



# City of Sunnyvale

## Proposed Amendment

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24-0008

Agenda Date: 9/10/2024

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### 2024 COUNCIL STUDY ISSUE

**NUMBER**

ESD 24-01

**TITLE** Evaluate the Use of Artificial Turf versus Living Groundcovers

**BACKGROUND**

**Lead Department:** Environmental Services Department

**Support Departments:** Office of the City Manager  
Office of the City Attorney  
Department of Public Works

**Sponsor(s):** Sustainability Commission

**History:** 1 year ago: N/A  
2 years ago: N/A

**SCOPE OF THE STUDY**

**What precipitated this Study?**

The Sustainability Commission sponsored this Study Issue in response to some community members' opposition to the use of Artificial Turf (AT) in public parks and athletic fields. Some community members have raised concern regarding the use of AT at Fair Oaks Park and during the design approval of the Lakewood Park Renovation project. City Council supported the use of living grass for of the design of Lakewood Park.

The community members raised concerns that AT may pose environmental threats to water and soil leading to negative long-term impacts to human and pet health. Community members stated that AT is commonly made of plastics sourced from fossil fuels and some research has linked AT production and the use of perfluorinated and polyfluorinated substances (PFAS). Issues like increasing urban heat island effect, microplastic pollution, and stormwater pollution are also of growing concern. This prompted the Sustainability Commission to submit a Study Issue further evaluating the use of artificial turf.

Following years of extreme drought, AT has become a popular alternative to living turf for the water saving benefits. Currently, the City allows the installation of AT as a water conservation strategy. The City also considers AT installation on athletic fields during park renovations or installations. Apart from water conservation, AT allows for decreased maintenance time and overall, significantly more playing time for the community.

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At the August 27, 2024, City Council meeting, the City Council voted to not approve a proposed policy to ban AT at City facilities and directed staff to propose an amendment to ESD Study Issue 24-01 to include an evaluation and analysis of options for improved maintenance practices that would maximize the quality and use of the City's current natural grass athletic fields and options for future construction of natural grass athletic fields.

### **What are the key elements of the Study?**

The purpose of this Study is to evaluate the impacts of AT versus living grass and other ground cover alternatives. The Study will analyze the benefits and challenges regarding the installation and use of AT on private properties, including residential and commercial landscapes, and public properties, including athletic fields. [The Study will include an evaluation and analysis of how to manage and select natural grass alternatives for fields in public parks that will achieve the highest level of quality and maximize field use time for recreational and youth sports.](#) The Study will also consider ways to educate the community on alternative options when removing natural lawn.

Key Study elements include:

- Comparative Analyses:
  - Based on review of existing studies, assess the environmental and health impacts of artificial turf (AT) to living grass and other alternative ground cover options. This should include but is not limited to, urban heat island impact, wear and tear resulting in microplastic pollution, stormwater runoff pollution, chemical leaching, pesticide and fertilizer use, etc. This should also examine cradle-to-grave environmental impacts such as greenhouse gas emissions and water usage from manufacture and use as well as end of product life disposal impacts.
  - Assess the operational and maintenance costs of the lifetime of AT and living turf and other alternative ground cover options.
- [Evaluate and analyze optimal maintenance practices for managing high quality natural grasses for maximizing field use. This will include an analysis of soil composition, irrigation techniques, feeding, operational approaches and practices, operation and capital needs and grass varieties to determine the optimal conditions for maintaining a high-quality playing surface using natural turf.](#)
- Develop recommendations based on the analyses for the City to
  - Develop policy regarding the use of AT.
  - Provide guidance on alternatives to AT, [including natural grass](#), available for different use cases.

**Estimated years to complete study: 2 years**

### **FISCAL IMPACT**

#### **Cost to Conduct Study**

Level of staff effort required (opportunity cost):	Moderate
Funding Required for Non-Budgeted Costs:	\$ 150,000
Funding Source:	Will seek budget supplement

Due to a lack of staff resources and expertise, consultant support will be needed for this Study. The

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review of the existing studies, the life cycle analysis, cost comparisons, and policy recommendations can all be led by the consultant with support from City staff. ESD and DPW will provide information and data needed for the consultant to complete the assessments and will collaborate with the consultant on policy and outreach recommendations.

**Cost to Implement Study Results**

Unknown. The Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

**EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION**

Council-Approved Work Plan: No

Council Study Session: Yes

Reviewed by Boards/Commissions: Sustainability Commission, Planning Commission

**STAFF RECOMMENDATION**

Support. This policy issue merits discussion at the 2024 Study Issues Workshop.

Currently, the City allows the installation of artificial turf (AT). Water conservation is a priority for Sunnyvale, and artificial turf helps residents, businesses and the community save water. AT also provides some benefits with decreased maintenance needs and more playing time on athletic fields. Some research is raising concerns around the environmental and health impacts of using AT. The City has not evaluated the research to develop a full scope of the benefits and potential issues regarding the installation and use of AT, and this study would facilitate staff conducting such an evaluation to help inform future policy decisions.

Prepared by: Christina Raby, Interim Environmental Programs Manager

Reviewed by: Ramana Chinnakotla, Director, Environmental Services Department

Reviewed by: Chip Taylor, Director, Department of Public Works

Reviewed by: Dennis Jaw, Interim Director of Finance

Reviewed by: Connie Verceles, Deputy City Manager

Approved by: Tim Kirby, City Manager