide an estimate for the cost of non-field maintenance for phase one.

(17) Conduct an alternatives analysis for end-of-life recycling, or other waste stream diversion.

Response: As stated in our response to staff questions dated 11/13/20, question #15, we anticipate that recycling will be an option at the end of life. The current project specifications require a $50,000 cash bond and a guarantee from the turf manufacturer that the product be recycled at the end of its useful life. Further, Joe Fields, President of Tencate America provided two (2) written letters to Adam Turner dated February 4, 2020 and October 15, 2020, each with a guarantee that the field would be recycled at end of life at either their existing recycling facility in the Netherlands, or their planned facility in the United States. I expect that MVC will place a condition on their DRI approval of the project that the synthetic turf carpet be recycled at the end of life, and that the MVC be provided with the appropriate chain of custody documentation of the entire recycling process.

We still need to see an alternative plan for disposal, which accounts for the possibility that recycling will not be an option at the end of life.

**DEC. 12 RESPONSES (HAI)**

(3) Will the current irrigation system, including a well and booster pump, be upgraded to adequately irrigate all the fields?

Response: No, not at this time. Field #2 is presently irrigated and the water supply is sufficient for our use at this time. Irrigation requirements for future fields would be sized when those future improvements are scheduled.

Will irrigation requirements for field 2 reduce the water available for irrigating the other fields? Confirm that phase 1 before the commission will have no impact on existing fields besides field 1 and field 2, with the exception of reducing their annual usage.

(14) Do PE classes include all sports and all years? (The more junior years would seem not to generate as much wear and tear.)

Response: The hours and dates for PE classes used in the Field Use Analysis include all grades at the High School. We would offer the 9th and 10th graders are very active as well as similarly sized as upper classmen; consequently they do generate the same wear and tear on the natural grass fields as the older students.

Question for MVRHS: What specific activities for PE classes take place on the fields? Does this apply to all grades and classes?

(25) What is the total estimated cost of recycling the synthetic turf field, and does that include the costs of dismantling, testing, packing, and shipping all field components? Is that cost included in the donated funds? What specifically is the $50,000 in escrow funds supposed to cover?

Response: The $50,000 escrow funds are in place to ensure the funds are available at the end of life to remove, transport and recycle the synthetic turf carpet. The cost of removal, transport and recycling is not expected to exceed $50,000.00.

What is the $50K in escrow funds intended to cover and under what conditions would funds be able to be withdrawn from the account? What entity or entities will provide the escrow funds?

**DEC. 12 RESPONSES (MVRHS)**

(1) Please detail the total amount committed by the donor, any capital costs that the donated funds will not cover, whether the donated funds are in place and if they are subject to any contingencies.

We have asked that a condition for approval be placed on this project that all construction costs be paid with private donations. This condition will alleviate any burden to our taxpayers relating to the construction costs.

Question for MVRHS: Please detail any capital costs that the donated funds will (or might) not cover, whether the donated funds are already in place, and if they are subject to any contingencies. Will the donors commit to longer term funding for the project, including replacement of the synthetic field (not just once but in perpetuity), and future phases of the master plan? Does the donor's pledge include paying for the entire $7,729,928 Phase 1 estimated cost? If not, what does it cover specifically?

(5) Relevant to financing, why did the prior Field Fund proposal to install natural turf not go forward? Are those issues still germane in light of the proposal?

The proposal did not go forward because it was terminated by The Field Fund on August 29, 2017 as indicated in their email to the Superintendent: "All previous offers, proposals or understandings of The Field Fund, Inc. are hereby revoked and withdrawn." Our application to the MVC as approved by the MVRHS School Committee is for Phase One as designed by Huntress Associates. Relevant to financing (as stated in #1), we have asked that a condition for approval be placed on this project that all construction costs be paid with private donations.

Question for MVRHS: What specific issues or concerns did the high school have with the Field Fund proposal?

**ADDITIONAL QUESTIONS (DEC. 17, 2020)**

1. Confirm that future replacement of the synthetic field will include the same infill and products. (The MVC could apply a condition that replacement needs to come back for review.)

2. Is the maintenance budget provided for the natural grass field based on the Annual Maintenance Plan dated June 8, 2020? If not, please provide an updated maintenance budget for the grass field.

3. What is the overall campus plan for usage and play? Who will use what fields?

4. Will there be written guidance to protect athletes from high temperatures associated with the synthetic field? If so, please provide an example of what that guidance might look like.

5. Please provide a cost and energy comparison of current and proposed electrical use.