



76 Riverview Ave.  
Noank, CT 06340

January 9, 2020

Dear Mayor Granatosky and Members of the Town Council:

On behalf of Groton Conservation Advocates, we are writing to you about the growing scientific human and environmental health concerns and cost concerns surrounding synthetic turf (ST) for school ball fields. We are aware that ST is “in” and natural grass turf is “out,” that there is significant pressure to move to ST across the country, and that ST is required for Groton to host tournaments. At the same time, we think you should know what the long-term economic and health consequences of using ST are likely to be before you decide to put ST on any more school or community fields.

As the science about ST comes in, it is not looking good. Groton recently made a major commitment to reducing plastics, for both human health and environmental reasons. Spreading acres and acres of plastic grass around Groton is not in keeping with that goal, nor is it in the Town’s long-term interest.

We want to be clear that we support building the new fields needed by the town, but those fields should be natural grass. Independent research shows that grass fields are safer and healthier for of our children and our environment.

**What Is Synthetic Turf?** Synthetic or artificial turf is a multi-layer product used as a surface on athletic playing fields, playgrounds, golf courses, and residential lawns. It typically consists of:

- A top layer of fibers usually made from nylon, polypropylene, and polyethylene designed to mimic natural grass blades.
- Infill to provide cushioning and serve as a base for the blades.
- A backing layer to which the blades are sewn.
- A drainage layer.
- Additional padding layers in some applications

### **Economic Concerns**

**Disposal is very costly and difficult** While it may appear to be cheaper to maintain, ST disposal just eight to ten years later is likely to be an expensive proposition. First, most landfills will not accept it, including the Groton Transfer Station. Second, burning what amounts to acres of plastic is a serious health issue. Third, despite being touted by the industry as a completely recyclable

alternative to grass, there are no companies in the U.S. that can completely recycle them. Denmark is the only country in the world with a ST recycling plant, and in 2019 it cost \$20,000 to send one field there for recycling. The price has risen since then and continues to rise. With no state or federal regulations on ST, the acres of turf spread across the country in the last decade or so, which now need replacement, are often illegally abandoned and left for the towns to clean up. We respectfully suggest that any contract the Town signs to accept ST should have a clause requiring a deposit of at least \$50,000 to cover the cost of disposal.

**Installation and Maintenance:** ST proponents point to the fact that while ST is more expensive to install, it has lower maintenance costs than grass. That is true in the short term. Evidence is coming in that older ST fields catch up in cost as the plastic crumbles and must be repaired and/or removed and replaced. According to the Massachusetts Toxics Use Reduction Institute in September 2016, “in nearly all scenarios, the full life-cycle cost of natural turf is lower than the life-cycle cost of a ST field for an equivalent area.”

## **Health and Environmental Concerns**

**Infill** Research on health and environmental effects of ST has focused mostly on the potential effects of crumb rubber, the most commonly used infill ingredient in ST. Communities are moving away from crumb rubber to alternative substances such as coconut and cork fibers and ground olive pits because research shows that aging crumb rubber releases many toxic substances into the atmosphere and water systems, endangering children and the environment. We understand that Groton used an alternative infill, “corkonut” or cork and coconut, in its first ST field at the Groton Middle School. This infill is a welcome improvement over crumb rubber, but studies of alternative infills are not available yet. Over time, corkonut is known to turn to dust, blow away and float readily during storm events, fouling waterways with suspended solids and nutrients. Any binders/adhesives and biocides/antifungals used on the field will also end up in our waterways.

**Top layer** Infill is not the only problem with synthetic turf. There are still acres of plastic in the blade blanket covering the infill. Research on the composition of these blade blankets and their potential health and environmental impacts is still limited, but it is well known that “microplastics are an emerging threat to terrestrial ecosystems.” Blade blankets of artificial turf are exposed to the elements and rough play for years. When UV rays beam down on plastic, they break the bonds holding the long molecular chain together. The plastic becomes brittle and breaks into lots of little pieces that enter into our groundwater, streams, the Sound and ultimately oceans, where they further degrade into microplastics.

**Toxic substances** Public Employees for Environmental Responsibility (PEER) is tracking studies of the chemicals in ST. ST is apt to include per- and polyfluoroalkyl substances (PFAs) in its composition. PFAs do not break down and bio-accumulate in people and other living creatures. Exposure to flame retardants and non-stick cookware, which contain PFAs, has been associated with cancer and birth defects. PFAs are being banned in many manufacturing processes. Two **big**

**concerns about PFAS in the turf** blades and backing are the direct chemical exposure to children and the potential for PFAS to leach off the fields into surface water, groundwater and eventually, drinking water.

**“PFAS in synthetic turf should sound alarm bells for parents and for all municipalities with these fields,”** stated PEER Science and Policy Director Kyla Bennett, formerly with EPA, noting that this is also potentially a huge liability concern for industry. **“For the health of our children and communities, we urgently need to take a hard look at PFAS in synthetic turf.”** November 2019.

**Heat** Other plastics in ST are known to leach out when exposed to ultraviolet light, heat, or natural breakdown. In fact, heat itself is a big risk factor for children playing on ST fields. A press release issued in 2018 by the National Center for Health Research, a nonprofit think tank, **revealed that an elementary school playground in Washington, D.C., reached a temperature of 170 degrees Fahrenheit, about 80 degrees warmer than nearby natural grass.** As our climate warms, what temperatures are we going to subject our children to as they run around on ST sweating and breathing in chemicals?

**Injuries** Another concern is that **an August 2019 sports medicine article** found that high school athletes were “58 percent more likely to sustain an injury during athletic activity on artificial turf. Injury rates were significantly higher for football, girls and boys soccer, and rugby athletes. Lower extremity, upper extremity, and torso injuries were also found to occur with a higher incidence on artificial turf.”

**Professional athletes** on both the U.S. Men’s and Women’s Soccer Teams view artificial turf as inferior to natural grass, both for playing quality and safety. More info **here**. In a November 2016 New England Sports Network article, Tom Brady was quoted saying he’d be “in favor of ditching the fake stuff and switching back to grass. **I think most players prefer grass.**”

We do not claim to be experts in the composition of artificial turf, but science on the subject points in one direction: Natural grass is better than synthetic turf for the safety and health of Groton’s children, athletes, and the environment. It is less expensive over the long run. We urge the Town Council to seriously consider these issues as you decide on synthetic vs. natural grass fields in Groton.

Sincerely,  
Eugenia Villagra and Liz Raisbeck  
Co-chairs, Groton Conservation Advocates

P.S. In addition to this letter, we have produced a PowerPoint presentation on the issue of ST that we would like to present to you as soon as possible. Please click on all of the underlined passages in the text of our letter; they are linked to up-to-date, full articles on ST.  
For additional reading:

**Lawsuit over artificial turf dumped into the Puyallup River in the State of Washington**

<https://mynorthwest.com/2272833/puyallup-river-turf-lawsuit/>

By Nicole Jennings October 30, 2020 My Northwest

**Huntress-made guarantees about end-of-life for field called into question.**

<https://www.mvtimes.com/2020/10/21/concerns-raised-feasibility-synthetic-turf-recycling/>

By Lucas Thors October 21, 2020 MV Times

**As fields are replaced, billions of pounds of rubber and synthetic fiber are piling up because the U.S. has no plan for disposing of this product**

<https://www.ydr.com/in-depth/news/2019/11/18/old-artificial-turf-fields-pose-huge-waste-problem-environmental-concerns-across-nation/2314353001/>

By Candy Woodall York Daily Record November 18, 2019

**Safe Healthy Playing Fields - THE PROBLEM WITH ALTERNATIVE INFILLS:**

<https://www.safehealthyplayingfields.org/the-problem-with-alternative-infills>

**Icahn School of Medicine at Mount Sinai, Children's Environmental Health Center - Artificial Turf: A Health-Based Consumer Guide:**

<https://icahn.mssm.edu/files/ISMMS/Assets/Departments/Environmental%20Medicine%20and%20Public%20Health/CEHC/CEHC%20Artificial%20Turf%20Consumer%20Guide%205.2017.pdf>

See pages 4/5 of 7 for information on infills.