Subject: BZA Case Number 20643
Date: 3-1-2022
From: Jill MacNeice jmacneice@gmail.com
To: bzasubmissions@dc.gov
cc: dpatton@hayfoot.net; friendsofthefield20015@gmail.com

Dear Chairman Hill

I am writing in strong opposition to Maret's proposal to create a sports complex in on the grounds of the Episcopal Center for Children. I am an immediate neighbor of ECC, I live at 5723 Nebraska Ave. NW, near the intersection of Nebraska and Utah Aves., a few steps from the ECC campus. I am also a Friend of the Field.

First, I would like to say that I am a supporter of ECC and its mission. And I support Maret and in its quest for another playing field. However, the planned sports complex that Maret would build, along with its intensive use throughout the day and throughout the year, imposes many objectionable conditions on the neighbors of the ECC. These include the imposition of noise, traffic, parking and safety concerns, as well as the removal of many trees,

My greatest concern, however, is extensive use of plastic turf, covering 3.7 acres of the 5 acre field. The Friends of the Field Town Hall on 2/17/22, which featured presentations by experts on the problems and dangers of plastic turf, confirmed our requirement for natural grass and underscored the reasons why natural grass is the must-have option for both the users of the field, the neighbors, for Rock Creek Park and the region beyond.

Experts who spoke at the town hall included:
- Diana Conway, JD and president of SHPFI, a Montgomery County based non-profit dedicated to educating communities about the dangers of plastic turf
- Dr. Kyla Bennett, PhD and JD, New England PEER's Director and PEER Director of Science Policy, who previously worked at EPA
- Robert Goo, environmental protection specialist at EPA.

We learned there are 5 categories of danger associated with plastic turf: including toxicity, heat, injury, it can't be recycled, and expense.

Toxicity: Substances and chemicals that cause cancers, lung disease, disrupt the endocrine system and create health problems to humans, animals, and plants, are known to be present in plastic turf. Replacing crumb rubber with natural-based infills does NOT solve this problem. This is like saying that "natural" cigarettes are safe to smoke.

Synthetic turf is a rug made from plastic, plastic is made from hydrocarbons, and hydrocarbons are volatile compounds which evaporate quickly, known as off-gassing, in the presence of sunlight and heat. To obtain the look and feel of grass, the plastic grass blades must be softened with plasticizers. Additionally, they must be stabilized to prevent photo-degradation from the sun and made non-flammable by the addition of flame retardants. Lead is added to fix the color in the plastic.

The Toxic Use Reduction Institute (TURI) at U Mass Lowell, found evidence of PFAS (Per- and Poly-fluoroalkyl Substances)— toxic forever chemicals that cause cancer, in artificial turf carpet. PFAS is used as an extrusion aid during the manufacturing process. Health effects documented for PFAS include effects on the endocrine system, including liver and thyroid, as well as metabolic effects, developmental effects, neurotoxicity, and immunotoxicity. PFAS are

also persistent for hundreds of years, bioaccumulate in plants, animals and humans, and can contaminate drinking water.

Toxic effects on neighbors
As our experts pointed out, PFAS exposure is not only a problem for the children who will be playing on the field, (See the Washington Post article: Does Playing on Artificial Turf Pose a Health Risk for Your Child?) but also for the residents in the 58 homes surrounding the field. PFAS and other toxic chemicals from the plastic carpet will get into the air, soil and water, backyards and gardens of the surrounding homes.

Users of the field may be asked to sign waivers. But the neighbors, who will have unsolicited 24-7 exposure to the toxins do not sign a waiver. The exposure will be imposed on them; they have no choice and they cannot escape it. **I consider this an objectionable condition.**

Heat: There is no doubt that plastic turf fields are hotter than natural grass. Even the manufacturers acknowledge this is a problem. That's why they tout the newer, natural infills as cooler than the infills made of crumb rubber. But just because manufacturers say their product is cooler than crumb rubber doesn't mean the plastic turf fields with natural infills cannot get dangerously hot. According to the Penn State Center for Sports Surface Research, plastic turf is hotter than natural grass because of the plastic fibers. Natural grass is cooler because grass leaves transpire — they release water vapor and evaporation causes cooling. On hot days, natural grass is cooler than the ambient temperature. Even without infill, research shows that the plastic fibers can get to 125-150 degrees. Plastic turf is consistently hotter than the air temperatures and hotter than natural grass, regardless of the type of infill.

Again, the heat island effect will be imposed on the neighbors. They did not sign any agreement for additional heat in the already hot DC summers, and did not sign any waivers. **I consider this an objectionable condition.**

Injury: The greater rates of injury on plastic turf will affect the players more than the nearby residents, but it is worth noting that It is well documented by scientific studies that plastic turf causes increased injury to players of all ages. Studies show athletes are 58% more likely to sustain an injury on artificial turf and that upper and lower extremity and torso injuries also occurred with higher incidence on artificial turf, according to a study of high school athletes published in 2021 in the Journal of Current Orthopaedic Practice. **This should be objectionable to Maret**

Can't be recycled:
Plastic turf lasts only 8-10 years. At that point, the carpet is so degraded from use, sunlight, and exposure to the weather that it is no longer safe and must be replaced. The average playing field has 40,000 lbs of plastic turf. It cannot be recycled. It piles up in landfills, and illegal dumps, tons of plastic carpet laced with toxic compounds that break down at the micro level and pollute the soil and watersheds for centuries. There are more than 13,000 plastic turf field in the country, as much as 330 million pounds of waste every year, according the the Synthetic Turf Council. This is a waste problem of global proportions, one that grows exponentially with each new field installation. **This should be objectionable to Maret, AND to the the city**

In January 2022, SB 321, a bill to require a chain of custody for discarded plastic turf, was introduced in the Maryland legislature. You might be interested to note that 2 Maret students — the very school that is pushing for installing plastic turf at the ECC field, worked on the bill.

Expense: Critics of natural grass fields claim that it is too expensive. In fact, the opposite is the case. Even a carefully maintained natural grass field is significantly less expensive than plastic turf — 30% less..

Safe Healthy Playing Fields (SHPFI) estimates the lifecycle cost for newly installed top quality grass vs synturf over 20 years as:

For Grass	For Synturf
Base cost: $400k. + Generous $50k/year for maintenance X 20 years. + Generous allocation for occasional resodding for exceptional damage--$250k over 20 years. **Total 20-year estimated cost**, with a top-quality grass field ready for use in year 21: **$1.65M**.	**Base cost: $1.2M (up to $1.6M).** + Shock-pad to mitigate Gmax-- $100k (up to $175k). + Modest $10k/year for maintenance X 20 years-- $200k. + Replacement cost at (generously) year 10 (could be year 7 –or year 3)-- $400k (up to $850k). + 2nd replacement cost at year 20--$450k. + Disposal of the original field at year 10-- $0 (if illegally) to $150k. + Disposal of 2nd field at year 20-- $0 to 150k. **Total 20-year estimated cost**, with a top-quality synturf field ready for use in year 21: **$2.35M**.

Can natural grass work on heavily used playing fields? The NFL thinks so. Half of their fields are natural grass and the press regularly reports that professional players are clamoring for more grass fields. The Baltimore Ravens installed a natural grass field in 2016 and the players love it. (see New Field Gets Rave Reviews After Stadium Practice on the Ravens website). The Maryland SoccerPlex, in Germantown has proven that with proper planning and maintenance, natural grass can be successfully used on high-use fields. with over 1,000 hours per field.

Summary:
Maret's plan to install plastic turf on the ECC grounds constitutes clear and compelling objectionable conditions on the basis of unwanted exposure to toxic chemicals and heat for the neighbors. There are 58 houses directly surrounding the ECC field, and many others within 200 feet of the property, including mine.

Again, I am not opposed to the ECC or Maret using the ECC grounds for a playing field. However, I do strongly object to the use of 3.7 acres of plastic turf because of toxic chemical and heat exposure it will impose on the neighbors. These are, by definition, objectionable conditions and the BZA should take them into consideration.

It is possible to have a natural grass field that can handle the sports usage. There are examples all around us of successful grass fields. Please hear our plea and save the neighbors from unwanted exposure to toxic chemicals and heat.

Thank you for your consideration,
Jill MacNeice