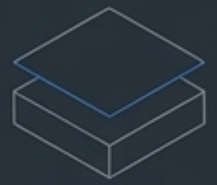
Turf Surface



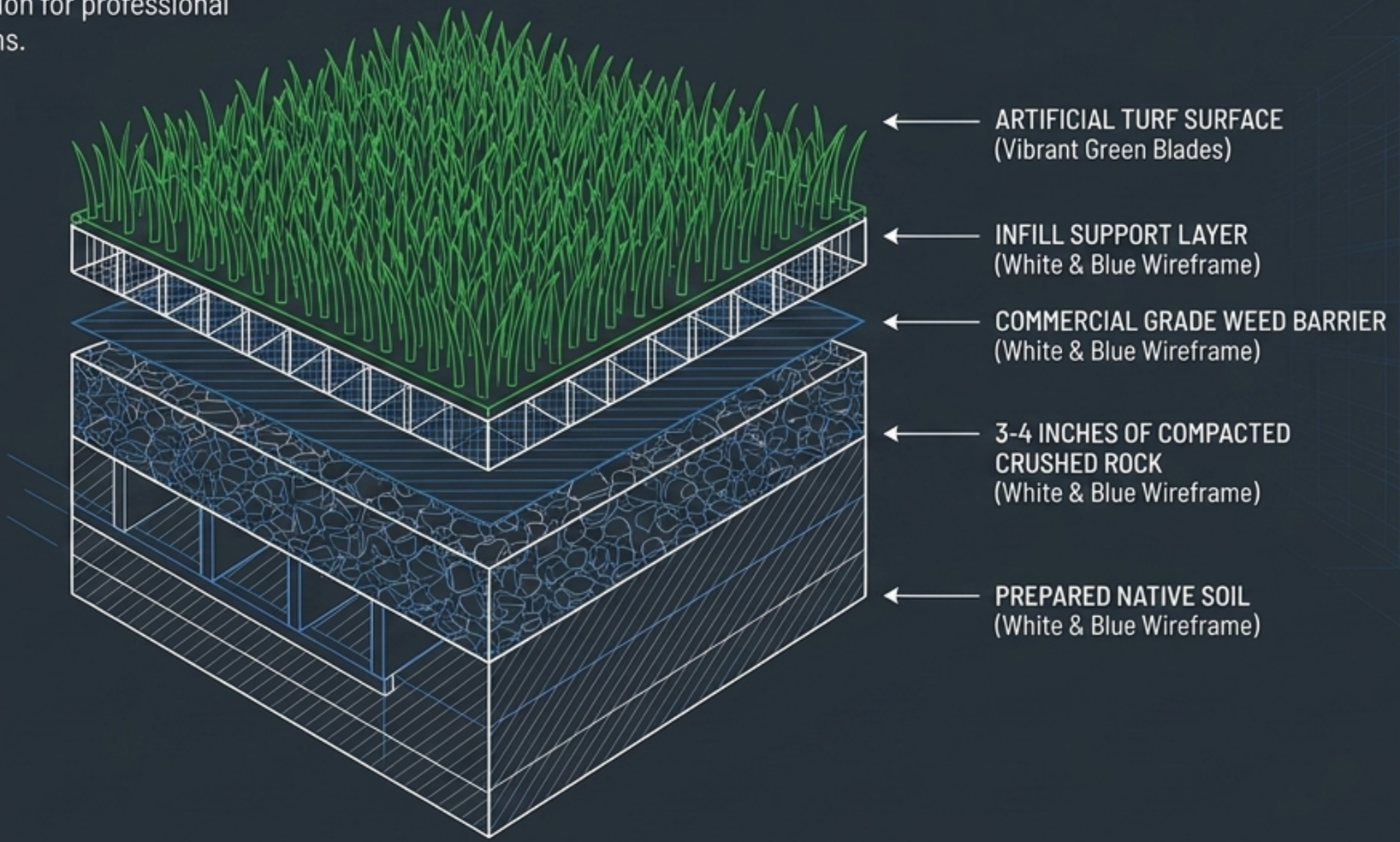
Geosynthetic Barrier

Aggregate Base

Native Soil

Optimal Turf Subgrade and Base Engineering

Structural specifications, load-bearing dependencies, and hydrological risk mitigation for professional synthetic surface installations.



Foundational grading dictates the hydrological success of the entire system.

Leveling Tolerance

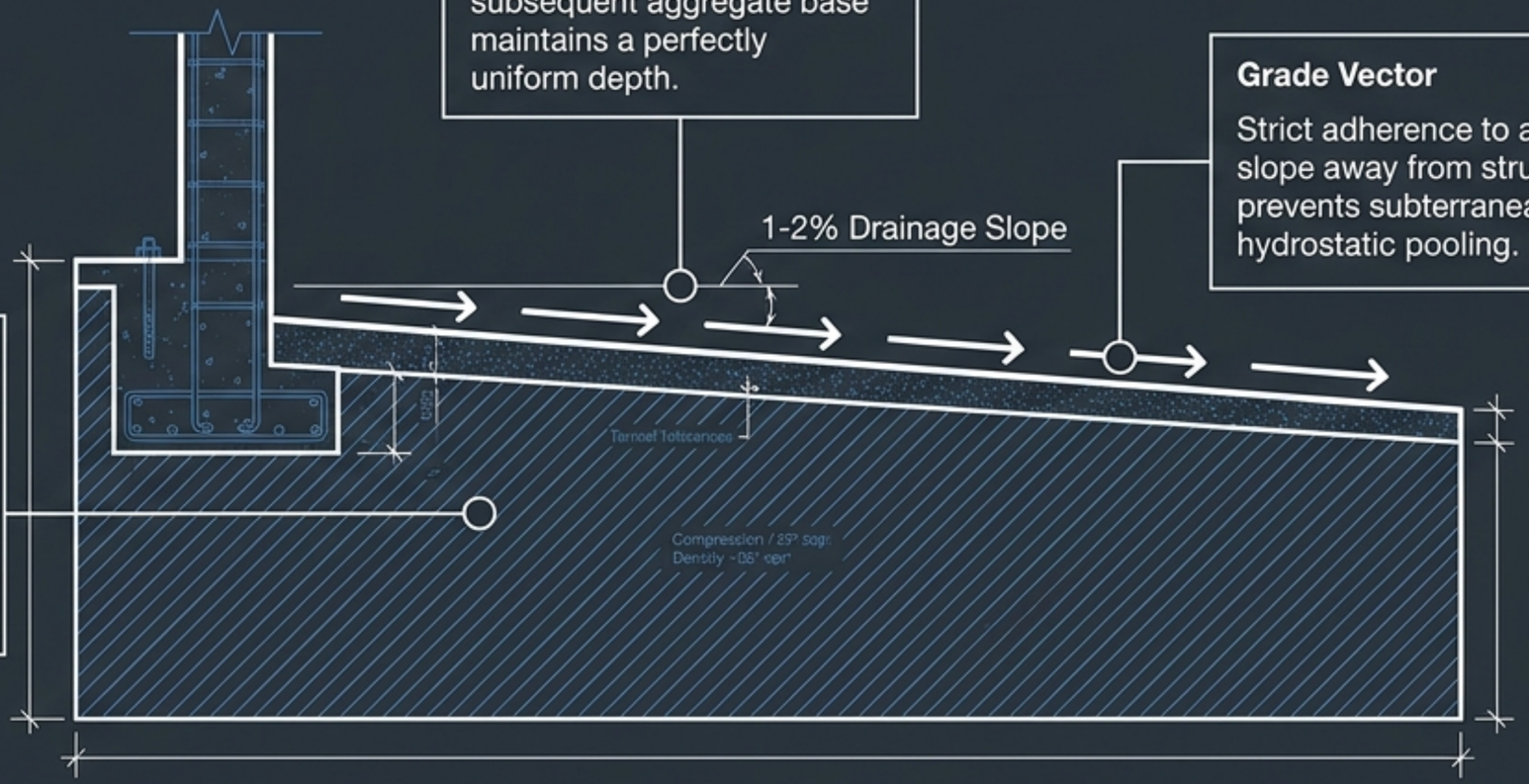
Eliminating undulations in the native soil ensures the subsequent aggregate base maintains a perfectly uniform depth.

Grade Vector

Strict adherence to a 1-2% slope away from structures prevents subterranean hydrostatic pooling.

Organic Matter Removal

Subgrade must be thoroughly cleared of organics to prevent future biological decomposition and subsequent sinking.



The Grade Vector

High-density aggregate compaction prevents localized subgrade deformation.

Material Spec 1

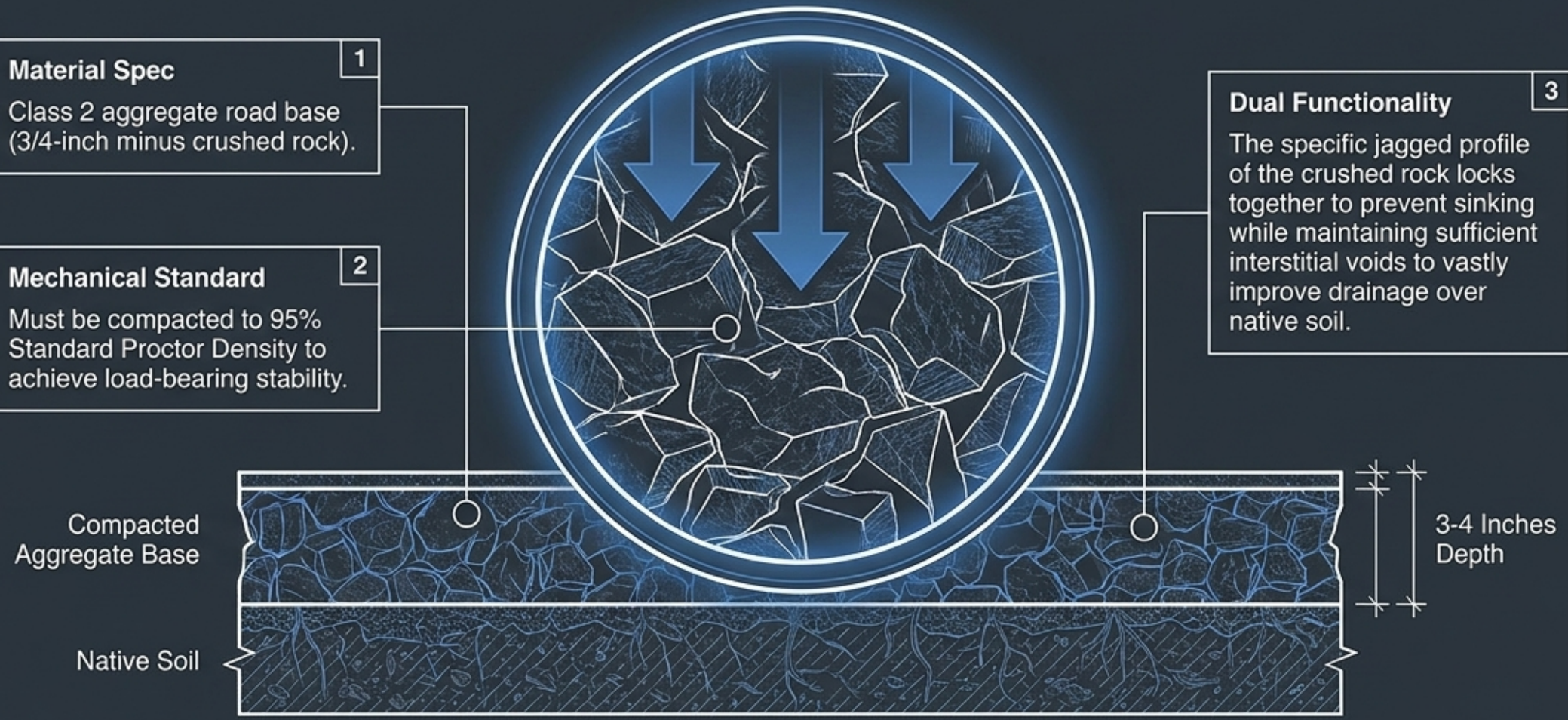
Class 2 aggregate road base (3/4-inch minus crushed rock).

Mechanical Standard 2

Must be compacted to 95% Standard Proctor Density to achieve load-bearing stability.

Dual Functionality 3

The specific jagged profile of the crushed rock locks together to prevent sinking while maintaining sufficient interstitial voids to vastly improve drainage over native soil.



Compaction Micro-View

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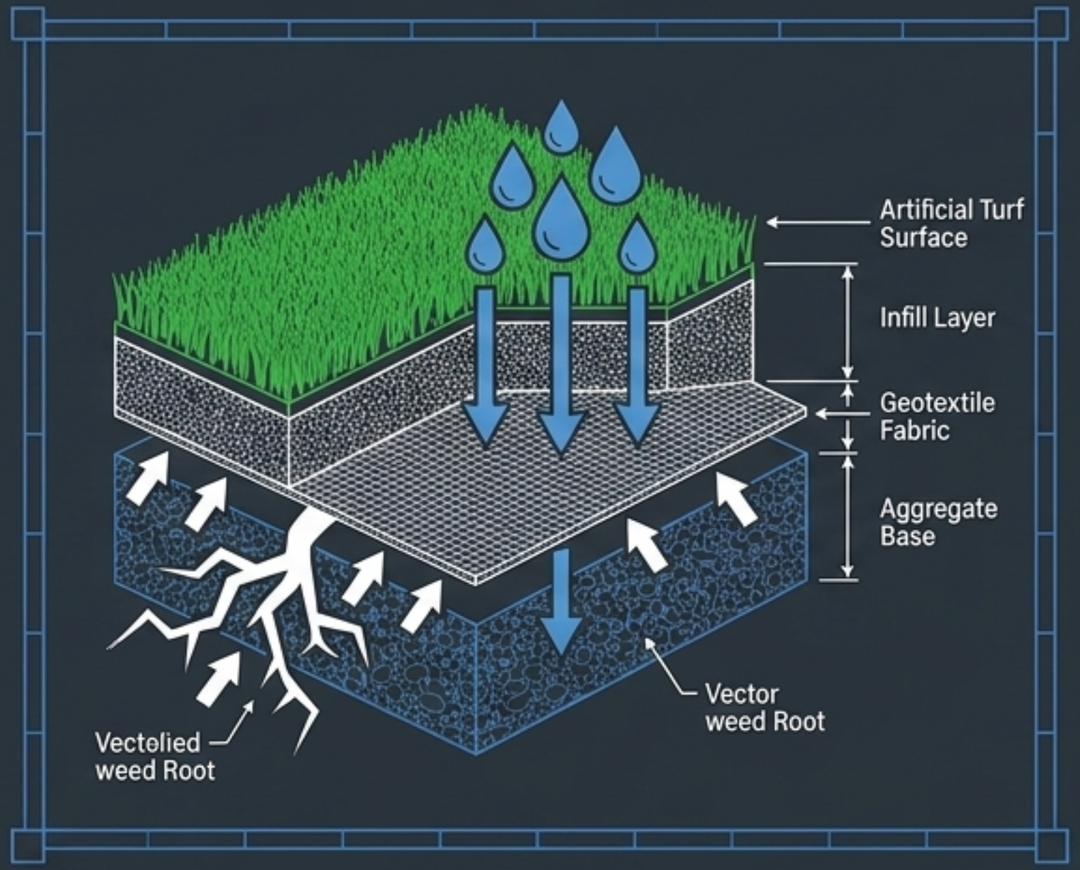
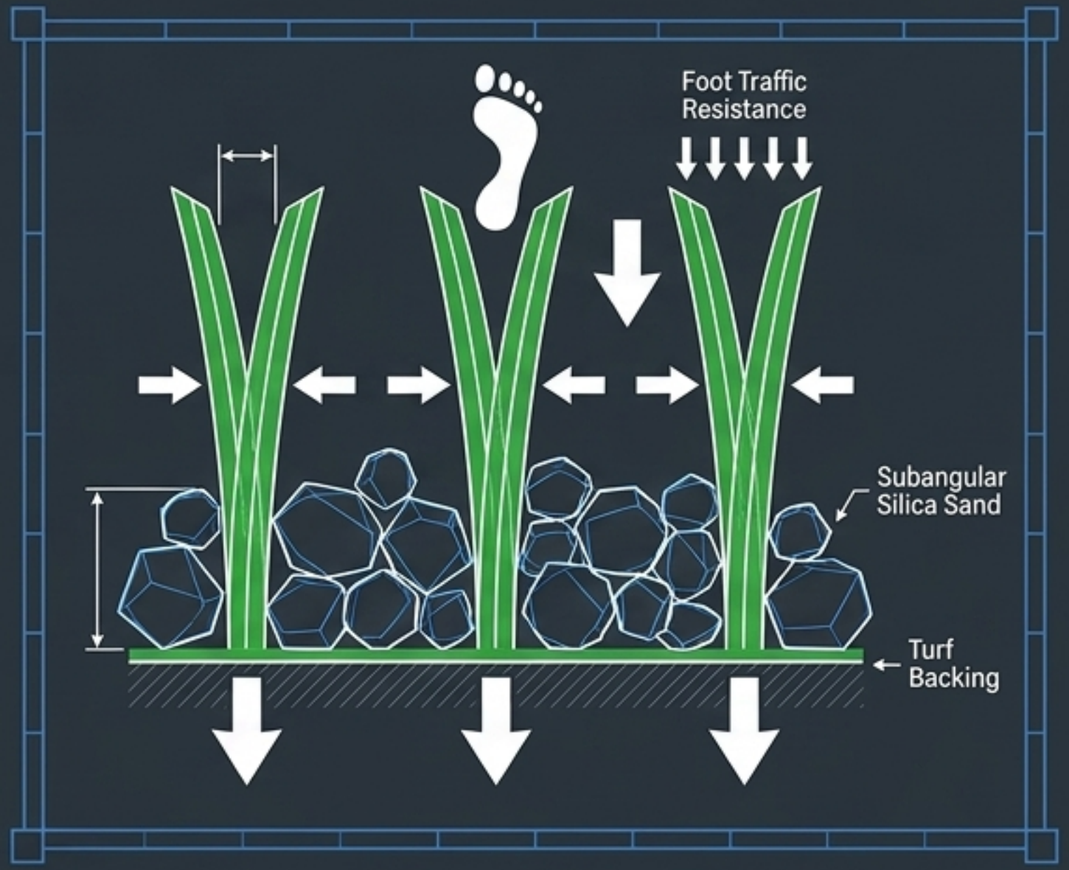
Geosynthetics and infill ballast physically brace the surface against environmental stress.



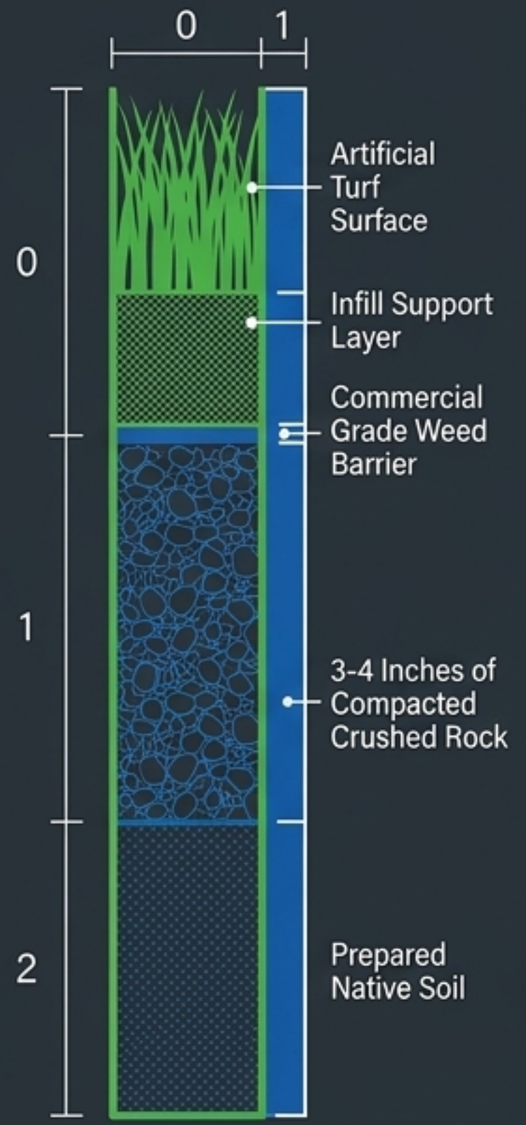
High-Permeability Geotextile

Commercial-grade weed barrier blocks organic intrusion without restricting the downward flow of water into the aggregate base.



Infill Support Mechanics

Subangular silica sand acts as necessary ballast. Its specific weight protects the turf backing, pins the system to the base layer, and physically forces the durable fibers to stand upright, resisting matting under heavy foot traffic.



Engineered base depth is the primary mitigator of catastrophic system failure.

Diagnostic Comparison Table

	Risk Dimension	Under-Engineered Base (<3 inches)	Optimized Standard Base (3-4 inches)
1	Hydrostatic Response	Rapid subterranean saturation and surface pooling	Effective shedding and extended turf lifespan in wet conditions
2	Subgrade Deformation	High probability of localized soft spots and sinkholes	Uniform load distribution and absolute stability
3	Surface Integrity	Vulnerable to severe turf wrinkles and seam movement	Dimensionally stable, locked-in surface tension

Artificial turf is not merely a surface aesthetic; it is a highly interconnected hydrological and load-bearing system reliant entirely on strict base volume and compaction standards.

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