CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

DATE: July 30, 2026

TO: Honorable Adrin Nazarian, Chair
Honorable Ysabel Jurado
Honorable Imelda Padilla
Honorable Nithya Raman
Honorable Katy Yaroslavsky
Energy and Environmental Committee

FROM: Saria Bhaga, Interim Director and General Manager
LA Sanitation and Environment

For Sarai
Alex E. Helou

SUBJECT: **RESPONSE TO INSTRUCTION 4 OF THE SEPTEMBER 17, 2024 CITY COUNCIL SUBSTITUTE MOTION RELATIVE TO THE ENVIRONMENTAL AND FINANCIAL IMPACTS ASSOCIATED WITH PROCESSING SYNTHETIC GRASS (CF 24-0602).**

COUNCIL INSTRUCTION

On September 17, 2024, the City Council approved Substitute Motion 12 for Council File 24-0602, substituting for the prior motion dated May 24, 2024. Instruction 4 of the Substitute Motion "Instruct[s] the Bureau of Sanitation, with the assistance of the LADWP, to report to Council with recommendations on the environmental and financial impacts associated with the processing of synthetic grass waste in order to not affect the recharge of groundwater aquifers, soils, and biodiversity within the Los Angeles region."

RECOMMENDATION FOR COUNCIL ACTION

1. Recommend for Council to Note and File as this memo is informational only.

DISCUSSION

Background

Artificial grass is typically made of polyethylene, polyester, polypropylene, nylon, or a hybrid of these different materials that is used to make the plastic "blades" of grass. The blades are woven into a backing material, which receives an acrylic coating before being coated by other chemicals, such as polyurethane or latex. The spaces between each blade are filled with infill material, most often sand and crumb rubber, usually made from recycled tires, or from plant or mineral based infills that may contain plastic polymers or coating.

Per- and polyfluoroalkyl substances (PFAS) are a large group of manmade chemicals that have been widely used in industrial, commercial, and consumer products since the 1940s. Nearly 15,000 PFAS chemicals exist according to the United States Environmental Protection Agency's (U.S. EPA) chemical database. PFAS are added to artificial turf as an extrusion agent during the manufacturing process to help shape the blades of grass and to prevent the molten plastic from clogging machinery.

Impacts of Artificial Turf Waste

Due to its unrecyclable nature leading to its landfilling, disposal of artificial turf can pose environmental and health threats by affecting our biodiversity and potentially contaminating soil, groundwater, and surface waters. Much of the plastic carpets and rubber crumb infill ends up in landfills, which also pose environmental threats beyond the turf's lifespan. The disposal of artificial turf raises concerns about microplastics pollution, potential leaching of chemicals, and the overall environmental impact of synthetic materials. Although landfills are designed to capture and treat leachate and contaminants from solid waste and landfill operators monitor surrounding groundwater to prevent contamination, these methods cannot altogether remove emerging contaminants of concern, like PFAS and microplastics. As a result, chemicals like the ones present in artificial turf may continue to seep into the soil and slowly travel to the water table.

Publicly Owned Treatment Works (POTWs) do not produce or manufacture PFAS, but rather receive these chemicals and other pollutants. Only advanced water treatment technologies can treat leachate with contaminants such as PFAS - conventional treatment plants cannot. This means surface waters, like the LA River and Santa Monica Bay, run the risk of contamination by wastewater effluent, which may pose an additional risk to public health and the environment, and affect biodiversity.

Impacts of Artificial Turf Waste to Groundwater

LASAN provides residential waste disposal services to single-family households and small multifamily complexes throughout the City. If artificial turf is placed in a resident's black trash bin for disposal, it will be collected with the waste and disposed of at Class III landfills. Artificial turf from commercial facilities is managed by the business's franchise waste hauler.

LASAN currently utilizes Sunshine Canyon Landfill (SCLF) to dispose of artificial turfs. SCLF is located in an area where subsurface conditions influence groundwater movement. The site is underlain by alluvium, which consists of loose, unconsolidated sediments. The shallow zone is unconfined and more permeable due to these loose materials and weathering, while the deep zone is generally less permeable, though fractures and weathering can still enhance groundwater flow. It is uncertain whether the alluvium in this area is hydraulically connected to the Sylmar Basin. These characteristics present a potential risk for contaminants to migrate into the groundwater system. At least some samples taken in the past showed that PFAS is present in landfill leachate and in groundwater downgradient of the landfill. Although current disposal activities are confined to lined portions of the landfill to minimize leachate migration risk,

PFAS has been found to be present at elevated concentrations at two monitoring points of the landfill, a vertical riser “L2-R2” and “deep leachate” collection point. See attached figures for locations and concentrations of these monitoring points. Elevated concentrations of PFAS are also present in a groundwater monitoring well “MW-13R” downgradient of the landfill. This monitoring well is positioned to capture any leaks from the landfill, leachate collection tanks, stormwater retention basin, and groundwater interceptor trench/cut-off wall. Residential artificial turf material continues to be received at the landfill and could be a potential source of PFAS to the leachate and groundwater.

SCLF has implemented several measures to reduce the risk of contaminated leachate migrating into the groundwater system below the landfill. The current disposal cells are lined and a leachate collection system is in place. Only potable water is used for dust control on site, and leachate collected by the leachate collection system is blended with condensate, treated with hydrogen peroxide and then sent to the sanitary sewer system (although it should be noted that hydrogen peroxide would not treat the PFAS present in the leachate). Additionally, all spillways and runoff channels are concrete-lined, including the outlet to the storm drain, further minimizing the potential for infiltration of stormwater runoff from the landfill. To address the risk of groundwater contamination from the unlined portion of the landfill, the landfill operator implanted a Corrective Action Program (CAP), which uses a subdrain system to collect liquids from unlined areas and directs them to the site’s liquids handling facility. Additionally, seep collection points, a permeable groundwater collection trench, and an impermeable cutoff wall are in place to intercept and manage any liquids that migrate in the subsurface away from the disposal cells.

Waste Management Options:

The current waste management options for artificial turf include reuse, recycling, and disposal of the material in landfills, which are discussed in more detail below. Currently, artificial turf is very challenging to recycle because it is made up of many different plastic layers and components and is most often managed through reuse and disposal. At this time, commercially viable processing technologies capable of effectively separating the multiple components of artificial turf and addressing PFAS and other contaminants of concern are not available in California. Consequently, landfill disposal remains the primary end-of-life management option until more effective processing technologies become commercially available. Limited recycling opportunities have contributed to instances of stockpiling, illegal disposal, and misleading ‘recycling services.’ These practices often add to the environmental damage by generating microplastic dust, piles of improperly discarded materials, and even toxic fires. Proper collection, management and end of life options for artificial turf with PFAS and other hazardous chemicals are essential to preventing negative impacts to the environment.

1. **Reuse of Artificial Turf:**

   Artificial turf is sometimes reclaimed and reused for smaller applications, such as home landscaping, batting cages, and dog kennels. Repurposing of synthetic turf is the most common use at the end of its useful life. However, the issue with reusing artificial turf that contains PFAS and other toxic chemicals lies in the potential environmental and health risks associated with them. Subsequently,

reusing artificial turf with PFAS and other toxic chemicals can result in the release of these harmful substances into the environment, potentially contaminating soil, water, and wildlife. Therefore, proper disposal and management of artificial turf containing PFAS and chemicals of concern is essential to prevent further environmental contamination and safeguard public health.

2. **Recycling of Artificial Turf:**

   There are no recycling facilities for this material currently in the state of California. Used artificial turf is transported out of state for removal of the infill. The carpet is then returned to California for shredding. The plastic fibers backing is allegedly incorporated into the manufacturing of new products, adding the toxic microplastics into lesser quality products and rendering them unrecyclable. The sand and crumb rubber are claimed to be reused as infill for new turf installations.

   Artificial turf recycling has not yet demonstrated itself to be economically viable on a large scale. There are also concerns that not all chemical contaminants may be destroyed through the recycling process and may inadvertently contribute to increased contamination levels. Furthermore, recycled artificial turf continues to pose the risk of releasing plastic materials into the environment upon deployment.

3. **Disposal of Artificial Turf:**

Hazardous materials are presently permitted for disposal in Class III municipal landfills. Subtitle C hazardous waste landfills provide optimal containment. These specialized landfills are equipped with advanced engineering controls, including robust liners, leachate collection and treatment systems, and stringent operational standards that effectively reduces the risk of environmental contamination.

RECOMMENDATIONS

For artificial turf disposal, LASAN recommends disposing in Subtitle C hazardous waste landfills as the most effective containment solution. These facilities feature advanced engineering controls, including robust liners, leachate collection and treatment systems, and stringent operational standards, ensuring superior containment of hazardous chemicals compared to other landfill types. This approach significantly reduces the risk of environmental contamination, aligning with best practices for managing persistent and complex waste materials.

LASAN also recommends having continued monitoring and ensuring that the Corrective Action Program and other mitigation measures remain effective in order to minimize the risk of groundwater contamination from the unlined portion of the landfill.

LASAN's recommendation is based on the latest available data and is strategically designed to minimize the release of contaminants from artificial turf into the environment. LASAN will collaborate with other cities and governmental agencies to

deepen LASAN's understanding of artificial turf disposal practices and encourage communities to use natural grass or other landscaping instead of artificial turf. As new insights emerge, LASAN is committed to revising and updating recommendations to ensure they reflect the most current scientific research and regulatory standards.

FISCAL IMPACT STATEMENT:

Implementation of any Citywide program related to the collection, processing, testing, or disposal of artificial turf containing PFAS or other chemicals of concern would require additional funding and resource commitments beyond LASAN's existing operating budget. Any future program or policy adopted by the City should identify an appropriate funding source and allocate the necessary resources to support its implementation.

If the material were to be collected by the City and disposed of in a Subtitle C hazardous waste landfill, the financial cost on the collection, transportation, and disposal fees of this material and the overall quantities within the City would have to be further evaluated. The average landfill disposal cost for regular solid waste is $65.23 per ton, but the cost to dispose of the artificial turf in a Subtitle C or other hazardous waste landfill would be nearly $85.00 per ton. This cost does not include transportation and accessorial (Roll Off poly liner, drop off fee, and Roll Off container with tarp and bows) and depends on PFAS analytical results. The cost also assumes material is below the PFAS threshold of drinking water.

LASAN has already received some information on disposal options from Subtitle C landfills used for existing hazardous waste materials, but the quantity of the artificial turf material existing in the City would have to be further evaluated in collaboration with entities such as LADWP and LA Recreation and Parks.

JS/KG:TM