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**One Montgomery Green**

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Subject: MCPS CIP: Response to Athletic fields proposal for plastic vs grass

Dear MCPS Board of Education Members and Superintendent Taylor,

Thank you for your continued leadership and commitment to ensuring that the County's investments reflect fiscal responsibility and our shared dedication to educational excellence and a safe, healthy environment for our students. Consistent with those priorities, [One Montgomery Green](http://www.onemontgomerygreen.org) strongly recommends that Capital Improvement Program (CIP) funds currently planned for the installation and replacement of artificial turf fields (synthetic turf or "synturf") be redirected toward state-of-the-art, durable natural turf systems, with remaining funds applied to other critical school infrastructure needs. Upgrading existing natural turf fields and installing state of the art grass instead of plastic on new fields are the cost-effective, immediately implementable, and environmentally responsible options for MCPS ([Cumberbatch et al. 2025](#)).

The higher, significant costs associated with artificial turf (synturf) installation, maintenance, repeated replacement plus associated disposal costs, create a substantial, on-going financial burden that competes with more urgent school system needs such as HVAC replacements, roof repairs, safety upgrades, and other critical improvements needing limited CIP funds. See the [Capital Improvements Program/Master Plan - Montgomery County Public Schools, Rockville, MD](#) and the more detailed [MCPS CIP presentation](#) for the long list of deferred capital needs competing for the same limited funds.

Notably, in addition to the initial multi-million-dollar cost of transitioning each field from grass to plastic, **MCPS faces a recurring and unavoidable expense for plastic carpet replacements** as existing synturf fields reach end-of-life. MCPS is budgeting one million dollars or more for each existing synturf replacement, at 8-10 years<sup>1</sup>, yet these mandatory **replacement and disposal costs are not included in the synturf vs. natural grass 10-year lifecycle cost analysis presented to the Board**: see the charts on slides 22-28 of the MCPS CIP presentation of the [FY 2027 Capital Budget and the FY 2027-2032 Capital Improvements Program](#). The analysis also neglects to highlight the hidden cost of the synturf fields

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<sup>1</sup> For example, in 2027 Whitman and Richard Montgomery High Schools synturf fields are proposed for replacement after eight years of use at \$1 million per field (their second replacements. How often and at what cost to MCPS have grass fields been totally renovated in that time?). The MCPS numbers show the per field synturf replacement cost increases every year from 2027-2032 at 2-4 schools per year, and will continue in perpetuity as long as MCPS has plastic fields.

incorporated into new school construction, which will also contribute to the repeated high cost of replacement and disposal at 8-10 years repeatedly over time. This omission materially understates the true long-term costs of synturf and should be corrected to provide an accurate comparison.<sup>2</sup>

Modern natural grass systems now offer improved drainage, durability, and extended playability at a much lower life-cycle cost than artificial turf. Grass fields are significantly lower cost for initial installation and more cost-stable over time because:

- Grass fields, as a living system, can be modified and enhanced over time. Plastic carpeting cannot.
- Grass turf fields do not require full-system carpet replacement and disposal every decade,

For these reasons, as well as the climate impacts, Prince George's County Public Schools Climate Action Plan recommended eliminating synthetic turf and shifting instead to healthy, climate-friendly upgraded high performance grass fields. (See: [2022 PGCPS climate action plan as approved](#)):

*“Mitigation Action 4: Transition Sports Field Surfaces to Natural Turf; Gathering information from industry experts on best practices for sustainable grass fields; Working to identify schools for pilot projects on sustainable grass field and natural turf design”*

This recommendation is both fiscally and environmentally sound and MCPS would do well to follow these recommendations as well to meet its own [sustainability goals](#) and to anticipate MCPS's own developing Climate Action Plan.

FROM SYNTURF TO GRASS: Many institutions are also now opting to return to grass after experiencing the problems of synthetic turf (including the University of Arkansas, Baltimore Ravens, University of North Carolina-Chapel Hill etc.). This transition back to grass fields is achievable for about the same price as a synturf field replacement but without the need for further expensive replacements in the future.

OTHER NON-BUDGET CONCERNS:

ENVIRONMENTAL and HEALTH HAZARDS:

In addition to its impact on the MCPS budget, synturf is also antithetical to [MCPS's sustainability and climate action goals](#), as the plastic carpeting smothers formerly vegetated land, creating heat islands, while shedding microplastics and related chemicals (including PFAS used in plastic carpet production). The argument about longer playing time means more pounding of

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<sup>2</sup> Urgent request to BOE and MCPS: For full transparency-please add two cost columns for the MCPS cost comparison at 10 years: one column for removal plus replacement and one for disposal. The per field cost is noted as \$1 to 1.5 million (more after 2027) for each worn-out synturf replacement, and approximately \$100,000 for disposal, compared to zero dollars to \$50-100k at 10 years for grass field “renovation” and zero dollars for grass disposal.

the turf and more microplastics shedding into air, soil, water and the students playing on the field. Synthetic turf is a risk to the health and safety of MCPS students due to

- the high heat of the surface - hotter than asphalt in the sun
- frequent exposure to microplastics and related chemicals.
- Injury risk due to hardness, abrasiveness and shoes getting stuck in the carpet which unlike grass turf does not give way (so on synturf, ankles and knees twist instead).

Awareness of the environmental and health hazards of microplastics is rising rapidly. The more researchers look, the more they find microplastics everywhere on earth and in human lungs, brains, and even placentas. Microplastics are delivery devices for the many toxic chemicals used in their production. Synthetic turf “wears out” precisely by shedding microplastics into the air, soil, water, and onto students’ clothing and bodies. As awareness of these issues increases, so will public concern about the use of synthetic turf. It is far better for MCPS to get ahead of this issue and invest in better grass now than face future remediation costs and liability related to plastic synthetic turf carpet systems.

Grass fields are by their nature fully biodegradable. In contrast, from a sheer waste perspective, each standard size synturf carpet (80,000-90,000 sq ft) is more than 20 TONS of tufted plastic carpeting topped by more than 200 tons of tiny infill granules (whether tire rubber, plastic or plant-based). These carpets and the infill cannot be recycled but instead get dumped or incinerated and either way build up in the environment. The industry has been claiming for decades to be on the verge of successful, responsible recycling. There is not now and has never been substantiation of these claims. In fact one long promised recycler in Pennsylvania simply disappeared leaving mountains of worn synturf carpeting behind. Possible grinding of some of the carpeting into pads to go under a synturf carpet at a facility far away by Shaw, for their carpets only, is a limited and temporary solution. Burning of the plastic carpeting (aka advanced or chemical recycling” ) produces toxic waste into air and water and is not true recycling.

For more information See a [recent analysis on artificial turf in the Journal Sustainability](#):  
And a [report by the MCPS Student Climate Action Council](#) .

One proposed conversion to artificial turf in the Capital Improvements Program (CIP), Poolesville HS, has a much higher cost than the others that are listed. We oppose this conversion from natural grass to synturf in particular because Poolesville HS sits atop an aquifer that supplies water to the farms and residences in that area. <https://www.mocogroundwater.org/>. The area’s fractured rock geology makes the aquifer more susceptible to migration of surface pollutants, such as microplastics, PFAS and other chemicals from plastic synthetic turf carpeting and infill. .

Finally re [MCPS grass fields](#): we highlight that on the consent agenda is an item to approve a request for only \$1.5 million for more than 47 MCPS grass fields including 12 high schools (some schools have multiple grass fields). **This is an alarming lack of investment equity for**

**grass fields that better serve the health and safety of all students as well as the financial health of MCPS.**

By way of solutions for more cost-effective, high performing natural fields: **We urge MCPS to convene a committee of independent experts with demonstrated experience designing and maintaining durable, high-performance grass fields.** MCPS has convened workgroups to come up with plans to pay for plastic fields over time but to our knowledge has not convened an expert workgroup to identify how to bring our grass fields into modern times.

**In conclusion, we strongly urge the Board of Education and the Superintendent to immediately halt further installation of synthetic turf fields and instead work with experts to focus available CIP funding on well-constructed, intelligently-maintained, sustainable, and cost effective natural grass fields adapted to site conditions.**

Best regards

The One Montgomery Green board

Submitted by Kathleen Michels, PhD

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## **References and Citations**

[Capital Improvements Program/Master Plan - Montgomery County Public Schools, Rockville, MD](https://www.montgomeryschoolsmd.org/departments/planning/cipmaster/) <https://www.montgomeryschoolsmd.org/departments/planning/cipmaster/>

Details are in the MCPS CIP presentation of Nov.:

[https://go.boarddocs.com/mabe/mcpsmd/Board.nsf/files/DNBKR55311CE/\\$file/FY2027%20Cap%20Bdgt%20FY2027-2032%20CIP%20251111%20PPT.pdf](https://go.boarddocs.com/mabe/mcpsmd/Board.nsf/files/DNBKR55311CE/$file/FY2027%20Cap%20Bdgt%20FY2027-2032%20CIP%20251111%20PPT.pdf)

**MCPS Grass Fields** -budget and approved contractors :

[https://go.boarddocs.com/mabe/mcpsmd/Board.nsf/files/DNCLX758728A/\\$file/Cont Apprv Bid 9706.5 Athletic Grass Field Maintenance Ext.pdf](https://go.boarddocs.com/mabe/mcpsmd/Board.nsf/files/DNCLX758728A/$file/Cont Apprv Bid 9706.5 Athletic Grass Field Maintenance Ext.pdf)

**MCPS's sustainability and climate action goals**

[:https://www.montgomeryschoolsmd.org/siteassets/district/departments/planning/fy2027/cip27\\_appendixu.pdf](https://www.montgomeryschoolsmd.org/siteassets/district/departments/planning/fy2027/cip27_appendixu.pdf)

<https://www.mdpi.com/2071-1050/17/14/6292>

**Artificial Turf Versus Natural Grass: A Case Study of Environmental Effects, Health Risks, Safety, and Cost.** I.S. Cumberbatch \*,L. Richardson, E. Grant-Bier, M. Kayali, M. Mbithi, R. F. Riviere, E. Xia, H. Spinks,G. Mills, A.R. Tuininga  
PSEG Institute for Sustainability Studies, Montclair State University, Montclair, NJ 07043, USA  
Sustainability 2025, 17(14), 6292; <https://doi.org/10.3390/su17146292>

**MCPS Student Climate Action Council-Artificial Turfs Report**, June 4, 2024, Edited: January 13, 2025

<https://docs.google.com/document/d/122zenJtbxIZa4TQwyt4MjF9dDWONpdGcQqxLxgcwdGw/edit?tab=t.0>

**Prince George's County Public Schools Climate Action Plan** as adopted recommends eliminating synthetic turf in favor of healthy, climate friendly upgraded high performance grass fields:

2022 PGPCS climate action plan as approved

[https://go.boarddocs.com/mabe/pgcps/Board.nsf/c4cf1644198dfd9986257503000d636f/1487cb0d08950f0ad85258809007b70c5/\\$FILE/PGCPS%20Climate%20Change%20Action%20Plan%20Recommendations%20-%20FINAL%20March%2015%202022r.pdf](https://go.boarddocs.com/mabe/pgcps/Board.nsf/c4cf1644198dfd9986257503000d636f/1487cb0d08950f0ad85258809007b70c5/$FILE/PGCPS%20Climate%20Change%20Action%20Plan%20Recommendations%20-%20FINAL%20March%2015%202022r.pdf)

“Mitigation Action 4: Transition Sports Field Surfaces to Natural Turf; Gathering information from industry experts on best practices for sustainable grass fields; Working to identify schools for pilot projects on sustainable grass field and natural turf design”

**PGPSC CAP UPDATE 2023:** Climate Change Action Plan Committee Mid-Year Report, January 2023.

<https://www.pgcps.org/offices/ceo/climate-change-action-plan/reports/january-2023>

**Chemical and Heat Hazards of Artificial Turf Athletic Fields and Better natural Grass alternatives**

<https://greenkidsdoc.wordpress.com/2021/01/06/chemical-and-heat-hazards-of-artificial-turf-athletic-fields/>

**Playing on Plastic-Artificial Turf Hazards and Safer Alternatives** -Collaborative for Health & Environment ;

<https://www.healthandenvironment.org/join-us/blog/playing-on-plastic-artificial-turf-hazards-and-safer-alternatives>

**Environmental Health Impacts of Synthetic Turf and Safer Grass Alternatives**

CHE\_TURI-Massey etc al... <https://www.healthandenvironment.org/webinars/96595>

Citizens Campaign for the Environment: [www.citizenscampaign.org](http://www.citizenscampaign.org); **The Problems with Artificial Turf webinar.** <https://youtu.be/w24A3Th8JDE>

Dr. Phillip Landrigan discusses Artificial Turf on School Grounds:

[https://m.youtube.com/watch?v=rT4jKG\\_88pl](https://m.youtube.com/watch?v=rT4jKG_88pl) OR [https://youtu.be/rT4jKG\\_88pl](https://youtu.be/rT4jKG_88pl)

Dr Sarah Evans on Synturf:

<https://www.greenstreetnews.org/post/toxic-turf-with-dr-sarah-evans>

Sierra Club MD: [www.sierraclub.org/maryland/synthetic-turf](http://www.sierraclub.org/maryland/synthetic-turf)

Safe Healthy Playing Fields Inc. [www.safehealthyplayingfields.org](http://www.safehealthyplayingfields.org)

See [www.synturf.org](http://www.synturf.org)