



This is the seventh in a series of articles, prepared by Chevy Chase citizens using public sources, that address the growing risks associated with artificial turf playing fields. Hazards of excessive heat and increased injury have long been documented. New findings on the extreme toxicity of PFAS in artificial turf call into serious question its continued use. Maret School plans to install nearly four acres of artificial turf for its field development at the Episcopal Center for Children at Utah and Nebraska Avenues.

7. What's worse? Plastic Turf or Pesticides and Fertilizers?

Many supporters of plastic turf make the argument that you cannot grow grass without pesticides and fertilizers. That being the case, why are the chemicals of plastic turf any worse?

The truth is, the technology of growing grass has improved, and natural, organically grown grass has been shown to provide high quality athletic fields which stand up to hard usage and can even be used in the rain. Resources are readily available online to assist in successfully growing organic grass athletic fields. The Toxics Use Reduction Institute (TURI) at University of Massachusetts at Lowell is one of many such sources: [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.turi.org/content/download/13543/206640/file/Factsheet.BuildingAnOrganicMaintenanceProgramforAthleticFields.April2021.pdf#:~:text=Organic%20field%20maintenance%20practices%20can,organic%20fertilizers%20and%20soil%20amendments.](https://www.turi.org/content/download/13543/206640/file/Factsheet.BuildingAnOrganicMaintenanceProgramforAthleticFields.April2021.pdf#:~:text=Organic%20field%20maintenance%20practices%20can,organic%20fertilizers%20and%20soil%20amendments.)

They also offer a case study of grass fields in Springfield, Massachusetts, which are organic and regularly support 1,000 hours of use per year. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.turi.org/content/download/12156/190509/file/Natural+Grass+Playing+Field+Case+Study+Springfield+MA.+June+2019.pdf](https://www.turi.org/content/download/12156/190509/file/Natural+Grass+Playing+Field+Case+Study+Springfield+MA.+June+2019.pdf)

The fields at our own nearby Germantown Soccerplex are natural grass and are also heavily used.

Establishing and maintaining a natural grass field requires soil testing, an investment in amendments, and regular maintenance including aeration and mowing. Plastic turf is much more expensive initially, and also requires routine maintenance. Numerous studies show that an organic grass field is much less expensive in the long run than plastic turf. At the end of 8-10 years natural grass will still be there, while a plastic turf field will need to be completely replaced and dumped into landfills where its toxins continue to pollute. According to cost comparisons conducted by Safe Healthy Playing Fields, the lifetime

costs of installing and maintaining natural grass is 20% less expensive than plastic turf. Their full analysis with all the details is available on their website: <https://www.safehealthyplayingfields.org/cost-grass-vs-synthetic-turf>

A few little-known facts about plastic turf maintenance:

The 'organic' infill of plastic turf is routinely treated with pesticides, as it is subject to insect damage. Weeds grow in the infill, and since the plastic turf can't be mowed, it must be treated with herbicides.

Plastic turf needs to be disinfected regularly to remove insect and animal wastes and biological matter from the athletes playing on it. In contrast, these would be broken down as a matter of course by the organisms living in natural grass.

Natural grass benefits from regular aeration, but plastic turf is also subject to compaction. Infill can be redistributed during play or washed away by heavy rains. Routine maintenance requires adding more infill. In addition, because subsurface base layers of soil are removed and replaced by pipes and layers of gravel and plastic, the field no longer has the energy absorbing properties of a natural grass field. The surface under the plastic carpet is compacted by hours of play but is not accessible for "aeration."

DC requires regular testing of plastic turf fields to measure shock absorption. In the fall of 2018, DC had to abruptly close 15 of its 52 artificial turf fields due to excessive hardness, again. The incident brought to light one of the difficulties in monitoring compaction on plastic fields. Unfortunately, unless you test every inch of the field, you might remain unaware of dangerously hard areas more likely to result in injury. <https://dcist.com/story/17/10/12/even-more-artificial-turf-fields-fa/>

Plastic turf needs to be watered. Regular watering can help redistribute the infill. It's also recommended in warmer weather, as discussed in our previous article on heat.

Maret's development at the Episcopal Center for Children site will already require extensive disruption of the existing microbiome. The field had a 35' change in grade, so leveling the site for playing fields will involve considerable earth moving. Given that, getting off to the right start with organic grass fields would be relatively straightforward. Dressing the field with a high-quality organic foundation won't add much additional disruption. Choosing organic natural grass, rather than 3.7 acres of plastic, would demonstrate environmental stewardship, and a commitment to the neighborhood.

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