



DATE: November 18, 2024
TO: City Council Sustainability Committee
FROM: Director of Public Works
SUBJECT: Possible Regulation of Artificial Turf

RECOMMENDATION

That the Council Sustainability Committee (CSC) reviews and provides policy direction on this report.

SUMMARY

In response to a few public comments and a request from the CSC, staff prepared this report with considerations for possible regulation of artificial turf. This report provides information regarding some benefits and concerns related to artificial turf, as well as regulations that have been adopted, or are being considered by other jurisdictions in California. Following the signing of SB 676¹ by Governor Newsom in October 2023, which allows local jurisdictions to ban artificial turf, the City of Millbrae in San Mateo County and the City of San Marino in Los Angeles County have banned artificial turf. Some other jurisdictions considering a ban and/or conducting studies on artificial turf include the City of Sunnyvale, Santa Clara County, City of Santa Rosa, City of Los Angeles, and City of Pasadena.

BACKGROUND

In 2014, upon a referral from the Planning Commission (Commission), the CSC considered a report about the use of artificial turf. The Commission had received a request from Saint Rose Hospital for an exception to replace some lawn areas on the property with artificial turf, due to zoning regulations that do not allow for commercial and industrial properties to use artificial turf in required landscape areas. The CSC stated that artificial turf is not appropriate for a hospital setting and drought tolerant vegetation would be best. The CSC was not in favor of banning artificial turf, but instead directed staff to educate the public about the topic.²

¹ https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=202320240SB676

² <https://hayward.legistar.com/MeetingDetail.aspx?ID=505649&GUID=1FCAD262-50F2-43B7-A5F6-B363555191D8&Options=&Search=>

For several years, the City has discouraged the use of artificial turf. The City’s zoning regulations require commercial and industrial properties to plant “water-conserving trees, shrubs, turf grass, ground cover, or a combination thereof” and state the “sole use of bark, decorative paving, or decorative rock shall not be allowed in required landscape areas,” including artificial turf, which is considered a form of decorative paving.³ The City’s lawn conversion program which provides rebates to approved Hayward customers to replace turf with water-efficient landscaping, does not allow rebates for artificial turf. The Bay Area Water Supply and Conservation Agency (BAWSCA), manages the *Lawn Be Gone* program on behalf of the City and a number of Bay Area agencies receiving water from the San Francisco Public Utilities Commission, and provides a fact sheet about artificial turf which states, “while artificial turf requires less water than a natural turf lawn, there are healthier and more ecologically sound alternatives that we would like to promote”.⁴

In late 2023 and early 2024, the use of artificial turf was in the news because Governor Newsom had recently signed SB 676, which prohibits jurisdictions from “enacting or enforcing any ordinance or regulation that prohibits the installation of drought-tolerant landscaping using living plant material on residential property.” The bill also specifies “that drought-tolerant landscaping does not include the installation of synthetic grass or artificial turf.” In effect, the new law allows local jurisdictions to ban synthetic grass or artificial turf. According to the bill’s author, Senator Bill Allen, “emerging research reveals that artificial turf incurs significant environmental problems including microplastic pollution, chemical run-off, and lack of recyclability”.⁵ Previously, in 2015, amid drought concerns, Governor Brown signed AB 1164 prohibiting local jurisdictions from banning the use of artificial turf.

During the 40-day public review period for the draft updated Climate Action Plan (CAP), (October 4, 2023 to November 14, 2023), staff received several public comments requesting the CAP include an action calling for a ban on artificial turf due to concerns regarding the lack of recyclability and potential health impacts. Subsequently, the CSC directed staff to prepare a report on the possible regulation of artificial turf.

DISCUSSION

Since SB 676 became law, two cities out of nearly 500 cities and 58 counties in the state have adopted bans on the use of artificial turf. Several more jurisdictions are considering regulations to ban artificial turf. Artificial turf has several environmental and health concerns as well as several benefits, which are discussed below.

Concerns with Artificial Turf

Heat Island Effect – A study conducted in Las Vegas, Nevada, found direct correlation between solar radiation and artificial turf. The study monitored various surfaces for 12 hours and found that in direct sunlight when the air temperature is 109 Fahrenheit, a green artificial turf

³ [HAYWARD MUNICIPAL CODE | Municipal Code | Hayward, CA | Municode Library](#)

⁴ [https://bawasca.org/uploads/userfiles/files/Artificial%20Turf%20Fact%20Sheet\(2\).pdf](https://bawasca.org/uploads/userfiles/files/Artificial%20Turf%20Fact%20Sheet(2).pdf)

⁵ <https://trackbill.com/s3/bills/CA/2023/SB/676/analyses/assembly-local-government.pdf>

field can exceed 160 degrees Fahrenheit.⁶ As noted in a Valley Water fact sheet, artificial turf may require frequent irrigation to reduce temperatures.⁷ Artificial turf can cause heat-related illnesses and burns for individuals playing on the field.

Maintenance – Artificial turf on an athletic playing field requires regular maintenance and some manufacturers recommend rinsing artificial turf weekly to remove pollen and dust.⁸ The Toxics Use Reduction Institute has compared a variety of studies and determined, over a 15-year period, grass turf that uses conventional practices is more cost effective overall than artificial turf; and the cost for grass turf that uses organic practices can be 25% more cost effective than grass turf grown with conventional practices. The cost analysis is based on the initial cost to install the various types of turf and its maintenance costs. Maintenance costs for artificial turf can include fluffing, redistributing and shock testing infill; periodic disinfection; seam repairs and infill replacement; and watering to lower temperatures on hot days.⁹ Maintenance costs for conventional practices of grass turf can consist of watering, mowing, fertilizing, replacing sod, applying pesticides, and other activities. Maintenance costs for organic practices are similar to conventional turf except compost is used instead of chemical fertilizers and pesticides.¹⁰

Chemical Leaching and Health – Studies on artificial turf by the California Office of Environmental Health Hazard Assessment and Department of Toxic Substances Control have shown the presence of many harmful chemicals including Per- and polyfluoroalkyl substances (PFAS) and Ortho-phthalates.^{11 12} Studies have shown that PFAS can build up in the environment and in our bodies. After a certain amount of accumulation, PFAS may increase the chances of cancer, increase cholesterol levels, and risk of obesity.¹³ Both PFAS and Ortho-phthalates may cause developmental toxicity, reproductive toxicity, endocrine toxicity, and immunotoxicity.¹⁴ Children are particularly sensitive to the presence of harmful chemicals due to their “window of vulnerability” that occurs during active stages of growth and development, and their low-body weight.¹⁴ Currently, there is a lack of studies directly linking exposure to artificial turf and human health impacts.¹⁴ According to an article published by the National Library of Medicine, more studies are needed to fully understand the health impacts associated with artificial turf.¹⁴ In addition to chemical leaching, microplastics from the artificial turf can also run off into the environment, including local waterways, soil, and possibly groundwater, disrupting the health of soil microecosystems and wildlife.¹⁴

Recyclability – On an average-sized playfield (80,000 square feet), artificial turf can generate approximately 40,000 pounds of turf and 400,000 pounds of infill.¹⁵ At the end of its useful

⁶https://www.researchgate.net/publication/238075284_SURFACE_TEMPERATURE_HEAT_LOADING_AND_SPECTRAL_REFLECTANCE_OF_ARTIFICIAL_TURFGRASS

⁷ [Artificial Turf Fact Sheet_042922_SL.pdf](#)

⁸ [Maintaining and Cleaning Artificial Grass for Longevity: Expert Tips and Tricks | Smart Turf@ Artificial Grass](#)

⁹ turi.org/publications/artificial-turf/

¹⁰ [2014SB-00443-R000317-Grassroots Environmental Education -TMY.PDF](#)

¹¹ [Synthetic Turf Studies - OEHHA \(ca.gov\)](#)

¹² <https://dtsc.ca.gov/wp-content/uploads/sites/31/2024/07/Background-Documents-on-Candidate-Chemicals-in-Artificial-Turf.pdf>

¹³ <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>

¹⁴ <https://pubmed.ncbi.nlm.nih.gov/articles/PMC10262297/#R35>

¹⁵ https://www.sierraclub.org/sites/default/files/2024-03/HB457_MDSierraClub_fav%2016Feb2024.pdf

life, most artificial turf is disposed of in landfills or incinerated. Due to the chemical makeup of artificial turf, both options have the potential to leach or off-gas hazardous chemicals and microplastics into the environment.¹² The main disposal method in California for artificial turf is landfill.

Benefits of Artificial Turf

Maintenance – As a synthetic alternative to natural turf, artificial turf requires less water and maintenance. For example, artificial turf does not require mowing, avoiding the use of gasoline-powered equipment and the associated emissions. It also does not need to be irrigated, aerated, and regularly reseeded, reducing the resources and labor required for maintenance.

Chemical Leaching and Health – Artificial turf does not require synthetic fertilizers, herbicides, and pesticides, preventing concerns of chemical run-off into waterways. Excess runoff of chemical fertilizers can, among other things, lead to algae blooms in our waterways. As the algae die, it decomposes and removes the oxygen from the water, killing nearby aquatic life. Herbicides and pesticides can be ingested by aquatic animals, causing harmful health effects for both aquatic animals and humans that consume the aquatic life¹⁶. Depending on the dose and exposure time, these chemicals may lead to neurodegenerative disorders, disrupt our endocrine system, cause respiratory complications, reproductive disorders, and birth defects.

Playtime – Artificial turf provides a consistent playing surface. Living grass can only be used three to four times a week with required rest periods in between¹⁷. Therefore, artificial turf can provide two to three times more play time than living turf. Artificial turf can also be played on in the rain without damaging playfields, which allows public spaces and athletic stadiums to accommodate more games and events than those with conventional turf.

Enforcement and Other Considerations

Most of the jurisdictions currently considering regulating artificial turf are focusing on publicly owned parks and playfields. If the City were to regulate artificial turf, it is likely that it would apply primarily to residential and commercial properties as the City has limited jurisdiction over parks and playfields. If Hayward were to consider regulating artificial turf, the following would also require further study:

- Enforcement of regulations could be a challenge as existing City staff may not have the capacity to inspect properties for compliance.
- Would regulations require removal of existing artificial turf? If so, costs may include disposal and increased water usage.
- AB 1572 became law in 2023 and will prohibit the use of potable water for irrigation of non-functional turf on commercial, industrial, and institutional properties. Effective

¹⁶ [How Fertilizers Harm Earth More Than Help Your Lawn | Scientific American](#)

¹⁷ [Why Synthetic Turf? - Synthetic Turf Council](#)

dates of the law will be phased beginning in 2027. Some property owners may be considering artificial turf as a replacement for nonfunctional turf.

Regulations Adopted or Being Considered by Other Jurisdictions

Since the approval of SB 676, the City of Millbrae has banned new artificial turf installation.¹⁸ The City of Millbrae is enforcing their ban by informing contractors who request marking of utilities prior to construction or landscaping projects; investigating complaints from the public; and visual observations by code enforcement staff. Additionally, the City has established requirements for removal of existing synthetic turf that was installed prior to January 1, 2024.

On September 27, 2024, the City of San Marino in Los Angeles County adopted an ordinance prohibiting artificial turf installation and established requirements for existing synthetic turf that was installed prior to September 13, 2023. Exceptions are permitted for recreational areas of less than 200 square feet in the rear yard of a residence and facilities owned by schools.¹⁹

The following jurisdictions are considering the possible regulation of artificial turf:

- **City of Sunnyvale** – The City is currently preparing a study titled “Evaluate the Use of Artificial Turf versus Living Ground Covers”, which is expected to be completed by June 2026. On August 27, 2024, the City Council decided to reconsider a possible ban after the study has been completed.²⁰
- **Santa Clara County** – On August 27, 2024, the Santa Clara County Board of Supervisors decided to revisit the topic in January 2025 after further community input and data collection has been completed.²¹
- **City of Mountain View** – The City is waiting for Santa Clara County’s decision before deciding on a possible ban.
- **City of Santa Rosa** – On September 4, 2024, the City’s Climate Action Subcommittee recommended banning artificial turf. The item has not yet been scheduled for City Council review.²²
- **City of Los Angeles** – On June 28, 2024, the City’s Energy and Environment Committee approved developing a study on synthetic and natural fields.²³ The study will require research from multiple departments, and currently does not have a set completion date.
- **City of Pasadena** – On September 13, 2024, the City’s Environmental Advisory Commission approved a memorandum to their City Council with recommendations that included a moratorium on new installations of artificial turf and preparation of a

¹⁸ [Chapter 8.65 SYNTHETIC GRASS AND ARTIFICIAL TURF \(codepublishing.com\)](#)

¹⁹ [O-24-1413 Artificial Turf \(Singed\).pdf \(revize.com\)](#)

²⁰ [City of Sunnyvale - File #: 24-0824 \(legistar.com\)](#)

²¹ [Board of Supervisors - Regular Meeting - Aug 27, 2024 9:30 AM \(iqm2.com\)](#)

²² [Martin Luther King Jr. Neighborhood Park and Trail | Santa Rosa, CA \(srcity.org\)](#)

²³ [Council and Committee Meeting Calendar | Office of the City Clerk \(lacity.gov\)](#)

Health Impact Assessment to study potential adverse health impacts.²⁴ The City Council's Municipal Services Committee is currently reviewing the memorandum.

ECONOMIC IMPACT

A new policy or ordinance prohibiting or discouraging the use of artificial turf may have negative impacts on local suppliers and contractors. If an ordinance is developed, staff would engage with local contractors and landscapers.

FISCAL IMPACT

This agenda item has no impact on the City's General Fund or other funds. If an ordinance addressing the use of artificial turf is considered, staff would prepare a fiscal impact analysis, including possible staffing impacts associated with enforcement.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority to *Champion Climate Resilience & Environmental Justice*, but the item is not specifically related to a project identified in the Strategic Roadmap.

SUSTAINABILITY FEATURES

Planting native plants and grasses in lieu of artificial turf results in improved soil health and storm water quality, increase biodiversity, and encourage carbon sequestration.

PUBLIC CONTACT

No public contact was made for this agenda item, however, during the 40-day public review period for the draft updated CAP last fall, staff received several public comments requesting that the City pursue a ban on artificial turf.

NEXT STEPS

Staff will take appropriate next steps following direction from the Committee.

²⁴ [Final memorandum to Council re Artificial Turf \(cityofpasadena.net\)](#)

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