

PETITION TO RESCIND THE NEGATIVE DECLARATION OF ENVIRONMENTAL SIGNIFICANCE FOR THE MEINIG FIELDHOUSE PROJECT PURSUANT TO 6 NYCRR Part 617.7(f)(1)(ii)

INTRODUCTION

On September 3, 2024, the City of Ithaca Planning Board issued a negative declaration of environmental significance for the use of artificial turf at the Meinig Fieldhouse (hereinafter Project) proposed by Cornell University through their applicant, Fisher Associates representative Kimberly Michaels.

We assert that the Board's process did not comply with either the letter or the spirit of 6 NYCRR Part 617 and should be rescinded. As detailed below, the Planning Board's negative declaration of environmental significance did not comply with threshold standards needed to issue a negative declaration under SEQR, including:

1. The negative declaration was based in large part on new, internally contradictory, and speculative information submitted after the public hearing, and after public comments;
2. Significant information about the new application materials was not considered;
3. The negative declaration was based in part on inappropriate criteria for making a determination of environmental significance;
4. The Board did not seek out independent, balanced expertise on the key scientific and technical issues before them;
5. The Board did not serve as a neutral arbiter in the environmental review process, and relied on applicants' consultants with a demonstrated bias;
6. The City did not take a hard look at all relevant documents and substantive concerns submitted for their consideration.
7. Board members contradicted their internal process by proceeding with a negative declaration in the absence of requested product specifications and data, and appear poised to issue site plan approval without the stipulated third-party testing data.

In addition to the above issues, the Board's negative declaration was not consistent with the City's and Town's sustainability commitments, and those responsible for sustainability commitments did not actively participate in the environmental review. Further, the number of Board members participating in the decision was limited (just meeting the quorum of four) and the meeting record was incomplete due to inaudible discussions.^{1,2}

In light of these many deficiencies **we insist that the Planning Board rescind the negative declaration and schedule a public hearing to reconsider the technical issues** that were not adequately addressed in the earlier proceeding.

1. The negative declaration was based in large part on new, speculative, and internally contradictory information submitted after the public hearing *and* after the public comments, and the Board expressed concern about their inability to review the new claims.

Substantial new documentation was submitted by the applicant at a point that prevented adequate Board deliberations. **Concerns about the Board's inability to properly review the last-minute materials were explicitly raised by Planning Board staff** at least twice during the meeting, but were ultimately ignored (as detailed in endnote).³ Further, the public was not given opportunity to review and comment upon the new material.

The extensive presentation by the applicant on September 3rd after the conclusion of public comment and just prior to the vote on the environmental significance of the Project introduced:

- Significant new product information by proposing a “plant-based” infill on the outdoor field,
- Reversing the applicant’s prior assertion that identical products would be used on indoor and outdoor fields, thus increasing the number of variables requiring Board consideration;
- Unsubstantiated claims that there is no need to “worry” about PFAS because the product will meet the NY Carpet Law and “cannot have PFAS.” This contradicted the applicant’s proposal to use recycled tire crumb (which cannot in any case be PFAS-free), the evidence that other turf materials contain PFAS, and an applicant-consultant sidebar at the meeting.
- Inflated claims that the drainage system will capture microplastics.

As detailed below, this late presentation meant that the Board members did not – indeed, could not – adequately review these new product choices and claims, or consider the relevant evidence from public comments and the applicant’s own materials, prior to voting on a negative declaration.

2. Significant information about new application materials was not considered.

2.1. The applicant’s commitment to procure an artificial turf product that meets the NY Carpet Law does not equate to a promise that the product will be free of PFAS, but the Board made their negative declaration on the basis of the latter assumption.

The Board’s negative declaration was contingent upon their understanding that the applicant is committed to a PFAS-free product. Board members’ deliberations pivoted on their assumption that the product would not contain PFAS (e.g., “PFAS is gone,” it’s “not going to be used”), and the minutes of the meeting reflect this.⁴ During the applicant’s presentation, Ms. Michaels stated that “there is a commitment that it will comply with NY State Law, and NY State Law **says it cannot have PFAS...And the NY State Law says no PFAS.** So, like, we can stop having the conversation about it.”

However, an unusual side exchange between the applicant and consultant near the end of the meeting makes it clear that the consultant sees a critical distinction between meeting “the letter” of the NY Carpet Law, on the one hand, and PFAS content, on the other hand. While the Board discussed the FEAF wording around 3rd-party testing for PFAS, the consultant interjected with a question for the applicant (~4:15:43):

Trey: Kim.

Kim: Yup?

Trey: Umm. We’re saying that it meets the State Law.

Kim: umhmm (yes)

Trey: Okay. I just wanna be clear. **The whole PFAS versus State Law.**

Kim: umhmm (yes)

Trey: Okay.

Board members remained focused on their written document and it seems they missed the implication of this side exchange. To spell those out: the consultant appears to believe that Cornell’s product could meet the NY Carpet Law but also contain PFAS. This may be allowable under legal loopholes, possibly around “intentionally added” PFAS or products made or sold *outside* NY State (these are speculations; the applicant’s intent should be publicly confirmed).

The relevant criterion for an environmental determination is the actual presence of PFAS in a product, not whether or not those PFAS are “intentionally added” by the manufacturer, or whether or not it meets the letter of a law in some other way. The NY Carpet Law is only relevant to the environmental determination insofar as it relates to PFAS-free artificial turf: if the applicant plans to install a product that does contain PFAS but satisfies the law, the issue of PFAS must be revisited.

That Cornell intends to use a product that contains PFAS is evident from their repeated admissions that PVDF is present in turf,⁵ as well as their proposal to use recycled tire crumb. Tire crumb is known to contain PFAS, as the letter solicited by the applicant from Dr. Frank Rossi concedes, and as the Board's FEAF also concedes (see section 2.3).⁶ As a recycled product made from materials that already exist, tire crumb cannot possibly be procured in a PFAS-free version (as Cornell seems to maintain could be possible for other, newly manufactured turf components).

Given this new information that the Board and the consultant have divergent interpretations of the applicant's commitment to PFAS-free products, and given that the issue of PFAS is critical to the environmental review, **we submit that this constitutes new information requiring the Board to rescind their negative determination pursuant to 6 NYCRR Part 617.7(f)(1)(ii)**, because:

- The Board's negative declaration was contingent upon their belief that the applicant's product would not contain PFAS;
- New evidence from the meeting transcription indicates a potentially grave miscommunication about the applicant's commitment to a PFAS-free product;
- Without exception, all the evidence before the Board and all information published to date demonstrates the presence of PFAS in artificial turf products, including:
 - the applicant's admission that the product will contain PVDF (a type of PFAS);
 - the applicant's proposal to use recycled tire crumb indoors (contains PFAS);
 - the applicant's consultants' [cited tests](#) showing that artificial turfs contain at least [18-21 identified PFAS compounds](#) and unquantified unidentified PFAS compounds;
 - the inability of the applicant and their consultants to provide any proof that a PFAS-free product exists, which it is their responsibility to do, and which the Board can assume they would have eagerly cited to support their application were any such evidence available.

A promise of no PFAS is not legitimate grounds for a negative declaration. Therefore, the validity of the negative declaration is in question. In accepting the applicant's unsubstantiated and internally contradictory promise that they will procure a PFAS-free product that also contains PVDF and tire crumb, the Planning Board has not diligently considered the evidence confirming PFAS in artificial turf and the consequent health and environmental impacts. In light of this, **the Board must revisit their environmental declaration to confirm:**

(1) Is the applicant committed to a product that *does not contain any PFAS*? If not, they must initiate a new, informed discussion around the health and environmental impacts of PFAS in the applicant's proposed turf product.

(2) Given the [evidence](#) that all turf [tested](#) to date [contains](#) PFAS, and given the repeated history of [failed promises](#) for PFAS-free turf,¹⁰ the Board must commission 3rd-party testing to verify that the applicant's product is "PFAS-free" prior to making an environmental determination and prior to issuing preliminary or final site plan approval.

2.2. The Planning Board did not consider the "plant-based" infill in relation to NY Guidance Values for Soil Cleanup Objectives (SCO).

The applicant's late announcement of a "plant-based" infill did not allow the Board to adequately address its potential adverse health and environmental impacts. The Board did not ask a single question about the composition of "plant-based" infill or whether they contain PFAS or other toxins.

Strikingly, the [data](#) cited by Cornell's own consultant and analyzed in [public comments](#) shows that "plant-based" infills have the highest concentration of PFAS of all turf components tested in the [TRC](#) and [TetraTech](#) results. Across tests, **PFAS compounds detected in "plant-based" infills exceed surrogate screening limits for regulated PFAS compounds** across four tiers of [NY Guidance](#)

[Values Soil Cleanup Objectives](#) (SCOs) (Protection of Groundwater, Unrestricted Site Use, Residential Site Use, and Restricted Residential Site Use, [NYDEC 2023, p. 3](#)), **and would trigger remediation.**⁸ The PFAS compounds detected in these “plant-based” infills are monitored under the [Unregulated Contaminant Monitoring Rule \(UCMR 5\)](#) (including **PFPeA, PFHpA, HFPO-DA, PFNA, PFPA**, etc).

Notably, SCOs are designed as *remedial* goals. They should not be considered a limit for which a permittee can discharge persistent bioaccumulative chemicals into the environment. SCOs are not a license to pollute up to that level, nor are “background contamination levels,” as Cornell’s consultant has argued and as public commenters have [critiqued](#) as a dangerously inadequate standard. Dr. Joseph Kreitinger, PhD, recently retired Environmental Toxicologist and Risk Scientist who worked for the US Army stated:

“SCOs are not a level to which NYS grants a permit that allows a permittee to contaminate the environment through on-going or planned discharges of persistent and bioaccumulating chemicals. Increasing the background environmental concentration and body burden of the community is not the goal of the NYSDEC SCOs.”⁹

The [EPA](#) declared that for at least two PFAS compounds, *there is no safe level of exposure*. This underscores that any level of PFAS contamination is environmentally significant. Cornell should not be allowed to install products that contain PFAS *at all*, much less PFAS levels that exceed SCOs.

As with real soils, plant-based infill consists of material that degrades over time, becoming particulate, with similar human exposure pathways as contaminants found in soils (ingestion, dermal, inhalation). Indeed, the applicant confirmed that “plant-based” infills cannot be used indoors in part because they create so much dust.

Information about the PFAS levels of plant-based infill was technically available to the Board at the time of their negative declaration, but they evidently did not have time to consider it. Instead, in their written FEAF, the Board relied on a single letter from a turfgrass expert (who does not have expertise in PFAS) stating that “plant-based” infill would relieve concerns about PFAS and microplastics but citing no evidence for that claim; while the Board ignored comments from subject-matter experts.¹⁰ **We submit that this constitutes new information requiring the Board to rescind their negative determination pursuant to 6 NYCRR Part 617.7(f)(1)(ii),** because:

- The applicant proposes to intentionally install artificial “soil” (“plant-based” infill) that available evidence indicates could contain PFAS at levels triggering remediation;
- That artificial “soil” will become particulate with multiple environmental and human exposure pathways;
- There is no evidence before the Board that the applicant’s “plant-based” infill will be PFAS-free, and the applicant’s promise to meet the NY Carpet Law does not equate to a commitment to a PFAS-free product, contrary to Board members’ understanding.

Therefore, in determining that this does not rise to the level of an EIS, the City Planning Board has ignored environmental risks from PFAS in infill “soil” as encoded by NY State Guidance Values on [Soil Cleanup Objectives](#) and the [NYDEC’s Policy on Soil Cleanup Guidance](#). The Board’s determination that exposure to remediation-triggering PFAS levels in fake “soil” does not rise to the level of an EIS is unsupported by facts that the Planning Board should have considered.

2.3. The Board’s resulting FEAF is internally contradictory.

In justifying their negative determination of environmental significance, the Board writes: “Dr. Rossi further elaborates that he does share the concerns of some community members regarding the PFAS and microplastics, but that latest research papers indicate eliminating crumb rubber infill and using a plant-based infill addresses most of these concerns.” Yet the applicant is still considering tire crumb on the indoor field. **It is arbitrary and capricious to cite concerns about tire crumb as a reason to neg dec the outdoor field while ignoring those concerns for the indoor field.** Evidence shows that indoor fields have higher levels of toxins, presumably because they are released into the environment at a slower rate and become more concentrated over time (As noted earlier, the evidence questions Dr. Rossi’s contention about “plant-based” infills, but he is correct that recycled tire crumb raises concerns around PFAS and microplastics.)

3. The Planning Board used inappropriate decision-making criteria when determining potential adverse environmental impacts, by arguing that benefits outweigh costs.

The relevant criteria for a SEQR determination is whether or not there are potential adverse environmental impacts. The determination of significance for an action *cannot* be made on the basis of a cost-benefit analysis. Despite this, Chair Emily Petrino led the SEQR deliberations with a cost-benefit deliberation on recycled tire crumb: “I think there’s more benefit to using it indoors...than there are risks...And I think that the benefits of having this indoors outweigh the risks – so for me it’s not a deal breaker that we don’t know what the infill is at this time.” The Chair failed to note that the reintroduction of tire crumb as a product choice exposed the internal contradiction of the applicant’s promise for a “PFAS-free product” and also reintroduced the problem of PFAS, which Board members had cited as a top concern. She set the stage for other Board members, who went on to make a negative declaration partly on the basis of cost-benefit calculations. Board Member Jennie Sutcliffe further argued that Cornell athletes are already playing on a tire crumb field in Lansing, so increased risks of another field would be “negligible.” This decision-making criterion is inappropriate (current risks do not justify future risks) and incorrect (building a new field will expose more people to risks, increasing usage at both sites).

In contrast, the Town Planning Board, an involved agency, was guided in their SEQR reasoning on this same Project by Town Attorney Susan Brock, who specifically intervened when improper cost-benefit analyses were offered. This guidance was notably lacking from City Planning Board proceedings.

4. The Board did not seek out independent, balanced expertise on the key scientific and technical issues before them.

During this and prior meetings, Board members acknowledged that adjudicating between the conflicting sets of evidence on the health and environmental impacts of artificial turf was outside their expertise.¹¹ Recognizing this, commenters requested that the Planning Board seek independent third-party review of the applicant’s submissions as well as those of the commenters. The Board did not do so, but instead continued to rely heavily on the applicant’s information and testimony.

By contrast, two Town of Ithaca Planning Board members stated that their lack of expertise was grounds for a positive declaration so that an EIS could produce a comprehensive expert review, while another Town Planning Board member called out Cornell for relying on an industry lobbyist.

5. The Board did not serve as a neutral arbiter in the environmental review process, and relied on applicants’ consultants with a demonstrated bias.

Relative to the evidence before them and relative to the scientific literature (e.g., Bø et al., 2024; Murphy & Warner, 2022; among others), the Planning Board FEAF was highly skewed: sources dismissive of the risks of turf are overrepresented in the FEAF, while sources documenting such risks are systematically underrepresented to the point of near exclusion.

The Board relied heavily on (mis)information and testimony from the applicant (a landscape architect without relevant expertise) and the applicant's consultants from Haley & Aldrich, a pro-industry lobbyist firm whose publicly stated mission is to "[lessen environmental liability](#)" for polluting industries in order to "serve their bottom line." The Planning Board did not respond to justified requests to reconsider the Haley & Aldrich document submissions and to withdraw the prominent role given to those consultants' misleading testimony during Planning Board meetings.¹²

It is the duty of the Planning Board to ensure that their decision-making is based on accurate and unbiased information. Other Boards considering turf in the US have carried out their duties by [dismissing testimony](#) from applicant's consultants that was misleading, by [publicly correcting](#) false testimony in their decisions, and by including independent expertise and scientific evidence from sources other than the applicant and their consultants. The City of Ithaca Planning Board failed to seek out accurate, unbiased information and testimony on which to base their negative declaration.

6. The Board did not take a hard look at all relevant documents and substantive concerns submitted for their consideration.

According to Sec. 617(c)(2), the Board must: take a hard look at all relevant impacts of the whole action, not just those within its immediate jurisdiction; consider reasonably related long-term, short-term, direct, indirect, and cumulative impacts; and document its reasoning in writing.¹³ Yet despite many substantive concerns cited in public comments and supported by scientific evidence, there is little to no information in the administrative record to indicate that the Board reviewed commenters' submissions or why commenters' concerns were disregarded. Of particular concern are the following five substantive issues, which are additional to the PFAS concerns reviewed above:

a. Life cycle analysis for the product and alternatives, accounting for embodied carbon. Natural grass fields absorb CO₂ and produce oxygen, whereas artificial turf fields do exactly the opposite, [emitting](#) CO₂, methane, and other greenhouse gasses. Artificial turf products generate carbon emissions and toxic pollution during extraction, manufacturing, and end-of-life, which were concerns cited by Board members (e.g., embodied carbon, on August 12) but not resolved.

b. Synthetic turf may be occasionally and partially reused, but all evidence to date indicates that it is not recyclable. No evidence is cited for any of the recycling claims detailed in the FEAF (pp 2-3), or the promise that "During the field replacement process, the existing turf will be recycled" (p. 11), despite Board members' requests for such information.¹⁴ Such proof is needed because there is overwhelming [evidence](#) that plastics recycling is a [farce](#) and that [artificial turf recycling](#) in particular is [not feasible](#) (refer to months of [public comments](#), some from [experts](#), and statements from Planning Board members themselves that evidence of recycling was required). Indeed, Shell recently [conceded](#) that plastics recycling is "infeasible." Given the abundant evidence cited in public comments that turf field recycling in particular, and plastics recycling in general, are failures, the Planning Board's FEAF is irresponsible and willfully neglects the legitimate and overwhelming evidence for adverse environmental impacts associated with turf's end-of-life.

c: The drainage system will not mitigate microplastics or toxic contamination. Cornell asserted that their drainage system will capture "microplastics" – but only down to .212 millimeters. [EPA researchers](#) define microplastics as tiny plastic bits all the way down to nanometers – a nanometer is a million times smaller than a millimeter, and [evidence shows](#) that artificial turf fields release nanoplastics (Hua et al, 2024). The Planning Board briefly discussed, but ultimately ignored, the fact that Cornell's drainage plan won't capture many of the microplastics released from the field, and will allow "*direct discharge into a permitted storm drain.*"¹⁵

Meanwhile, the applicant falsely claimed that artificial turf fields are an insignificant source of microplastic pollution. As Zero Waste Ithaca has cogently argued, most recently in a [public comment 9/24/2024](#), this statement is unfounded and contradicts multiple peer-reviewed studies finding that artificial turf is the [primary source](#) of microplastic emissions in urban environments (Zhu et al, 2024), and accounts for up to [15% of plastics](#) in seawater (De Haan et al., 2023).

d. The applicant proposes to use the turf fields 140%-150% more than the synthetic turf industry says is possible, and this requires updated environmental assessment.

Cornell proposes to use their artificial turf fields 12-17 hours per day, which amounts to roughly 4300 (outdoor) and 4500 (indoor) usage hours annually.¹⁶ According to two sources, including one [turf manufacturer](#), artificial turf fields can only be used about [3,000 hours a year](#). Cornell's proposed intensity of use exceeds that by 140-150% and would diminish the field's lifespan. One can expect intensified environmental impacts on multiple measures: increased shedding of materials into the soil and water; increased maintenance, repair, and replacement of infill; increased burdens of waste disposal or alleged "recycling" (a toxic process); and more frequent replacement of turf fields requiring more manufacturing pollution.¹⁷

e. Health concerns associated with the use of recycled tire crumb indoors are considerable, and the Board has not adequately reviewed those health impacts.

Impacts of tire crumb are serious enough that [New York Assembly Bill A7158](#) is calling for a moratorium on the installation of synthetic turf with rubber crumb "pending a comprehensive environmental and public health study;" it would require a "site-specific environmental impact statement" for each installation. Months of public comments have pointed to the scientific literature on health risks of tire crumb.¹⁸ As noted in 2.3, the Board's own FEAF acknowledges that tire crumb raises significant concerns around PFAS and microplastics, but fails to address this concern in the context of the indoor field proposed by the applicant.

As the list of substantive concerns not addressed in the FEAF listed above indicates, the Planning Board was not a neutral arbiter in the environmental review process.

7. Board members contradicted their internal process by proceeding with a negative declaration in the absence of requested product specifications and data, and appear poised to issue site plan approval without the stipulated third-party testing data.

Rushing their environmental determination in the face of new information and claims from the applicant did not allow the Board to do due diligence on their own cited concerns. At the Project Review Committee meeting on August 12, 2024, Board members and staff asked the applicant to (1) determine which products they will use for their artificial turf fields, noting that crumb rubber was

a significant concern; (2) provide those product specifications along with data to prove that it will be PFAS-free and comply with the NY Carpet Law; (3) address embodied carbon and provide evidence that the product will actually be recycled, including a list of facilities that can do so.¹⁹

Board members and staff stated that this information was necessary to determine the environmental significance of the Project. The applicant **has not** provided any of that information. To the contrary, the applicant introduced more and new product choices (expanding the range of potential infills from two to three) rather than finalizing their product choices and presenting data on their composition. Given that the Board members stated this data was a *prerequisite* for making an informed SEQR determination, and given that this information has not been provided, it is unclear how the Board members were able to grant a negative declaration – much less how they could consider granting both preliminary and final site plan approvals on Thursday, Sep. 26, 2024.

CONCLUSION: The Environmental Review process was flawed and the negative declaration should be rescinded and additional review and public input should commence.

As detailed above, The City of Ithaca Planning Board's negative determination of environmental significance was founded on a flawed process and improper reasoning. The Planning Board should have taken time to evaluate the new information they were presented with and allowed public input on the same before voting. They should not have evaluated cost-benefit as part of SEQR determination of environmental impact. They should not have relied so heavily on the biased information provided by the consultants, and should have provided evidence that they took a hard look at substantive public comments by indicating in their written determination why they disagreed with them. The proposal should have been offered to the Sustainability Officer for review, and the City Attorney should have been available at the meeting to guide appropriate discussion.

The Planning Board must rescind the negative declaration and schedule a public hearing to reconsider the scientific and technical issues that were not adequately addressed in the earlier proceeding. They must also require third-party testing to verify that Cornell's products are PFAS-free before making an environmental determination and before granting site plan approval, so that product toxin levels can be scrutinized for health and environmental impacts. The Board must clarify whether the applicant is in fact committed to a PFAS-free product and specify what the testing requirements will be (zero PFAS? under a certain limit?).

Requiring an Environmental Impact Statement would provide for a comprehensive and informed review of the health and environmental impacts of this product. Preparations for an EIS should involve public participation in the scoping process. For instance, it will be important to involve the public in third-party testing of Cornell's proposed artificial turf product in order to ensure the proper scope and integrity of this testing in relation to health and environmental impacts (see specific concerns in endnotes).²⁰ The conversation must be broadened to consider how Cornell can meet perceived playing needs without compromising health and environmental wellbeing. There are viable, time-tested alternatives that move away from fossil fuels and honor climate commitments.²¹ The community will be engaged in science monitoring of any current and future artificial turf fields, and we invite the Planning Board's engagement in this testing.

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List of Notable Sources Cited

Zhu et al (2024) "[A City-Wide Emissions Inventory of Plastic Pollution.](#)" *Environmental Science & Technology*. February 1, 2024.

Introducing a comprehensive framework for quantifying plastic emissions in urban environments, this case study focused on Toronto, Canada identifies artificial turf as the largest contributor to microplastic pollution in the city, emitting 237 tonnes in 2020—surpassing other sources, including clothing. (The applicant frequently cites microplastic pollution from clothing to inappropriately distract the Planning Board’s conversation from artificial turf.) (Cited and discussed in [ZWI public comments](#), among others.)

De Haan et al. (2023) "[The Dark Side of Artificial Greening: Plastic Turfs as Widespread Pollutants of Aquatic Environments.](#)" *Environmental Pollution*, 334 (2023): 122094.

This study found that up to 15% of the larger microplastic pieces in the environment come from artificial turf in seawaters near Barcelona. This finding contributed to the University of California, Santa Barbara's decision to choose natural grass over artificial turf, supported by the California Coastal Commission, on December 13, 2023. (Cited and discussed in [ZWI public comments](#), among others.)

Hua et al (2024). "[Environmental Risks of Breakdown Nanoplastics from Synthetic Football Fields.](#)" *Environmental Pollution*.

In research focused on detecting nanoplastics in drainage water from a synthetic football field and evaluating the toxicity of these materials after mechanical fragmentation, authors found that nanoplastics and leachate from the surface of EPDM rubber granules exhibited high toxicity to *Daphnia magna*, while nanoplastics from the inner material exhibited no significant toxicity. The authors highlight the urgent need for future research to identify these specific toxic agents from the surface of EPDM granules.

Lohmann et al. (2020) [Are fluoropolymers really of low concern for human and environmental health and separate from other PFAS?](#) *Environmental Science & Technology*, 54(20), 12820-12828.

Reviews the evidence and concludes that there is no basis for claims that PVDF is “inert” or or should be considered in a benign separate class from other PFAS compounds (as repeatedly argued, without evidence, by the applicant and consultant). The same point was made in an expert public comment from Cornell Professor Emeritus of Soil Chemistry Murray McBride.

Lauria, M. Z. et al. (2022). [Widespread occurrence of non-extractable fluorine in artificial turfs from Stockholm, Sweden.](#) *Environmental Science & Technology Letters*, 9(8), 666-672.

Tests for the presence of PFAS in a representative sample of 51 AT fields in Sweden, and reports PFAS in all samples tested. Results are consistent with the earlier data published by The Ecology Center. The authors find that even a cursory review of patents pertaining to PFAS in AT “**provide[s] evidence that PFAS are used intentionally in AT production for a variety of reasons, in addition to plastic extrusion.**”

Ecology Center. [Toxic “Forever Chemicals” Infest Artificial Turf.](#)

One of the first reports (not peer reviewed) to test for the presence of PFAS in turf materials, extending concern from tire crumb infill to other components of artificial turf.

New Jersey Department of Environmental Protection (2023). [Technical Memorandum: PFAS in artificial turf.](#)

Briefly reviews the literature on PFAS in artificial turf, confirming its widespread presence and noting outstanding uncertainty around the migration of those chemicals into the environment.

Bø et al. (2024). "[Environmental Impacts of Artificial Turf: A Scoping Review.](#)" *International Journal of Environmental Science and Technology*. (2024).

This review paper notes that artificial turfs represent a large environmental issue in terms of waste, microplastic pollution and leaching of chemicals. The authors analyze literature on the environmental impacts of turf components. They conclude that there are significant environmental impacts and significant gaps in knowledge, and specifically call for more research on current regulations related to loss of microplastics.

Murphy, M., & Warner, G. R. (2022). [Health impacts of artificial turf: Toxicity studies, challenges, and future directions.](#) *Environmental Pollution*, 310, 119841.

Reviews the growing literature on health risks associated with artificial turf, noting that “**the financial incentives of manufacturers to promote adoption of their products make this a prime**

target for manufactured doubt and scientific obfuscation [citing Goldberg and Vandenberg, 2021].” The authors review numerous studies identifying chemicals in artificial turf, including polycyclic aromatic hydrocarbons (PAHs), phthalates, and PFAS, which are known carcinogens, neurotoxicants, mutagens, and endocrine disruptors. They note that few studies have looked directly at health outcomes of exposure to these chemicals in the context of artificial turf, but that ecotoxicology studies have identified risks to organisms whose habitats have been contaminated by artificial turf and/or crumb rubber leachate.

Other municipalities who have requested PFAS-free turf but received a product with PFAS:

- **South Philly:** Gambacorta, David and Laker, Barbara. “[City Officials Believed a New South Philly Turf Field was PFAS-Free. Not True, Experts Say.](#)” The Philadelphia Inquirer. February 23, 2024.
- **Portsmouth, NH.** “[Our community has been deceived.](#)” They commissioned a “PFAS-free” field and received one that was tested and confirmed to contain multiple PFAS chemicals. This was the testing cited in Jay Peters’ Haley & Aldrich “research summary.”
- **Harvard Westlake, CA.** An [expert commentary](#) from PEER on that Board’s decision refutes each of the negative declarations of environmental significance, including the fact that the turf field was promised to be “PFAS-free.”

The above examples are also cited in [ZWI public comment](#), with expert commentary and test results.

Petition Endnotes

1. **Limited Board member engagement.** Of the seven positions on the Board, only four votes were cast. There is a vacancy on the board, one member recused herself, and two were not present. Of the four Board members present to vote on the negative declaration, one (Jennie Sutcliffe) had just joined the Board and had not been present for written and oral comments of the public since January. Ms. Sutcliffe was understandably not apprised of key technical and scientific issues at stake. Of note, she dismissed the public's evidence-based concerns about PFAS as a problem of the applicant's messaging. Noting that she heard the applicant's "exhaustion" about the PFAS issue, she encouraged the applicant to "think about your messaging" so that it "trickles down" to the public through "repetition." This could not be a more absurd characterization of the situation. The applicant and their consultant were in fact failing to clarify Board members' own confusion around the New York Carpet Law and whether it actually requires a product free of PFAS. The Board members' Neg Dec was contingent on their understanding that the product would be free of PFAS (and the applicant made that false claim at least twice). Ms. Sutcliffe appeared unaware of the evidence for PFAS in all artificial turf products, and the guaranteed presence of PFAS in recycled tire crumb in particular – which was the topic of discussion when she advised Cornell to improve their messaging.
2. **Limited public record.** We note also that the Administrative Record is incomplete because during the September 3rd meeting, much of the applicants' engagement was off mic and recording equipment could not decipher it. Please provide us with a transcript of that portion of the meeting.
3. **Concerns about the Board's inability to properly review new materials.** The Planning Board struggled to update the written FEAF during the environmental review discussion in order to accommodate new information and claims presented by the applicant at a late hour. At several points, Planning Board staff articulated concerns around this hasty process. Towards the end of the discussion at 4:18, the applicant had to clarify the Board's misunderstanding that recycled tire crumb would still be used indoors, while the plant-based infill would be used outdoors. This discussion revealed that some Board members had believed the plant-based infill would be used both outdoors and indoors, an assumption that had informed their earlier belief that health and environmental impacts of recycled tire crumb had been alleviated by the applicant's new product choice – including, critically, Board members' belief that PFAS would not be an issue. They were mistaken, as the transcript shows:

~4:18: [Board discusses among themselves the FEAF wording around infill, noting that plant-based infill will be used.]

Kim: It's for the outdoor field. [Clarifying confusion that plant-based infill will not be used both indoors and outdoors.]

Emily: Yes it just says outdoor here. Oh no no, it says outdoor and inside.

[inaudible question from Board]

Kim: "It's not, it's not recommended indoors because of dust issues and mold issues. It's not a healthy indoor infill."

[barely audible discussion among Board: "So presumably, can we say...the runoff is not an issue...But we should be clear...Are we saying the same thing that the heat island is not an issue indoors, or just, so it would just be injury that would be..."]

Planning Board staff Lisa Nicholas: **"This is what – this is the difficulty of doing – of hearing new information and then trying to *integrate*, [Kim: Understood!]" because it has to be very clear."**

Kim: "Understood! That's why I wanted to make sure we're clear about it. Exactly."

Planning Board staff Lisa Nicholas: “So we are, you are saying that the plant-based infill will not be used, will only be used on the outdoor field.”

The Chair of the Board then turned to the Board for another round of comments on tire crumb infill, reintroducing a topic that at least some Board members had evidently thought was no longer of concern. The ensuing discussion highlighted more concerns about the quality of information and deliberation. At one point, Planning Board Staff Lisa Nicholas asked, **“So the question would be, does the Board, feel, Does the Board– is it advisable to do this without that information? You know, do we need that information?”** (4:22). Chair Emily went on to ask: “Would it help to have more information on the specific infill for the indoor field. Postpone the SEQR until we have that information. Or do we feel like the SEQR, let me think, what’s the alternative: Understanding that it’s not a plant-based infill, but not knowing the specific type of infill for the indoor field, rises to the level of, um, not declaring right now?” [Note: this is not the question at hand in SEQR review. The question is whether the project materials rise to the level of adverse environmental impact, not whether *not* knowing the product materials would rise to the level of *not* declaring a decision.]

4. **Board members assumed that the product would not contain PFAS.** Below are transcriptions (some approximate, some verbatim) of the Planning Board members’ deliberations around the environmental impacts. Without exception, each Board member cited PFAS as a concern that was now “gone” given the applicant’s commitment to meet the NY Carpet Law which (according to Ms. Michaels) “says no PFAS. So, like, we can stop having the conversation about it.” For Board members and staff reviewing the health and environmental risks, PFAS was cited as a top concern.

~3:44/45: Andy Rollman summarizes his deliberations around the environmental determination: “I’ve been really putting a lot of thought into both sides of this, and I boiled my questions down to three, and you answered them: Does the artificial turf specification contain PFAS? Would the fill be non crumb rubber? And you answered that. And this project, you know, If you were doing it next year, would you meet the letter of the law? And you’ve answered that.”

~3:48: Planning Board Member Bassel summarizes his deliberations: “I think I boiled it down to two not three things, one of which was answered, one of which I wanted to get a bit more of your input on please. The first was kind of the very big picture environmental effects, and PFAS of course was top and center of the list. And again, it’s very good to hear that these are going to be addressed and it’s not going to be used.” [He goes on to cite concerns about microplastics not filtered in storm water.]

Planning Board member Emily Petrina’s deliberations: “So I’m just like, crossing off a lot of things on my list here. PFAS is gone.”

Planning Board member Jennie Sutcliffe: [approximate transcription, not perfectly verbatim] this is a very divisive issue and so I would really encourage you to continue to think about how you messaged to community...how you share this back to community to really kind of, you know embody and exemplify the spirit you’re trying to take here, cuz I think it it you know – I can hear the exhaustion in your voice about PFAS, but that that hasn’t necessarily you know, trickled down either. So I think I also worked in government, you know, repetition is key and so I would just continue to like keep that forward as you move on to this project.

Planning Board staff Nikki: [approximate transcription] Absolutely. So for the change on impact on the land. ...the applicant has verbally said that they will follow the NY State Law for no PFAS in their carpets.

The Board’s understanding of the applicant’s commitments are recorded in the COI Planning Board [minutes](#) for the Sep. 3, 2024 meeting as follows: “The applicants stated that the project will be compliant with a proposed New York State law that **requires PFAs free materials** for projects such as this project. The applicant went on to discuss the stormwater plan and **how it addresses micro-plastic pollution**...the applicants noted that the proposed turf will be compliant with a future New York State law **that requires the material to be free of any per- and polyfluoroalkyl**

substances (PFAS); the infill of the proposed turf will be made of a plant-based material; and that the stormwater management of the outdoor field **will filter out a large amount of the micro-plastics."**

The Board encoded the applicant's commitment as follows in their FEA: "The applicants stated at the City of Ithaca Planning Board meeting on September 3, 2024, that **they are committed to meeting the goal that there artificial turf will not contain or be treated with PFAS** in the New York Article 27, Title 33 Carpet Collection Program Environmental Conservation (ENV) CHAPTER 43-B, ARTICLE 27- NY Carpet EPR (Extended Producer Responsibility) Law that will go into effect on December 28, 2024. **Further, the applicants agreed to third party testing of the artificial turf carpet before it leaves the manufacturer. The results will be submitted to the City staff."**

5. **The applicant has conceded their product will contain PVDF, a PFAS compound.** The applicant has repeatedly conceded that their product will contain PVDF, but claimed it is harmless on the basis of testimony from Haley & Aldrich consultant Jay Peters. This contradicts the scientific evidence cited in public comments, including from Cornell Professor Emeritus of Soil Chemistry Murray McBride. As Lohmann et al. (2020) make clear in a peer-reviewed scientific article: "The evidence reviewed in this analysis does not find a scientific rationale for concluding that fluoropolymers are of low concern for environmental and human health. Given fluoropolymers' extreme persistence; emissions associated with their production, use, and disposal; and a high likelihood for human exposure to PFAS, their production and uses should be curtailed except in cases of essential uses."
6. **Tire Crumb infill is known to contain PFAS.** The presence of PFAS in tire crumb infill was most recently documented in a comprehensive study by [Lauria et al., 2022](#), confirming prior reports from [The Ecology Center](#), and as summarized by a [2023 Technical Memorandum from the New Jersey Department of Environmental Protection](#):

Notably, the Lauria study showed that PFAS concentrations were higher in the newer fields that used recycled materials such as ethylene propylene diene monomer rubber (EPDM) or **styrene-butadiene rubber (SBR)** [crumb rubber made of shredded, recycled styrene-butadiene rubber (SBR) tires] when compared to the concentrations in the older fields. This finding should be considered when evaluating various options to procure, but also to guide future manufacturing guidance that could reduce resource consumption while reducing contaminant concentrations present in the product.

PFAS are also reported in every other component of artificial turf (plastic grass blades, backing, glues, and bonding agents), often at higher levels than that of tire crumb. But the confirmed presence of PFAS in tire crumb is of particular significance because it's a recycled product whose composition is not under debate: Cornell cannot possibly procure recycled tire crumb that is PFAS-free, even if they maintain that they will secure unprecedented PFAS-free versions of other newly manufactured turf components.

7. **Failed promises for PFAS-free turf products.** Others have asked for PFAS-free products and been provided with products that failed to meet those standards, including [South Philly, PA](#), [Portsmouth, NH](#), and [Harvard Westlake, CA](#). The City of Ithaca Board received multiple public comments, including from [expert advocates](#), that outlined the deception around "PFAS-free" fields and their repeated documentation to be false. See also the endnote discussing "Expert public comment and scientific evidence on plant-based infills."
8. **"Plant-based" infills and Soil Cleanup Objectives (SCOs).** The Haley & Aldrich research summary submitted with Project application materials cites two sets of tests on artificial turf components, by [TRC](#) and [TetraTech](#). Of the four turf components tested by [TetraTech](#), the component with the highest levels of PFAS was the "plant-based infill" (Brock Infill made of engineered wood). Brock claims their product is "[organic](#)" and it's described as "an engineered wood particle infill with reportedly no coatings or plastic additives." Why, then, does it test positive for at least four different PFAS

compounds (PFPeA, PFHpA, PFHxA, and PFBA) -- and at strikingly high levels that exceed soil cleanup objectives in the case of PFPeA (20.4 ng/g)? Likewise, of all the turf components tested by TRC, the highest levels of PFAS were detected in the infill (US Greentech Safeshell Infill), which was found to contain at least six different PFAS compounds, two of which (PPF Acid, 41 ng/g; PFMOAA, 5.16 ng/g) were so high that they exceed the [New York Guidance Soil Cleanup Objectives](#) for regulated PFAS compounds on contaminated sites and would require remediation. This US Greentech Safeshell Infill is also marketed as a plant-based "[organic infill option](#)," although the TRC memo does not specifically discuss the infill composition.

The New York Guidance soil guidance values for protection of groundwater for PFOA and PFOS are 0.08 ng/g and 1 ng/g, respectively. The "plant-based" infills cited in the applicant's consultant's materials contain as-yet-unregulated PFAS compounds that exceed those SCOs many times over (including levels as high as 5 ng/g to 41 ng/g).

Surrogate Screening Levels: Because some of the compounds detected in turf products are as-yet-regulated PFAS compounds, we use the common method of applying surrogate screening limits from PFOA and PFOS to those compounds in order to assess their toxicological and environmental significance. This is the same method used in the testing cited by Jay Peters in the Haley & Aldrich research summary. It reflects the growing scientific consensus that PFAS should be regulated as a class of persistent, bioaccumulative, and toxic chemicals, rather than on a case-by-case basis as industry prefers (and is heavily involved in lobbying for). Although these specific PFAS compounds may not yet be regulated under the NY Soil Guidance values, many of them are monitored under the [Unregulated Contaminant Monitoring Rule \(UCMR 5\)](#) (including PFPeA, PFHpA, HFPO-DA, PFNA, PFPA, etc.).

9. **Expert quotation attribution.** Dr. Joseph Kreitinger, PhD, Environmental Toxicologist, US Army Engineer R&D Center (retired), Environmental Laboratory, Engineering Branch, personal correspondence with b.o.m. and B.E., July - September 2024.
10. **Expert public comment and scientific evidence relevant to "plant-based" infills.** During their environmental review discussion on Sep. 3, the Planning Board did not consider or cite the relevant evidence on "plant-based" infill, although it was technically available to them in the applicant's packet materials and public comments. The only source cited in the FEAF is a letter from Dr. Frank Rossi, a turfgrass expert (without expertise in PFAS, microplastics, or drainage systems), stating that he shares the public's concerns about PFAS and microplastics, but that the "latest research papers indicate eliminating crumb rubber infill and using a plant-based infill addresses most of these concerns" (p. 3). He did not cite research in support of this conclusion.

The applicant's materials and public comments, however, did cite relevant research. That research indicates, *without exception*, that plant-based infills are inadequate solutions to PFAS and microplastics pollution. "Plant-based" infills are shown to contain PFAS, as cited by the applicant, documented in many public comments, and reviewed in scientific literature. The Board could have considered an expert [public comment](#) submitted by Dr. Murray McBride, Emeritus Professor of Soil Chemistry, on the risks of PFAS including PVDF, which both the applicant and consultant have repeatedly acknowledged will be present in their product. They could have considered the expert public comment from [Dr. Jack Henion](#) outlining the risks of human exposure to PFAS. They could have considered the public comment from [Dianne Woelke, MSN](#), founder of Safe Healthy Playing Fields, on June 25, 2024: "PFAS is required to prevent plastic yarns from sticking to manufacturing equipment. **It has been found in 100% of independently tested synthetic turf to date. Industry claims of PFAS free turf have been disproven.** The industry trade association President and CEO, Melanie Taylor, sent an email to CA State Senator Ben Allen on 21 June 2023 admitting to use of PFAS in synthetic turf. Industry claims [that] a polymer processing aid...PVDF is a "safe" PFAS chemical are also untrue. PVDF is a polymeric PFAS that poses risk to human and environmental health."

Contrary to Mr. Rossi's assertion that "plant-based" infill alleviates microplastics, a significant percentage of microplastics pollution stems from fake plastic grass blades in artificial turf, independent of infill choice. One of us (b.o.m.) has written to Dr. Rossi to share these research findings and discuss concerns.

11. **Board members' expertise.** During meetings over the course of this Project review, Board members have cited their lack of subject-matter expertise. For instance, during the August 12, 2024 Project Review Committee, Board member Daniel Correa noted that he lacked expertise on the overwhelming number of public comments and noted that "it's tricky" for the Board to adjudicate those comments and new policies. Most recently, when Chair Emily Petrino asked Board members to consider whether recycled tire crumb poses health or environmental risks, Board member Andy Rollman hedged his response by citing lack of relevant expertise (approximate transcription): "I guess my understanding, you know I'm not a scientist, is there's there are options for the crumb rubber that there are, you know, it's not just one type. That there's better specifications."
12. **Haley & Aldrich Conflict of Interest:** Public commenters documented that: (1) Haley & Aldrich are a pro-industry lobbying firm with a conflict of interest in preparing a "research summary" on the health and environmental impacts of artificial turf, because the firm is paid to engage in risk assessment strategies that seek to "[lessen environmental liability](#)" for polluting industries while [serving](#) "their bottom line." (2) Cornell's consultant Jay Peters has recently advocated for reduced public-health standards around [coal ash](#) and [TCE toxins](#), and he purposefully employs risk assessment strategies "as a tool for providing options to manage remedial liabilities" and "save them [industry] money." That he leveraged those same risk-assessment strategies in his research summary to support misleading conclusions about the risk of PFAS and other toxins in artificial turf is highly problematic. (3) It is clearly not in the public health interest for the City Planning Board to privilege such pro-industry lobbyist risk-assessment strategies over those of independent experts, including those cited in public comments. To substantiate this with a vivid example: Haley & Aldrich are featured in an [archive](#) at the Cambridge Public Library following their [publicly contested](#) inadequate [testing](#) of asbestos and other toxins at a contaminated industrial site.

Furthermore, public commenters [documented the false statements](#) by the applicant and their consultant regarding PFAS-free products and the harmlessness of PVDF, documenting how this contradicted the information provided by the consultant and applicant, as well as the broader scientific literature. The Planning Board never addressed these false statements or engaged in relevant lines of questioning that would clarify their understanding of this topic.

The problem was recognized by Town Planning Board member Bill Arms, himself a Cornell Professor Emeritus, who stated that Cornell's consultants were "clearly" lobbyists, that "the people who criticized" Cornell's industry consultant "are absolutely right" while affirming the scientific inadequacy of the Haley & Aldrich research summary, and added that "I've not had much respect for the way Cornell's presented this particular application." (July 16th meeting).

13. **SEQR Determination.** The Board must determine the significance of any Type I action in writing in its determination that an EIS will not be required because there would be no adverse environmental impacts or that the identified adverse environmental impacts will not be significant. (Sec.617.7 (a) (2). To achieve the determination of nonsignificance, the Board must thoroughly analyze the relevant areas of environmental concerns to determine if the action may have a significant adverse impact on the environment. (Sec. 617.7 (b). The criteria for determining significance; is there expected a substantial change in existing air quality, ground or surface water quality...(Sec.617 (c)(1) (i) or the creation of a hazard to human health (Se. 617.7 (c0) (vii).
14. **Claims for artificial turf recycling.** City Planning Board members and staff stated at the August 12 PRC meeting that Cornell should provide evidence of recycling and a list of facilities that could carry out such recycling, in order to make an environmental determination. Furthermore, the Town Planning Board, an involved agency, recommended that the City PB require that Cornell's product be

fully recyclable. Yes Cornell has still not provided independent evidence that their turf products will be recyclable. Their narrative testimony that some portions of prior AT fields were “reused” or “recycled” notably failed to quantify how much was actually reused/recycled or to provide evidence from the recycling facilities that it was accomplished.

15. **Filtration and Drainage for microplastics and toxins:** The Board raised concerns that the drainage plan would not filter small microplastics smaller than .212 millimeters, and asked the applicant’s consultant to address that concern.

[~3:58: approximate transcription]

Nikki: Now microplastics do range smaller than that. Nanoplastics go even much smaller. But what we're able to capture with this type of practice and these materials, will certainly capture a large fraction of the microplastics that could potentially come off the field.

Drainage system expert: Now, in order to get to the practice, water has to trickle down through the whole field section to get into the system beneath it. There are no direct surface connections off the field directly into the practice, so everything has to filter through some type of aggregate cross section, whether it be a French drain (which is a pipe contained in sand and woven geotextile fabric), or through the different layers of geotextile fabrics that we have within our practices...**So everything has to migrate down through in order to get into the system before it leaves the site.**

Board Member Emily: Great, thank you very much for that detail. Now we have David, any comments on stormwater from staff or...

Board Member Jennie Sutcliffe: Somebody in the comments mentioned the plastic from the grass as being of concern? Any top lines you could give us on that? It that warranted, not warranted? You guys remember that?

Applicant Kim: “I do. There was a comment that the, that the blades produced a microplastic. Yeah. So, um, **those are particles that will go through the stormwater system.** Yeah. Does that answer your question?”

Board Member Jennie Sutcliffe: Yeah, so that’s mitigated for, is what you’re saying.

Applicant Kim: Correct. Yes.

Of note: the drainage expert never addressed the concern that microplastics would not be filtered. He simply establishes that they will have to go through the system before leaving the site. He did not provide any evidence that microplastics *won't* migrate through the system and leave the site. Likewise, Kim confirmed that the microplastic particles “will go through the stormwater system” but did not confirm that they would be filtered if they were smaller than .212 millimeters. But the Board members inexplicably left off questioning.

Even if the filtration captures microplastics, it appears that they won't be removed: according to Cornell's drainage plan presentation, it appears that debris will simply be trapped by the sand and cloth drainage system components, sitting in the ground until they inevitably disperse into the environment. If Cornell's drainage system will actually *remove* these microplastics at some point, that would be a useful clarification. But still: remove them to *where*, and what's the remediation plan?

Concerningly, the Planning Board has devoted little to no discussion to the fact that Cornell's drainage system will either be routed through a filtration system or “*direct discharge into a permitted storm drain.*” (EAF p. 2). The stormwater drainage detention system will be engineered to the “required volume to detain the 1% chance storm event....Higher flow events will bypass the isolator rows and

enter the system directly" (EAF p. 4). What does the event horizon look like over the coming decade? How much water volume is expected to be directly discharged into "permitted" storm drains, and how much microplastics and toxic pollution will this incur? The Planning Board never questioned these elements of the drainage system, but they are necessary to determine the environmental impact on water. One Board member (Bassel) inquired about these issues, stating that he would like to "get a better sense of the filtration that's not going to happen through the storm water events – how that might then move on to other areas that might not be filtered." It appears that his question was never fully answered. At one point Cornell's drainage expert implied that all water would go through filtration systems. This appears inconsistent with the written information in the FEAF and should be addressed.

16. Projected artificial turf field usage. The following calculations are based on the applicant's [materials](#).

Annual Hourly Usage Calculation for Outdoor field

Cornell states they will use the outdoor field 17 hours per day (6am-11pm daily) during spring and fall semesters. If we assume 105 days (3.5 months) per semester, that's:

$105 \text{ days} * 2 \text{ semesters} * 17 \text{ hours daily} = 3570 \text{ hours (during the semesters)}$

Summer usage will be 8 hours a day. If we assume about 3 months or 91 days per summer, that's:

$91 \text{ days} * 8 \text{ hours} = 728 \text{ hours (during the summers)}$

Summing the two figures, we see that the total hours of usage proposed for the outdoor field annually = 4298. That exceeds by ~140% the 3000 hours annually that the synturf industry and others state is possible.

Annual Hourly Usage Calculation for Indoor field

Following the same assumptions as above but replacing the proposed figures for the indoor field (6am-1am daily during semesters, and 6 hours daily during summers), the indoor field will also exceed annual recommended usage by ~150%:

$105 \text{ days} * 2 \text{ semesters} * 19 \text{ hours daily} = 3990 \text{ hours (during the semesters)}$

$91 \text{ days} * 6 \text{ hours} = 546 \text{ hours (during the summers)}$

Annual total: 4536 hours

17. Projected overuse comes at a cost. For instance, one [industry](#) website states that "It is important that decompaction be performed on the field at a minimum, every 100-120 hours of adult use. Without this, the G-max level will be unsafe for playing." Therefore, Cornell will need to perform decompaction *at least* every 6-7 days.

18. Known health and environmental hazards associated with crumb rubber. From the [New York Assembly Bill A7158](#): "Crumb rubber is the result of processing waste tires, which contain numerous components, some of which are known to be hazardous to people and the environment. The hazardous components include arsenic, cadmium, chromium, lead, vanadium, zinc and acetone...[Calls for examination of] various routes of exposure and the health and environmental impact of these pathways including, but not limited to, small fill particle inhalation, volatility, leaching to groundwater, dermal absorption, and persistence in the environment of original and degradation by-products." Refer to month of public comments.

19. Internally contradictory internal process. Below is an incomplete list of concerns raised by Planning Board members and staff at the Project Review Committee meeting on August 12, 2024, which have not yet been addressed by the Applicant. These points are transcribed approximately from the [PRC recording](#) and are not exactly verbatim:

- What is the actual material and can we see some data on the actual material being used? We really need to know what it's composed of. There's a question mark on crumb rubber. And

that's a big factor. We really need to know that. (Andy Rollman, Emily, Nikki) > *At the Sep. 3 meeting, Cornell did not finalize their product choices, nor did they provide data on their toxic composition. Now there are three infills on the table ("plant-based," tire crumb, and virgin rubber).*

- In response to the applicant's promise that their product will comply with New York State Law around PFAS, Andy Rollman clarified: "So can we see specifications on that product and the data to support that then?" > *The applicant has provided absolutely no data or specifications to support their claim that their turf will be PFAS-free.*
- Concerns about the embodied carbon of these products and advised consultation with Cornell University's Circular Construction Lab. Recyclability does affect SEQR. Can you get a letter from them that says they 100% recycle, because I'm only seeing reuse – not just there is a facility, but do they actually recycle it and turn it into something else? We're talking about a situation 10-15 years down the road. Just having a list of facilities, what if one goes out of business. (Andy, Nikki, Emily)

20. **Testing and Community participation in scoping.** It is clear that the consultants on this Project see an important distinction between a PFAS-free product, on the one hand, and meeting "the letter" of the NY Carpet law, on the other. It is also clear that they will argue for a different criteria of significance for interpreting PFAS levels in their product than the EPA, scientific literature, or the public would argue for. Furthermore, Cornell's consultant has already indicated their strong preference that the testing be conducted at the site of manufacturing, citing concerns that transport can introduce PFAS contamination. He is absolutely right: in fact, the packaging and transport process is documented to introduce further PFAS contamination. Packaging is an intentional product choice and intrinsic to the products' arrival at Cornell. Because the health and environmental consequences of the turf field are dependent on the product that is **actually delivered to Cornell**, not the product that exists in a counterfactual world where transport does not exist, the Planning Board must require that the product be tested and verified to be PFAS-free at both the manufacturer and upon delivery (after transport). These are only three points to illustrate why public involvement is necessary in the scoping process.

21. **Viable alternatives to fake plastic grass.** Natural turf will not work on this site according to Dr. Frank Rossi, but the conversation must be broadened to include all other potential sites. Could Cornell meet their playing needs with additional grass fields? Could they amend their usage schedule to ask some student clubs to meet on other fields rather than Alumni Fields? For instance, why do activities such as fly fishing, cheerleading, Academic Department Teambuilding Events, and Sorority/Fraternity Fundraisers need to be hosted on an artificial turf field?