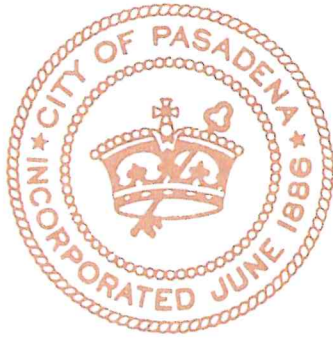




Agenda Report

October 13, 2026

TO: Honorable Mayor and City Council

FROM: Parks, Recreation and Community Services Department

SUBJECT: SURFACE TYPE SELECTION FOR VILLA PARKE AND ROBINSON PARK ATHLETIC FIELDS

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the proposed project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Section 15301 (Class 1, Existing Facilities) and 15302 (Replacement or Reconstruction), and there are no features that distinguish the project from others in the exempt classes, and therefore, there are no unusual circumstances and no other exception to the exemption applies; and
2. Approve the replacement of existing artificial turf fields at Villa Parke and Robinson Park with enhanced artificial turf systems that are recyclable, that both remove PFAS from manufacturing and use natural infill materials, while directing staff to continue to evaluate natural grass for future renovation projects.

BACKGROUND:

The Parks, Recreation and Community Services Department (PRCS) manages 22 dedicated athletic fields that support youth and adult sports, school athletics, recreational programming, and community events throughout Pasadena. The Villa Parke soccer field is an artificial turf field installed between 2009 and 2011 and replaced under warranty in 2018. It is approaching the end of its useful service life and was approved for replacement as part of the FY 2026–27 Capital Improvement Program (CIP). The Robinson Park multipurpose field is also approaching the end of its useful service life but is not currently funded for replacement and is included in this analysis for comparison and future planning purposes.

On May 4, 2026, City Council adopted the FY 2026-27 CIP, funding the replacement of the Villa Parke athletic field surface, and directed staff to further evaluate field surface options. During its March 24 and June 23, 2026 meetings the Municipal Services Committee (MSC) requested additional analysis of natural grass, hybrid/reinforced natural

grass, and artificial turf. Areas of focus included field capacity, maintenance, lifecycle costs, water use, heat mitigation, environmental and health considerations, microfiber concerns, replacement timing, and potential alternative field availability through coordination with the Pasadena Unified School District (PUSD) and the Rose Bowl. Prior MSC reports are included as Exhibits A and B for reference.

This report responds to those requests by providing a side-by-side evaluation of natural grass, hybrid reinforced natural grass and enhanced artificial turf using consistent evaluation criteria to assist in the selection of surface type.

Evaluation Framework and Hybrid/Natural Grass Options

Staff evaluated natural grass, hybrid/reinforced natural grass, and next-generation artificial turf based upon benefits and operational tradeoffs, lifecycle costs, cost per playable hours, and environmental, regulatory, and heat considerations.

Staff also reviewed recent examples of hybrid systems in use. Hybrid/reinforced natural grass combines natural grass with synthetic fibers to improve durability and stability under intensive use. The Rose Bowl used a reinforced hybrid natural-grass system for the 2025 Fédération Internationale de Football Association (FIFA) Club World Cup soccer tournament, which included six games. The hybrid turf was installed by a contractor on behalf of FIFA. Synthetic fibers were stitched into a mesh mat with natural grass to create a smooth playing surface. The hybrid field was removed after the tournament. This example shows that hybrid systems can support frequent use, but their use in municipal fields remains uncommon.

To further evaluate natural grass for future athletic field renovation projects, PRCS will conduct a test plot using four varieties of seed at the multi-purpose field at Villa Parke. The proposed test area is approximately 25,000 square feet and is in an open, highly utilized area. Work will include removing existing grass, soil preparation, grading, seeding and using fertilizer. Over a two-year period, the trial will compare establishment, maintenance needs, staff time, wear, recovery, and overall turf condition. Each variety will receive the same irrigation, mowing, fertilization, and maintenance. Results will provide site-specific information for future natural grass field planning.

Benefits and Operational Tradeoffs

The three surface options provide different approaches to balancing program capacity, player experience, environmental considerations, maintenance requirements, field availability, and long-term costs. The table below provides a brief definition of each option, followed by its primary benefits and operational tradeoffs.

Evaluation Category	Natural Grass	Hybrid (Reinforced Natural Grass)	Enhanced Artificial Turf
Definition	Living grass maintained through irrigation, mowing, fertilization, and routine maintenance	Natural grass reinforced with synthetic materials to improve durability and playability	Fully synthetic consisting of artificial turf fibers and organic infill designed to replicate natural grass
Player Experience / Safety	Cooler surface, natural traction; Safety concerns with compaction, gopher activities, holes and uneven wear	Retains most natural-grass characteristics while improving durability.	Consistent surface; organic infill reduces heat compared with crumb rubber but warmer than natural grass in extreme heat
Water Use	Highest of the three options	Similar to natural grass	Minimal water use; significant water savings
Maintenance	High - mowing, edging, irrigation, fertilization, and pest control	Similar to natural grass, with additional grooming and periodic renovation to maintain the synthetic reinforcement	Low - routine maintenance burden; no mowing or irrigation
Initial Cost	\$1.10M	\$2.20M preliminary estimate	\$971,000
Initial Field Closure	4 - 6 months for initial installation	N/A*	2 - 3 months for installation and replacement
Field Renovation Closure	3 months for seed, shorter for sod – yet higher cost	Site specific - not established	No shutdown with regular grooming schedule
Impacts to Programs	High due to seasonal maintenance	Similar to natural grass; requires periodic recovery and renovation closures	No displacement

* Hybrid initial closure is site-specific and has not been established for Villa Parke.

These tradeoffs are also reflected in how other cities have evaluated athletic field surface options. The City of Palo Alto provides a recent example of a similar evaluation process for El Camino Park. Palo Alto's City Council directed staff to conduct additional analysis before replacing the existing synthetic turf. The study compared natural grass, hybrid, and synthetic turf based on field capacity. Following the study, the City Council directed staff to replace the existing synthetic turf with improved synthetic turf using organic infill and to implement risk management measures including stormwater filtration and enhanced maintenance.

A recent inquiry of public agencies in California shows cities using synthetic turf selectively where they seek heavy use capacity for soccer/football, reduced irrigation, weather resilience, or predictable field availability, while natural grass remains part of many municipal inventories for athletic use.

Lifecycle Cost Comparison

The cost comparison table below shows the tradeoff between lower lifecycle and lower operating costs. Natural grass has the lowest modeled 10-year cost but requires more routine maintenance, annual renovations, and ongoing irrigation. Artificial turf has a higher long-term cost, primarily due to the anticipated Year 10 replacement, but requires less routine maintenance and water. The hybrid costs are preliminary estimates and included for comparison.

Category	Natural Grass*	Hybrid (Reinforced Natural Grass)**	Artificial Turf*
Base annual maintenance cost (Year 1)	\$27,937	\$58,580	\$5,738
Base annual renovation cost (Year 1)	\$9,848	N/A	\$10,908
Annual escalation rate	3%	3%	3%
10-year cumulative maintenance total	\$320,266	\$671,554	\$65,780
10-year cumulative renovation total	\$112,896	N/A	\$125,048
Initial capital / conversion cost	\$1,100,000	\$2,197,128	\$970,810
Surface replacement – Year 10 (3% escalation)		N/A	\$1,266,687
10-year total cost	\$1,533,162		\$2,428,325

**Site-specific estimate for Villa Parke.*

***Hybrid/Reinforced Natural Grass: Planning-level estimate based on the City of Palo Alto's Hybrid w/Perched Water Table system. A perched water table system helps retain moisture within the field while allowing excess water to drain. Palo Alto estimated construction costs of \$2,437,901 and annual maintenance of \$65,000 for an 80,000-square-foot field. These costs were scaled to the 72,099-square-foot Villa Parke field. Pasadena-specific hybrid renovation and replacement costs have not been established due to lack of information.*

Cost Per Playable Hour

To further illustrate the relationship between operating and maintenance costs and field availability, the table below compares the estimated annual operating and maintenance cost per playable hour for each surface option. Natural grass fields with lights are estimated to provide approximately 2,340 prime-time available hours annually, compared with approximately 3,120 hours for artificial turf. The calculation includes recurring maintenance and renovation costs and excludes initial capital costs and future surface replacement costs.

Surface	Annual Maintenance	Annual Renovation	Total Annual O&M	Prime-Time Available Hours	Cost per Prime-Time Hour*
Natural Grass	\$27,937	\$9,848	\$37,785	2,340	\$16.15
Hybrid (Reinforced Natural Grass)	\$58,580	N/A	N/A	2,340	\$20.03
Artificial Turf	\$5,738	\$10,908	\$16,646	3,120	\$5.34

**Cost for Hybrid (Reinforced Natural Grass) is based solely on annual maintenance costs, as annual renovation costs have not been established.*

Environmental, Regulatory, and Heat Considerations

Each surface presents different environmental, regulatory, and heat-related considerations. At the request of the PRCS Department, Pasadena Public Health Department is developing guidelines for outdoor youth recreation activity during extreme heat. The guidelines will apply to both natural grass and artificial turf athletic fields and are aligned with California Interscholastic Federation (CIF) policies. The guidelines include recommendations to replace the current practice of using standard ambient temperature estimates with Wet-Bulb Globe Temperature (WBGT) monitoring at the recreation location to comprehensively measure temperature, humidity, wind, sunlight, and solar radiation on the playing surface.

By establishing proactive and data-driven thresholds for outdoor youth activities, the guidelines eliminate the need for guesswork by city staff and permitted league administrators. The guidelines will include further recommendations for hydration intervals, practice duration, equipment use, and cancellation or postponement of recreation activity during periods of extreme heat. The table summarizes primary considerations and mitigation measures for each surface type.

Consideration	Natural Grass	Hybrid/Reinforced Natural Grass	Artificial Turf
Water & Maintenance	Irrigation, fertilization, mowing, pest control	Irrigation, grass maintenance and synthetic-fiber management	Minimal water, quarterly grooming, no mowing or irrigation
Materials & End-of-Life	Natural materials, no synthetic infill	Synthetic reinforcement removed and properly disposed	Non-tire-derived infill (e.g., cork, coconut fiber); recycled or disposed of at end of life
PFAS / Regulatory	No synthetic turf components or infill	Synthetic reinforcement should be evaluated for material composition	Manufacturer must provide material and PFAS information and comply with applicable laws
Heat	Generally coolest playing surface when healthy and adequately irrigated	Similar to natural grass; generally cooler than artificial turf when adequately irrigated	Higher surface temperatures than grass in direct sun
Heat Mitigation	Adequate irrigation and hydration breaks	Adequate irrigation and hydration breaks	Cooling measures, hydration breaks, and schedule adjustments during extreme heat

Field Capacity, Scheduling, and Partnership

The following section summarizes staff's current operational assessment and the factors that inform the field surface recommendation. It addresses existing maintenance capacity, scheduling options, field-specific constraints, and coordination with PUSD and the Rose Bowl. These factors help compare operational trade-offs of each surface type.

Section	Summary
Current Operational Capacity	One dedicated three-person sports field maintenance crew. Natural grass requires more staff time and equipment for routine maintenance and renovation. Hybrid requires similar maintenance, plus monitoring and repairs to the synthetic reinforcement. Artificial turf requires less routine maintenance, including grooming, inspections, and spot repairs. Any change in surface type would require assessment of staffing and equipment needs.
Scheduling and Displacement	Potential schedule adjustments include weekday/Sunday play, shorter seasons, and additional games per week to limit impact, yet will result in reduced participation.
Field Constraints	Existing seasonal and league commitments limit scheduling flexibility. Recovery and renovation needs vary by sport and surface type.
Partner Coordination (PUSD & Rose Bowl)	PUSD and the Rose Bowl have limited availability to accommodate displaced programs due to existing school, athletic, and event schedules.

Conclusion and Department Recommendation

The report evaluated natural grass, hybrid reinforced natural grass, and next-generation artificial turf based on field capacity, player experience, safety, water use, maintenance, lifecycle cost, field closure, heat, and environmental considerations. Each surface type has different benefits, limitations and operational and financial tradeoffs.

Natural grass offers a cooler playing surface, lower modeled long-term lifecycle cost, and avoids synthetic turf materials, but requires substantially more water and routine maintenance and has longer recovery and renovation periods.

Hybrid/reinforced natural grass may provide increased durability while retaining the characteristics of natural grass. The comparison provided shows a higher initial capital cost and higher estimated annual maintenance cost compared to natural grass and artificial turf. However, the estimate provided is based on a Palo Alto study and a Pasadena site specific costs for renovation, replacement and field capacity, water use and field closure periods have not been established.

Next-generation artificial turf provides the greatest scheduling capacity, lowest routine maintenance and water requirements, shortest closure periods, while requiring the highest long-term capital costs, and resulting in environmental concerns related to heat, synthetic materials, microplastics, PFAS, stormwater, and end-of-life management.

After considering field capacity, player experience and safety, water use, maintenance, life cycle cost, closure period, environmental considerations, community demand, and the space constraints of other potential field locations, the Department recommends retaining artificial turf at Villa Parke and Robinson Park.

COUNCIL POLICY CONSIDERATION:

The action is consistent with the City Council's goals to improve, maintain, and enhance public facilities and infrastructure.

ENVIRONMENTAL ANALYSIS:

This project has been determined to be exempt from environmental review pursuant to the guidelines of the California Environmental Quality Act (Public Resources Code §21080(b)(9); Administrative Code, Title 14, Chapter 3, §15301, Class 1, Existing Facilities and §15302, Class 2, Existing Facilities) and there are no features that distinguish this project from others in the exempt class, therefore, there are no unusual circumstances and no other exceptions to the exemption applies. Section 15301 exempts repair and maintenance of existing facilities involving negligible or no expansion of existing or former use. Section 15302 consists of replacement or reconstruction of existing facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced. The proposed project entails the replacement of existing artificial sports turf fields. The project would be in the same existing location, not result in more programming/scheduling of the fields, and will have the same purpose and capacity.

FISCAL IMPACT:

The City Manager's Recommended FY 2027 Capital Improvement Program (CIP) includes an appropriation of \$975,000 for the replacement of the artificial turf field at Villa Parke. No additional appropriation is required for the proposed artificial turf replacement, and there is no General Fund impact as a result of this action. If Council selects natural grass or hybrid/reinforced natural grass, additional funding would be requested.

Respectfully submitted,



KOKO PANOSSIAN

Director of Parks, Recreation and
Community Services

Prepared by:



Tsega Selassie
Management Analyst

Approved by:



MATTHEW E. HAWKESWORTH
Interim City Manager

Exhibit A – March 24, 2026, Municipal Services Committee Report
Exhibit B – June 23, 2026, Municipal Services Committee Report