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Subject: MCPS CIP: Invest in real grass athletic fields instead of plastic, for the health and safety of students, and the fiscal health of the school system.

Dear County Executive Elrich and County Council Members,

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 strongly recommends that for the health and safety of the students and the fiscal health of the county, the nearly $73 million in MCPS Capital Improvement Program (CIP) funds currently planned by MCPS for the installation and replacement of more than 30 acres of plastic artificial turf field surfacing (aka synthetic turf or "synturf") be redirected toward state-of-the-art, sustainable, durable, natural turf systems, with remaining funds applied to other critical school infrastructure needs.

Upgrading MCPS's existing natural turf fields and installing state-of-the-art grass instead of plastic on new fields is cost-effective, healthier and safer for students, staff and community members, immediately implementable, and is the environmentally responsible option (Cumberbatch et al. 2025).

The significantly higher costs associated with plastic synturf installation, maintenance, repeated replacement and associated disposal, create a substantial, on-going financial burden on the MCPS CIP budget that competes with more urgent, long-lasting school infrastructure needs such as HVAC replacements, roof repairs, safety upgrades, and other critical improvements. 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 real grass to plastic carpeting (from $2.65 to 3.75 million), **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 replacement of each existing plastic synturf carpet , at 8-10 years[1]**,** yet these mandatory r**eplacement and disposal costs are not included in the**

[1] 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 first and second replacements respectively). How often and at what cost to MCPS have grass fields been totally

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. There are a number of problems with the data and analysis which cause an over estimate of the 10 year cost of grass and an underestimate of the 10 year cost of plastic[2].

The analysis also neglects to highlight the **hidden cost of the synturf fields incorporated into new school construction, The cost of these plastic fields is real** but is not included/ budgeted for in the CIP AND the plastic fields will also need million dollar replacements 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 a more accurate comparison.[3]

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 unlike plastic fields:

- Grass fields, as a living system, can be modified, renewed and enhanced over time, in place, as they grow.
- Grass turf fields do not require million dollar full-system carpet replacement and disposal of hundreds of tons of waste every decade as plastic fields do..

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.

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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.

[2]The analysis presumes that each of the plastic fields are being used by PE, athletics and the community on avg 3818 hours per year. That would mean each plastic synturf would need to be in use 10.46 hours PER DAY even if they were being used 365 days per year! Which of course they are not, The MCPS analysis doesn't do that per day math. Even if CUPF has them reserved over 10 hours a day, 365 days per year, that clearly does not reflect ACTUAL use. They neglect to say how they obtained the grass field use numbers.

[3] For full transparency-two cost columns need to be added for the MCPS cost comparison at 10 years: one column for removal plus replacement and one for disposal. The per field replacement cost is noted as $1 to 1.5 million (more after 2027) for each worn-out synturf (the cost for plastic carpet plus infill disposal in the past has been approximately $100,000). There is no removal and disposal cost for grass fields.

FROM PLASTIC BACK TO GRASS: Many institutions are also now opting to return to grass after experiencing the problems of synturf (including the Baltimore Ravens, University of North Carolina-Chapel Hill, University of Mississippi, University of Arkansas, etc.). The transitions back grass were reportedly triggered by player preference and made easy by a series of technical advances:1) new turfgrass varieties are adapted to diverse regional climate, soil and field conditions a, 2) new tools and techniques allow easy establishment, maintenance and re-sodding of turfgrass as well as growing it. This transition back to grass fields is achievable for about the same price as a single plastic synturf field replacement but without the need for further expensive replacements and waste disposal in the future as is needed for plastic..

OTHER NON-BUDGET CONCERNS:

HEALTH HAZARDS:
Awareness of the health hazards of micro- and nanoplastics 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, onto students' clothing and into their bodies. Proponents of synturf say that fields can be played on for longer, but longer playing time means more pounding of the turf and more microplastics shedding into air, soil, water, and 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).

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ENVIRONMENTAL HAZARDS
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), which work their way into soil, groundwater and surface water.

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 safe, well-constructed, intelligently-maintained, sustainable, and cost-effective natural grass fields adapted to site conditions.

As awareness of these many issues increases, so will public concern about the use of synthetic turf. It is far better for Montgomery County 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.

Best regards,
The One Montgomery Green Board of Directors
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References and Citations

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MCPS Grass Fields -budget and approved contractors :
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MCPS's sustainability and climate action goals
:https://www.montgomeryschoolsmd.org/siteassets/district/departments/planning/fy2027/cip27_appendixu.pdf

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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 PGCPS climate action plan as approved
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"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; **The Problems with Artificial Turf webinar.** https://youtu.be/w24A3Th8JDE

RETURN TO GRASS From Plastic:
University of Mississippi back to grass in 2016 (after 2 synturf replacements in 13 years)
http://blog.sportsturf.net/ole-miss-rebel-football-goes-back-natural-grass
The change was triggered both by player preference and by a series of technical advances that have made it easier to establish, maintain and resod turfgrass as well as grow it in shady areas.

Dr. Phillip Landrigan discusses Artificial Turf on School Grounds:
https://m.youtube.com/watch?v=rT4jKG_88pI OR https://youtu.be/rT4jKG_88pI

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
Safe Healthy Playing Fields Inc. www.safehealthyplayingfields.org
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The potential impacts of micro-and-nano plastics on various organ systems in humans
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