MASSACHUSETTS
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April 15, 2021

Dear Martha's Vineyard Commission:

The Massachusetts Chapter of the Sierra Club has been leading efforts to address the interrelated issues of climate change, toxics and plastic pollution.

The Sierra Club was founded on promoting outdoor activities in nature. However, we do not support the growing trend to install artificial turf athletic fields and related synthetic surfaces.

First, we can't keep fossil fuels in the ground if we keep using them for plastics. Second, synthetic plastic and asphalt surfaces are much hotter than grass, and will create a *heat island* for the athletes and the neighborhood. Heat island is often thought to exacerbate climate impacts of our hotter, drier summers.

This athletic complex would remove over two acres of *natural ecosystem* that sequesters carbon, and cover it with plastic and asphalt. This will result in a loss of habitat for birds, small mammals, insects, earthworms, etc. Turf is unsanitary and unpleasant to walk on compared to natural grass. Turf is often sanitized with chemical biocides, which is not required for grass and would further degrade the surrounding habitat.

The turf field and the track consist of a large number of undocumented mixtures of petrochemical plastics and chemicals of varying toxicity. All plastics are a toxic cycle throughout their entire lifecycle whether they are single-use or not.

A variety of toxic PFAS chemicals have been discovered in major components of the proposed MVRHS field. The synthetic plastic grass blades are made in part with fluoropolymers, which share the same chemistry as PFAS and are often included with them. PFAS is so problematic that this should be reason enough to reject artificial turf. The synthetic petrochemical rubber track should also be tested for PFAS.

A large typical component of turf systems and tracks is the polyurethane base. The surface of tracks is typically a rubber similar to tires, the material the Vineyard is committing to avoid as a turf infill. Tracks also typically made of styrene and other chemicals. Styrene and polyurethane are both based on benzene and highly toxic to manufacture, and are not food-grade materials. The Federal government has identified Styrene and Benzene as carcinogens.

Plastic surfaces generate non-biodegradable microplastics through mechanical action and ultraviolet radiation. Chemical leachate is also a concern for turf because so much of the plastic is in direct contact with the underlying soil. Rainwater will wash chemicals and microplastics into the soil and the storm water system. Microparticles and leachate can be

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ingested by aquatic animals and enter the human food chain. These animals include fish and shellfish which could even hurt the local fishing industry. Wind will blow plastic microparticle dust onto people and the surrounding area. Athletes, coaches and groundskeepers will be the most heavily exposed.

Each synthetic field eventually becomes over 100 tons of bulky solid waste. Plastic recycling is not really working for food packaging and is infeasible for turf and rubber tracks. Films like synthetic blades and foams in underlayment and track surfaces are extremely problematic. Polyurethane is not typically recycled anywhere. Pipes for drainage are likewise very cumbersome to recycle.

Several communities including Andover, Brookline, Springfield, Swampscott, Newburyport and Methuen have rejected artificial turf. The Vineyard has been a leader in reducing unnecessary plastics with its bag and bottle by-laws, and now needs to consider the significant negative environmental and health impacts of plastic athletic fields.

We urge the Commission to oppose this plastic field especially given the surrounding sensitive ecological areas.

Respectfully,

Deb Pasternak

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cc: Oak Bluffs Planning Board