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**Government of the District of Columbia
ADVISORY NEIGHBORHOOD COMMISSION 3/4G**

Chevy Chase, Barnaby Woods, Hawthorne
5601 Connecticut Avenue N.W. P.O. Box 6252 Washington, D.C. 20015 3G@anc.dc.gov |
<http://www.anc3g.org> | YouTube: ANC3G

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**Resolution:
Artificial Turf Playing Fields
July 22, 2024**

SUMMARY

Given emerging discoveries regarding chemical contaminants in artificial turf and consistent with ANC 3/4G’s stated commitments to safeguard the health and well-being of our community, this resolution requests that Maret School comply with the ANC-Maret MOU by ensuring that the artificial turf product it uses at the Episcopal Center for Children be free of PFAS chemicals (per- and poly-fluoroalkyl substances). At the same time, in light of our Commission’s work on the subject of artificial turf and its applicability to the District as a whole, this resolution also advises the DC Council to review and amend the Safe Fields and Playgrounds Act of 2018 to apply its provisions to private as well as public playing fields and to include mandatory testing of all existing DC artificial turf fields for PFAS chemicals; offers to assist the Council in organizing informational roundtables for Councilmembers and District agencies on artificial turf; recommends the Department of Parks and Recreation develop more precise guidelines for play on existing District artificial turf fields during hot weather; and pledges to share relevant facts and findings from the Commission’s due diligence regarding artificial turf, PFAS, and microplastic pollutants with other Advisory Neighborhood Commissions as well as relevant DC departments and agencies to inform their own work in these areas.

BACKGROUND AND KEY FACTORS

The Chevy Chase community wants reliably playable yet safe athletic fields. Playing sports is healthy exercise, and facilitating it is important. Artificial turf and natural grass playing fields are both common across the District. Jackson-Reed High School and St. John’s College High School typify artificial turf installations. Friendship (“Turtle”) Park and Dwight Mosely Field (which Maret School helped rehabilitate and used for its sports programs from 1998-2004) exemplify sustainable grass fields. Systematic neglect of selected District grass fields by the DC Department of General Services, resulting in chronically poor conditions, has contributed to calls for artificial turf for enhanced

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playability and ease of maintenance. Whatever their relative merits, however, neither artificial turf nor grass should pose risks to the well-being of athletes or the environment.

Comparing artificial turf and grass yields mixed results. Artificial turf fields provide greater durability and playability and more consistent physical appearance over poorly constructed and maintained grass fields. The lack of knowledge or commitment to properly develop and sustain grass fields often drives the decision to choose artificial turf. However, the realities are complex. Artificial turf and grass both experience restricted play time: artificial turf when temperatures rise above 85°, grass when it rains. Both require routine maintenance. [Artificial turf needs](#) vacuuming or blowing to remove debris (after each game), raking to stand up the blades and redistribute the infill material (weekly), anti-microbial treatment to remove bacterial growth (weekly), weed control (for organic infill), G-Max testing for hardness (at least once a year), replenishment of infill material (annually), and repairs of loose seams or damage (as necessary). Grass needs mowing (1-2x weekly), irrigating (daily-weekly), aerating and fertilizing (3-4x annually), overseeding (2x annually), and weed and pest control (2x annually). Use of water to cool artificial turf to allow play during hot weather partially offsets use of water to irrigate grass. Artificial turf requires replacing every 8-10 years; grass is infinitely renewable if maintained properly. [Disposal of artificial turf](#) remains a chronic problem. Mountains of discarded artificial turf is accumulating, often in poor communities, raising equity as well as environmental issues. [Injury rates](#) are higher on artificial turf. Synthetic fertilizers and pesticides used for grass can contain chemical contaminants; however, organic grass management is an established alternative practice. All artificial turf, as a plastic substance, contains chemicals, including [PFAS](#) (the common term for per- and poly-fluoroalkyl substances). Necessary infill material used to cushion and support artificial turf can also contain chemicals, including newer varieties billed as organic that have replaced crumb rubber, which the District [banned](#) in 2017.

ANC 3/4G 02 “Turf” Town Halls confirmed the viability and advisability of grass over artificial turf. Across three events, on March 26, April 6, and May 30, 18 synthetic turf industry executives and representatives, leading scientists, environmentalists, and natural grass practitioners participated in a total of six hours of fact-based, wide-ranging discussions on the relative merits of artificial turf vs grass playing fields. The series looked at playability and safety, to inform the judgments of ANC 3/4G constituents and Commissioners alike. In the end, given the growing safety concerns related to PFAS “forever chemicals” and microplastic pollutants associated with artificial turf, the question became: Are properly designed, constructed, and maintained natural grass playing fields – including through organic turf management – a viable, sustainable, and affordable alternative to artificial turf? The answer was, yes. The video recordings, from first town hall to last, are archived at the ANC 3/4G YouTube site, specifically [here](#), [here](#), and [here](#).

Manifest neighbor feedback overwhelmingly favors grass over artificial turf. Despite the known shortcomings of poorly built and kept grass playing fields, more than 1100 neighbors have signed petitions calling for grass in the ANC, both at Lafayette Elementary School and the Episcopal Center for Children. There has been no remotely comparable outpouring of support for artificial turf in the public sphere or directed to the ANC. The neighbor feedback has come especially from two constituent groups whose interests and voices merit special consideration by the ANC: neighbors near the fields who will bear the greatest burden of their use and families whose children will play on the fields and therefore are especially concerned that they be safe.

Maret School has acknowledged the artificial turf product it plans to use at the Episcopal Center for Children contains PFAS. Maret School is constructing a [sports complex](#) on five acres of land at the Episcopal Center for Children (ECC). The school is leasing the property from ECC for ten years with the option to renew in ten-year increments for up to 50 years. Approximately four acres of the leased land will consist of a baseball field and an overlapping multipurpose sports field. Maret [informed](#) the ANC Field Task Force on January 10, 2024 that it had chosen Shaw Sports Turf as its vendor for the product it intends to use at ECC and subsequently provided spec sheets for the product and the infill. It acknowledged at the time that the Shaw product contained PFAS.

The US Environmental Protection Agency [has affirmed](#) “PFAS ... are an urgent threat to public health and the environment. The science is clear: exposure to certain PFAS poses significant risks to human health, including cancer, even at very low levels.”

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EPA's [new](#) “legally enforceable drinking water standard” for six types of PFAS [establishes a goal](#) of zero for two types, recognizing “no level of exposure to these two PFAS without risk of health impacts,” and for four other types of PFAS sets the goal at 10 parts per *trillion*.

PFAS enter the environment by leaching from the products in which they are used. PFAS leaching from a single artificial turf field will contaminate 800,000 gallons of ground water annually – per testimony by [Dr. Graham Peaslee](#), Professor of Physics at the University of Notre Dame and one of the country’s foremost experts on PFAS testing, at the ANC 3/4G 02 [town hall](#) on March 26, 2024. Maret’s two fields at ECC will thus risk contaminating 1.6 million gallons of District ground water annually.

PFAS contamination of area ground water is already the subject of District legal action. DC’s Office of the Attorney General [has sued](#) more than 25 chemical companies “for manufacturing, marketing, distributing, and selling products containing dangerous PFAS chemicals which now pollute the District’s natural resources.”

On artificial turf, players are exposed to PFAS through inhalation, ingestion, dermal absorption, and open wounds or broken skin. [Preliminary research](#) published in March 2024 by [Public Employees for Environmental Responsibility](#) (PEER) found “soccer players and coaches on artificial turf pick up toxic PFAS on their skin.” [Confirming research](#) published in *Environment International* just last month (June 2024) assessed for the first time 17 PFAS on dermal exposure and concluded “dermal exposure could be a significant source of exposure for some PFAS.” As the National Institute of Environmental Health Sciences [notes](#), in the case of environmental toxins, it often takes years to establish a direct cause and effect relationship between a particular toxin and a specific health outcome. However, study after study indicate a connection between PFAS and microplastic exposures and serious negative health hazards. In environmental health generally, risk is directly proportional to exposure. Reducing exposure is reducing risk.

Children are especially at risk on artificial turf. The Icahn School of Medicine at Mount Sinai has [detailed](#) the particular risks to children on artificial turf: “Children are uniquely vulnerable to harmful exposures from artificial turf surfaces because of their unique physiology and behaviors, rapidly developing organ systems, and immature detoxification mechanisms ... Children and young athletes breathe faster than adults, putting them at greater risk for inhalation of chemicals that off-gas from turf fields. Small children put their hands and other objects in their mouths, increasing the risk of exposure via ingestion ... Vulnerability to turf chemicals persists through the teen years as the reproductive and nervous systems continue to develop beyond the first two decades of life. Lastly, children have more future years of life over which chronic diseases linked to the chemicals in turf develop.”

Artificial turf, as plastic, presents other environmental risks, notably microplastic pollutants.

Plastic pollution has now been expressly linked to artificial turf. Research conducted in river and sea surface waters in Europe and published in [Environmental Pollution](#) in October 2023 concluded: “Until now, the concerns associated to AT (artificial turf) surfaces dealt with sociocultural aspects ... their end-of-life treatment ... the increase of urban runoff ... potential impacts on local biodiversity ... leaching of potentially toxic chemicals ... and their contribution to climate change. We can now state that the risks of impact extend also to surrounding ecosystems due to the release and dispersal of AT debris. Extensive replacement of natural land covers by AT surfaces will likely add a significant and irreparable plastic legacy to the global nature.” One artificial turf field will shed 480 pounds of microplastics per year – per testimony by Dr. Kyla Bennett Director of Science Policy at PEER in her presentation to the March 26 ANC 3/4G 02 [town hall](#). The risk is that the plastic particles will fill the air athletes and neighbors on and near the ECC fields breathe and will flow into the DC water system as well as the Rock Creek watershed.

Excessive heat associated with artificial turf creates further impacts for athletes and the environment. Penn State’s Center for Sports Surface Research has [assessed](#) heat and artificial turf, documenting synthetic turf generally runs 35-55° hotter than grass. The report explains the plastic fibers themselves are a problem as they absorb heat, compared to natural grass, which through transpiration (evaporation of water moving through plants) prompts

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cooling. The differential between the surface temperatures of artificial turf and natural grass means on 85° days, artificial turf will be 120-140°. On average since 2020, Washington has [experienced](#) 82 days of temperatures at 85° or greater and 41 days at 90° or greater. [Dr. Sarah Evans](#), Assistant Professor in the Department of Environmental Medicine and Climate Science at the Icahn School of Medicine at Mount Sinai noted in the March 26 ANC 3/4G 02 town hall that first-degree burns can occur at 118°, second-degree burns at 131°. [Heat-related illnesses](#) can include rash, cramps, exhaustion or stroke, which can be deadly. Dr. Evans cited heat illness as the number one cause of death and disability in high school athletes. The [cooling effect](#) of watering hot turf to make it playable lasts only 20 minutes. Jurisdictions vary in their restrictions on the use of artificial turf during hot weather. DC's advisory is [generic](#), calling for no use between 10 AM and 2 PM on hot days without specifying the temperature thresholds. In addition to the effects of heat on athletes' health and playability of artificial turf fields, there is the impact on the surrounding environment. PEER's Dr. Kyla Bennett noted in the March 26 town hall that the "manufacturing, installation, service and disposal of a 2-acre artificial turf field generates a total of 55.6 metric tons of CO₂ whereas natural grass would yield a net reduction of 16.9 metric tons." The increase in CO₂ is one reason artificial turf fields contribute to urban [heat islands](#). The Environmental Protection Agency notes a variety of [adverse impacts of heat islands](#), including compromised human health and comfort and increased demands for air conditioning and related energy consumption. The closer the proximity to residential homes, the greater the negative effects.

ANC 3/4G has long been aware of the health and environmental risks of Maret's proposed use of artificial turf and has assured the community it would act to safeguard our shared interests. [Testimony from neighbors](#) before ANC 3/4G in February 2022 included concerns about associated health and environmental risks posed by Maret's proposed use of artificial turf. The Commission's February 28, 2022 [resolution](#) in support of Maret's application to the Board of Zoning Adjustment (BZA) included numerous terms conditioning its approval. Among these, the resolution noted, "Maret has agreed to use state-of-the-art artificial turf, which will meet the requirements for the use that it proposes. The Commission's proposed conditions will provide assurances that the artificial turf provides the necessary environmental protections and will satisfy the community's needs better than a natural grass field." On March 15, 2022, ANC 3/4G and Maret codified the conditions for development of the athletic fields in a joint [Memorandum of Understanding](#). The MOU became operational with BZA's [approval](#) of the application on April 6, 2022. The MOU addresses "the (artificial) turf field" in section 1(h). Among other provisions, it stipulates that "Maret shall observe 'best practices' regarding the composition and installation of the field, including consideration of chemical and bacterial factors." In a March 1, 2023 letter to BZA, the ANC stated, "The ANC/Maret MOU is expressly a settlement agreement voluntarily entered into as part of this administrative proceeding ... enforceable by the Board (BZA)." The letter acknowledged the ANC and Maret had already begun implementing the MOU, urged "all of the substantive provisions in the MOU ... be included in the Board's order because they will help prevent adverse impacts on the neighboring property," and went even further to affirm "Maret has agreed to abide by the terms of the MOU regardless of its enforceability."

ANC 3/4G supported grass over artificial turf at Lafayette Elementary School. Hearing growing community concerns about artificial turf, the ANC passed three resolutions this year – on [February 26](#) and [March 25](#) and June 10 – in support of natural grass at Lafayette. The resolutions cited faulty construction and chronic lack of proper maintenance by District agencies for the poor condition of the field (as opposed to any inherent limitations of natural grass to accommodate school and community use). The resolutions called on the District to use natural grass for the renovation of the Lafayette ball field. Ward Four Councilmember Janeese Lewis George cited community and ANC 3/4G support for natural grass in the emergency and temporary legislation she proposed and the DC Council approved on May 7 and June 11, respectively, mandating natural grass at Lafayette.

DC's Safe Fields and Playgrounds Act of 2018 (DC Law 22-293) signals the problems of synthetics and serves as a template for expanded action in our neighborhood and District-wide. [The law](#) currently applies only to public fields. However, its provisions are ripe for expanding to private fields as the government has a responsibility to protect the health and safety of all children. It was established, *inter alia*, "to prohibit the use of those synthetic materials that fail to adhere to certain health and safety standards ... to require the regular testing of public recreational spaces for adherence to certain health and safety standards ... to require the Department to undertake a study on testing of synthetic turf fields for unsafe ambient and surface temperatures ..."

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States and municipalities are increasingly acting to ban or restrict PFAS and artificial turf.

The threat of toxic PFAS exposure and contamination has led cities and states across the US to act against PFAS generally and artificial turf specifically. Boston was among the first to [order](#) in 2022 that no new artificial turf fields be installed in the city. New York state has [banned](#) carpets (including artificial turf) containing PFAS as of 2026. California enacted [legislation](#) last year allowing its cities to ban artificial turf. [Maine](#) and [Minnesota](#) are prohibiting all products with intentionally added PFAS by 2030 and 2032, respectively. Nearly [everywhere one looks](#), states are taking matters into their own hands to regulate and eliminate PFAS. Increasingly, they are allowing only “unavoidable use” of PFAS such as in medical instruments. Vermont just [joined](#) the growing list.

CONCLUSIONS

There is no justifiable reason to run the risks of toxic chemical contaminants and microplastic pollutants as well as heat effects associated with artificial turf playing fields given that natural grass fields, properly constructed and maintained to suit the desired use case, are a viable, sustainable, affordable, and safe alternative.

Maret’s intended installation at ECC of artificial turf containing PFAS poses serious and unnecessary risks and is the antithesis of “best practice.” As such, it violates the terms of the ANC-Maret MOU.

ANC 3/4G’s formal commitments to safeguard the interests of the Chevy Chase community, as reflected in the resolution in support of Maret’s BZA application, the MOU, and the March 2023 letter to BZA, require the ANC to act now to prevent the installation of artificial turf at ECC. Maret’s own pledges to the community equally oblige it to act accordingly. Failure to do so by either party would endanger the community and betray the public’s trust.

ANC 3/4G’s steadfast support for grass over artificial turf at Lafayette Elementary School, manifested in three Commission resolutions, constitutes an actionable precedent to mandate action in the present case regarding Maret. To ignore this precedent would constitute an obvious and egregious double standard.

ANC 3/4G’s [main task](#) is to be “the neighborhood voice,” and thus it must further act in accordance with the documented, vociferous community call for grass over artificial turf in the neighborhood.

The three ANC 3/4G 02 town halls, conducted from March – May 2024, constitute a body of facts, scientific findings, and expert perspectives that have informed the analysis by ANC 3/4G and the Chevy Chase community on the relative merits of artificial turf and grass playing fields and are a valuable resource to share with District agencies and other DC Advisory Neighborhood Commissions in support of broader efforts to address the problems and challenges posed by artificial turf.

THEREFORE, BE IT RESOLVED:

ANC 3/4G requests that Maret comply with the ANC-Maret MOU (aka settlement agreement) – specifically, section 1(h) in reference to adherence to best practices for the composition of its (artificial) turf field(s) and consideration of chemical factors – by ensuring that the artificial turf product it uses at the Episcopal Center for Children be free of PFAS chemicals (per- and poly-fluoroalkyl substances), as determined by independent testing.

ANC 3/4G advises the DC Council to review and amend the Safe Fields and Playgrounds Act of 2018 (a) to incorporate and apply the Act’s relevant provisions to private as well as public playing fields to safeguard all District children and (b) to include mandatory testing of all existing DC artificial turf fields for PFAS chemicals.

ANC 3/4G, as part of the appeal to the Council for a legislative review of the Safe Fields and Playgrounds Act, offers to assist the Council, specifically Ward Four Councilmember Janeese Lewis George and Ward Three Councilmember

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Matt Frumin, in organizing one or more informational roundtables for Councilmembers and District agencies on artificial turf, focusing on safety and drawing on the network of contacts from the ANC 3/4G 02 town hall series.

ANC 3/4G recommends that the Department of Parks and Recreation develop more precise guidelines for play on District artificial turf fields during hot weather, including set temperature and heat index levels and prescribed pauses or restrictions in activity.

ANC 3/4G shall share facts and findings from the ANC 3/4G 02 town halls, and follow up as warranted, with other Advisory Neighborhood Commissions as well as the Department of General Services, Department of Parks and Recreation, Department of Energy and Environment, Office of the Attorney General, DC Health, and DC Water.

BE IT FURTHER RESOLVED:

That the Commission designates Commissioner Bruce Sherman, ANC 3/4G 02, and Commission Chair, Lisa Gore, ANC 3/4G 01, to represent the Commission in all matters relating to this resolution.