



Vineyard Conservation Society

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Martha's Vineyard Commission
33 New York Avenue
Oak Bluffs, MA 02557

January 12, 2021

Re: DRI 352-M4 MVRHS Athletic Fields

Dear Commissioners,

The Vineyard Conservation Society (VCS) is a non-profit land conservation and environmental advocacy organization that has been working for more than fifty years to protect the land, water, and unique character of Martha's Vineyard. Our purpose in writing is to offer testimony in opposition to the proposed installation of artificial turf at the High School. Such a project is incongruous with the Island's demonstrated efforts to reduce plastic pollution and waste, and threatens public health, due both to its location near a public drinking water supply, and to the direct exposure of children to toxic chemicals through play.

Plastic Pollution

In recent years, VCS has made a priority of plastic waste reduction. Due to a growing public awareness of the impacts of plastic pollution, in particular on water quality, wildlife, and the marine environment, our Island has taken many positive steps to reduce its waste footprint. These range from educational efforts to change individual behavior, to the installation of water bottle refill stations, to the policy changes overwhelmingly approved by Town Meeting voters: the prohibition of the release of helium balloons, bans on disposable bottles, and the Island-wide ban on plastic shopping bags.

Against this backdrop of progress in reducing plastic pollution, replacing a natural grass field with a massive plastic carpet would be dissonant, and very disappointing. Despite its expense and the appearance of permanence, artificial turf presents plastic waste issues similar to the common disposable items our community has been working to reduce. Artificial turf fields are the single largest source of microplastics pollution in the European Union, annually contributing 16,000 metric tonnes to the global problem (European Chemicals Agency [technical report](#) on a proposed EU-wide ban on microplastics). Under normal usage, the plastic "grass" fibers gradually break down, shedding microplastics as they do. These tiny particles then enter our groundwater and surface waters – either directly through runoff, or by sticking to athletes' skin and clothes and later washed away at home. From there, the microplastics will flow on to the ocean, causing the very same problems as plastic bags, straws, and water bottles.

Waste Disposal and Recycling

Artificial turf wears out under normal usage, and periodically (every 8 to 12 years) the entire field must be ripped out, shipped off-Island for disposal, and replaced. Disposal costs are substantial because, contrary to claims from the synthetic turf industry, there is no economically viable market for recycling artificial turf. In fact, there is presently no recycling available in the USA at all, at any price. Landfilling is currently the most sustainable option, but it is expensive. (A typical field weighs 220 tons, according to the industry group.)

As has been reported by multiple news outlets, the challenge and expense of plastic turf disposal, coupled with a lack of regulation and chain-of-custody agreements, has resulted in a nationwide rash of illegal dumping and other serious environmental consequences. In Franklin, MA, rolls of discarded turf were found near the town's drinking water supply, two years after the replacement of their artificial turf field. Both the turf and the water tested positive for PFAS ([Boston Globe](#)). An investigation published in [The Atlantic](#) revealed that this kind of improvised, unregulated dumping is occurring across the USA, but also can be found in Europe (despite the presence in Denmark of the world's only recycling facility for artificial turf). In central Pennsylvania, the discovery of thousands of rolls of turf stashed on private land prompted the [York Daily Record](#) to undertake an investigation, with similar findings.

These shocking environmental outcomes are not necessarily the result of willful action by the owners of turf fields. The synthetic turf industry continues to promote claims of recyclability. These claims should be understood as highly optimistic about future developments in the industry, or, less charitably, as a deliberate greenwashing campaign to sell an unsustainable product.

Environmental Toxicity: PFAS, Lead, and other Chemical Contaminants

The contradiction with the Vineyard's demonstrated preference for reducing plastic pollution is the most clear and straightforward objection to artificial turf. However, toxicity concerns have been raised by our local community, and by scientists and environmental advocates. The potential for long-term health impacts from playing on artificial turf arise from the presence of toxic chemicals (both known and unknown), coupled with the intense level of exposure – children playing on artificial turf routinely ingest and/or inhale small pieces of the plastic grass and infill material (the small pellets that provide cushioning). In addition to the toxic components of the product itself, plastic playing fields require routine cleaning to remove bodily fluids and animal waste, and treatment with disinfectants to prevent fungal and bacterial growth.

Despite the assurances of safety from the proponents of this project, there remains ample cause for concern about chemical toxicity. Artificial turf frequently employs materials containing known carcinogens and endocrine disruptors, including lead, phthalates, and PFAS (per- and poly-fluoroalkyl substances). The industry continues to defend these products as safe and promote their widespread sale, which justifies skepticism in evaluating claims of safety regarding the present proposal. Simply put, the plastics industry (of which artificial turf manufacturers are an important part) has not earned the public trust.

Consider two worrying examples already encountered with the project before you, and what they indicate about the likelihood of future issues. First, the original plan for artificial turf at MVRHS called for the use of crumb rubber infill (shredded used car tires), a known carcinogen. Fortunately, the proponents yielded to public pressure and have now substituted a less toxic infill material. However, it is an important demonstration of the reality that, unchecked by public pressure (and the specific leverage created by this DRI review), environmental issues will be subordinated to price, convenience, and utility, and not given adequate consideration.

Second, the applicant's refusal to date to undertake more thorough PFAS testing as recommended by Horsley Witten is troubling. We find their environmental impact review, as well as the independent testimony from Jeff Gearhart (Research Director, Ecology Center) to be compelling on this point. Testing for total fluorine is both inexpensive and necessary to gain the public trust that PFAS are not present. Testing only for specific known PFAS compounds fundamentally misunderstands the environmental issues, as described in the section below.

PFAS: Confusion and Controversy

The current confusion and controversy surrounding PFAS – including to what extent a given chemical causes health problems, and whether a specific plastic product contains one chemical or another – is illustrative of the broader challenges in fairly evaluating the safety of this proposal.

PFAS are a class of chemicals used in industrial manufacturing, most frequently as stain repellents, paints, and other coatings. It is important to understand that PFAS share not just chemistry, but also physical properties. Therefore, when clear evidence emerges that a certain compound is harmful to human health (as has been demonstrated with PFOS and PFOA), the offending chemical can often be replaced by a different PFAS compound that will accomplish the same industrial purpose. New PFAS compounds (and non-PFAS alternatives, which may accomplish the same purposes, but in turn may also prove toxic) are continually being developed. In our regulatory system, if a new chemical has not yet been demonstrated to cause harm, that is sufficient to allow its use in production.

Naturally, the plastics industry touts the safety of new chemicals that are developed to replace the ones now demonstrated to be unsafe; likewise, public health and environmental advocates (including VCS) view these replacement chemicals with suspicion. We understand the lack of information on new, and often undisclosed, chemicals presents a dilemma for decision makers. What we urge, though, is that assurances of safety from the turf industry should be met with skepticism.

Climate Change

Artificial turf contributes to greenhouse gas emissions, both during its manufacture and disposal. Less obviously, the gradual environmental breakdown of the plastic fibers does as well. There is [emerging research](#) indicating that this previously unaccounted for source of emissions may be substantial. Just as the replacement of natural grass with plastic is incongruous with the Island's efforts to reduce plastic pollution, disregarding its climate change implications would be surprising – especially given that climate change education is a central part of the High School curriculum.

Looking Forward: Economic and Environmental Sustainability are Linked

While it is not generally within the purview of VCS to comment on our Island's education spending priorities, in this instance the environmental issues at stake are greatly magnified by the long-term financial commitment required. Once installed, a return to natural grass is likely unfeasible. For planning purposes, the MVC should assume that an artificial field is essentially a permanent structure for which the environmental impact greatly depends on future maintenance decisions.

One of the applicant's primary arguments for the necessity of artificial turf is the poor condition of the existing grass fields at MVRHS, which is due to a historic lack of funding for adequate maintenance. The proposed artificial turf field is just one element of an ambitious project to expand the MVRHS athletic facilities, and this will lead to an overall increase in maintenance costs. It is reasonable to fear that ongoing budgetary constraints in the future could result in delayed replacement of the artificial turf carpet beyond the recommended lifespan of 8 to 12 years, and/or the use of less environmentally-friendly materials at the time of replacement.

Consider just three issues that will arise at that time. First, carpets marketed as made-in-the-USA and lead-free exist, but they are more expensive than imported products containing lead. Second, the most cost-effective infill material is presently crumb rubber (and likely will be for the foreseeable future, as the supply of used tires increasingly outstrips demand). Finally, given that artificial turf recycling does not currently exist in the USA (and is unlikely to ever be economically sustainable anywhere), efforts to balance the environmental and financial costs of disposal will be controversial and unsatisfactory.

We must consider the very realistic scenario in which the once-per-decade replacement interval coincides with a time of budgetary tightening across the school system. Will funding still be available for organic infill material? Will Island voters choose to support this cost over other educational priorities, and over limiting their tax assessments? Careful consideration of these financial implications is in order before committing to a course of action that will lead to difficult decisions for decades to come.

In light of a changing climate and economy, all Islanders can agree that the future will bring challenges. Success in facing those challenges will require an acknowledgment that we are, in fact, one Island. Building a community that adapts successfully will require attention to basic principles of sustainability. The MV Commission is empowered by the state legislature to help us navigate that course, and this sports complex proposal is a good test of whether we are committed to sustainability or expedience. Much of the important discussion surrounding this issue is technical, but on this question it can be very simple. When a plastic field wears out, it is renewed by ripping up the carpet and shipping it to Asia or the closest landfill that will accept it. When a grass field wears out, it is renewed by sun, water, and carbon dioxide.

Thank you for the opportunity to comment on this important issue.

Sincerely,

Jeremy Houser
Communications/Ecologist

Brendan O'Neill
Executive Director