



Efficient Park Maintenance - Designing with Maintenance in Mind For Recreation & Parks Facilities

Presented By:

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CHA Consulting, Inc. – For: Northern New England Recreation & Park Conference



Michael Moonan, Manager S&R

- **Registered Landscape Architect**
- **26+ Years Experience in Landscape Architecture & Landscape Maintenance Industry**
 - Planning and design of parks, streetscapes, and school facilities
 - Site design for international resorts and hotels
 - Managed all aspects: Master Planning – Conceptual Design – Construction Document Preparation – Specs – Construction Admin – Final Completion
- **Experience with community-wide recreation and parks master plan and design projects**
- **Expert speaker at several regional and national conferences**



Designing with Maintenance in Mind

- Design
- Establish a sense of place - branding
- Design for Ease of Maintenance
- Control Access and circulation



**Best Management Practices Used
at Urban Parks in National and International
Locations**

A Background Report for the National Mall Plan

Design

Park design considers all types of use and outlines common practices for coordinating the identity for a place and its appearance through consistent, appealing, and appropriate site furnishings and circulation approaches.

Enhancements to design reduce landscape damage and improve the efficiency of the maintenance staff. Additionally, visitor experience is enhanced as a result of easy access, comprehensive and clear information, and an overall level of excellence in landscape appearance.



Design

Establish a sense of place

- Reinforce place character through branding — use of logos and consistent site furnishings.
- Set high expectations for design quality and use of enduring materials.

Design for ease of maintenance.

- Standardize and limit the numbers and types of site furnishings.
- Pave under seating, trash containers, and information/interpretive signs.



Design to accommodate events and regular use with less impact.

- Develop specific areas to accommodate events.
- Pave areas to provide space for event infrastructure, including mobile food stands, information kiosks, stages, speaker's corners, etc.
- Incorporate landscape elements that are robust enough for high use (e.g., turf specified for sports field or golf courses).
- Incorporate utility connections within park furniture, such as bollards or light posts.
- Design tent anchor locations to support and control the location of tents at events.

Control circulation and access

- Control access for safety and the protection of landscape elements (e.g., avoiding soil compaction and trampling of tree roots).
- Design pathways and entrances to accommodate visitors' needs (e.g., multi-use trails, events, and protests).
- Reduce damage to the landscape through the use of fencing, social trail reduction tactics, edging, and corner treatments.



Establish a sense of place - Branding

Create sites, park systems identity

- Coordinate a site's identity and landscape appearance through consistent, appealing, and appropriate site furnishings, information, and circulation, which contribute to higher quality visitor experiences. Design sites to accommodate events and regular use and to support ease of maintenance.
- Best Practice: Establish a sense of place

Key points:

- Reinforce place character through branding — use of logos and consistent site furnishings.
- Set high expectations for design quality and the use of enduring materials.



Design for Ease of Maintenance

Standardize site furnishings.

Using a uniform design for site furnishings, such as

- waste containers,
- benches,
- lighting,
- and bollards,

improves the appearance of the landscape. Consider the park's brand and an area's use when selecting site furnishings. Beyond aesthetic appeal and the presentation of a consistent identity, standardized site furnishings **reduce costs and increase the efficiency of regular maintenance, repair, and replacement efforts.**

Place hard surfaces under site furnishings and information/interpretive displays.

- Hard surfaces under and around seating, trash containers, and information/interpretive sign- age prevent wear and tear on turf. Quick fixes are more expensive in the long run. The most appropriate material should be used to match



Establish a sense of place - Branding



Design for Ease of Maintenance



Design for Ease of Maintenance



Design for Ease of Maintenance



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Design for Ease of Maintenance



Landscape standards for maintenance

- Create written landscape standards to align with a park's mission and vision, and to provide park staff with specific and measurable objectives. These standards should be communicated clearly to the public.
- Align uses and standards with park mission and vision

Key points:

- Define the role for high-use activities at a strategic level and make clear links between intensity of use and the quality and conservation of park resources.
- Get public buy-in for landscape quality goals through education and engagement, since the public plays an active role in respecting landscape rehabilitation and resource conservation efforts.

Standards for Turfgrass depending on use and activity

- Standard can be by park or by areas within a park

Classes

- Class A – Premium level or sports field
- Class B – High level
- Class C – Good Level or meadow, infrequently mown
- Class D – Rough or No-mow

Class A Turfgrass

- Manicured lawn (turf only with no other type of ground cover).
- All turf area is at maximum density, uniform in cut, texture, color and appearance (no bare spots, minimum weeds).
- All maintenance subactivities are at maximum frequency

Class B Turfgrass

- Well-maintained lawn (turf with some other type of ground cover).
- Most turf area is at medium to maximum density, uniform in cut, color and general appearance (minimum bare spots and weeds).
- All maintenance sub-activities are close to maximum frequency.

Class C Turfgrass

- Meadow-like fields with tall grass and some weeds.
- Fields are cut periodically; swaths are cut along fences, lanes, roads and paths for fire breaks and visibility.
- Maintenance sub-activities are at minimum to medium frequency.

Class D Turfgrass

- Field kept clean of debris. Three-meter-wide swaths are maintained along fence lines (for fire breaks), roads and recreational paths.
- Maintenance sub-activities at minimal frequency.

Design for Ease of Maintenance – Class A



Design for Ease of Maintenance – Class B



Design for Ease of Maintenance – Class C



Design for Ease of Maintenance – Class C

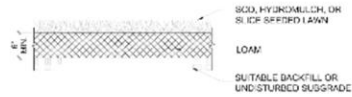


Design for Ease of Maintenance



Start with healthy turf

NATIVE SOIL ROOTZONE

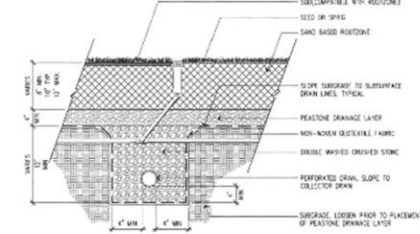


- Consists of screening and reusing native on-site soils.
- The primary concern with native soils is the susceptibility to compaction.
- Compaction levels of the topsoil and subsoil should be monitored throughout the construction process.
- Tends to be very hard when dry and very soft when wet. Organic matter helps to moderate soil moisture levels and reduce soil bulk density values.
- Since native soils will have a low root zone permeability it is critical that these fields are pitched to at least 1.5%.
- Can not use a subdrainage system

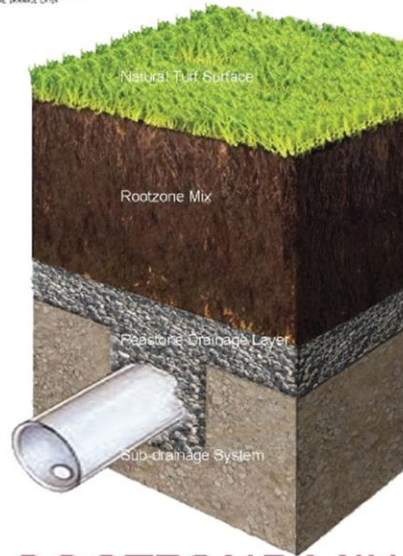
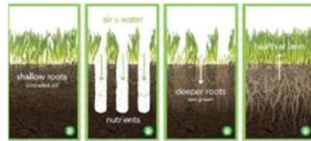


NATURAL SOILS

SAND BASED ROOTZONE

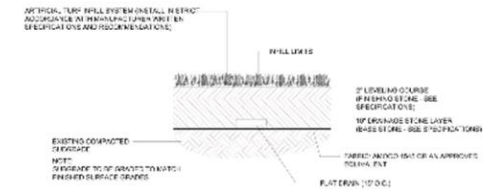
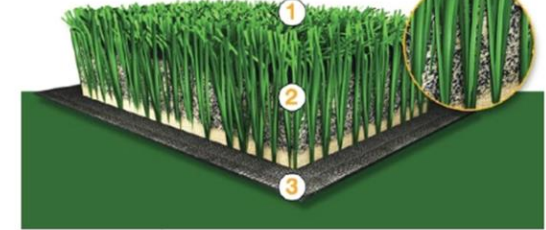


- Many newly constructed athletic fields today are built with a high sand content root zone.
- This permits rapid removal of excess water and allows sufficient gas exchange with the atmosphere.
- Mixture consists of blending specified percentages of native loam, sand, and organic matter. Percentages are determined by the textural classification of the native loam.



ROOTZONE MIX

TURF SYSTEM



1. FIBER

Turf fibers are responsible for comfort and safety of the player, durability, a natural, grass-like look with soft and pleasing grass-like feel and resilience.

The ideal fibers should reduce skin friction, skin abrasion and offer superior durability, high resilience and temperature stability. Today, turf fibers are made from polyethylene and come in either slit-film or monofilament structures.

2. INFILL

The infill system is the single most important aspect of all synthetic turf fields. It is the basis for the safety of the turf system by providing the appropriate cushioning to absorb impact as well as being the foundation to a field's performance level by offering traction for players to cut, plant and release just like they would on natural grass.

Whereby turf fibers are directly related to the aesthetics of the field, the infill - which is spread between the fibers - delivers what the athlete needs: A safe surface with proper performance attributes. The infill market is becoming more complex with new products being introduced at a rapid rate. With so many choices, it is important to understand the difference between the various systems.

3. BACKING

Artificial turf backings are comprised of a primary backing and a secondary backing. Both the primary and secondary backings work together to provide dimensional stability to the entire system.

The primary backing is comprised of woven polypropylene fabrics that allow the artificial turf fibers to be tufted into material in rows and facilitate seaming between artificial turf panels.

The secondary backing is often referred to as the 'urethane coating' and is applied to the reverse side of the primary backing in order to permanently lock the tufted fibers in place. Turf backings are either precision coated using the 'finger Unit' method or they are 'Solid Coated and Perforated'.

SYNTHETIC TURF



Control Access

Control circulation and access

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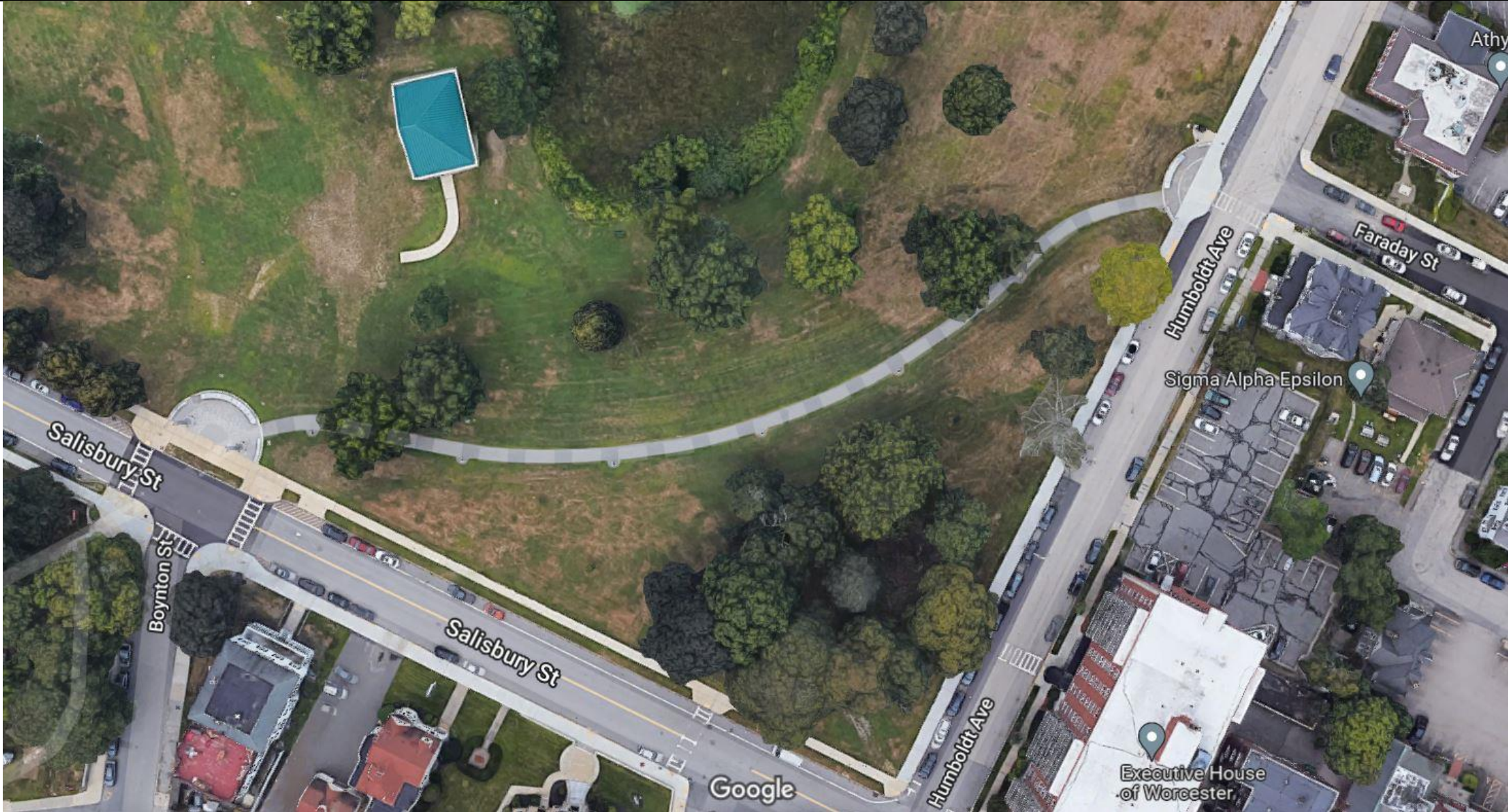
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Thank You | Questions?

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