
SYNTHETIC TURF PLAYING FIELDS?
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Why Synthetic Turf?

- Pesticides & Fertilizers
- Noxious Emissions
- Playing Time/Field Utilization
- Maintenance
- Water Usage



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Field Project – Sod vs. Turf

- Post-Construction Recovery Time
- Field Utilization Rate
- Weather related limitations



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Synthetic Turf System Components

- Base
- Pad (Optional)
- Carpet
- Infill



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Synthetic Turf Properties

- Fiber Type & Length
- Tufting Gauge
- Infill Type & Depth
- Water Permeability: Drainage Rate
- Impact Attenuation: G-Max Rating
- Player Interface - footing
- Ball Roll & Bounce Characteristics



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What is a Base?

- Sub-base drainage system
- Storm water collection system
- Detainage structures and/or Municipal storm drain system
- Finely graded field platform



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Pad Options

- **E-Layers**
  - Applied as ‘paved’ layer similar to running track
  - Recycled Rubber
  - Permeable Matrix
- **Pads**
  -Rolled or sheet goods
  -Recycled Foam
  -Recycled Rubber
  -Synthetic Bases/Drainage Layers
  -Virgin, Closed Cell PE Foam



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Carpet Components

- **Primary Backing**
  - Yarn tufted to primary backing
- **Secondary Backing**
  - Provides tear strength & durability
  - Adhered to primary backing
- **‘Grass’ Yarn Fibers**



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Fiber Types

- **Configurations**
  - -Slit film
  - -Monofilament
  - -Thatch
- **Materials**
  - -Polypropylene (Non-textured)
  - -Polyester
  - -Polyethylene
  - -Nylon
  - -Hybrid
  - -Copolymer



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Infill Types

- Rubber – SBR “Crumb”, Recycled, Coated SBR, Virgin
- Organic – Cork, Coconut Fiber/Shell, Nut Shells
- Sand – Untreated, Flexible Coating, Rigid Coating
- EPDM
- TPE



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Crumb Rubber vs Organic

- Cost
- Maintenance
- Sprinkler System
- System Longevity
- Health Concerns



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Sport Specific Characteristics

- Football
- Soccer & Lacrosse
- Field Hockey
- Multi-Purpose Field



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Health & Safety

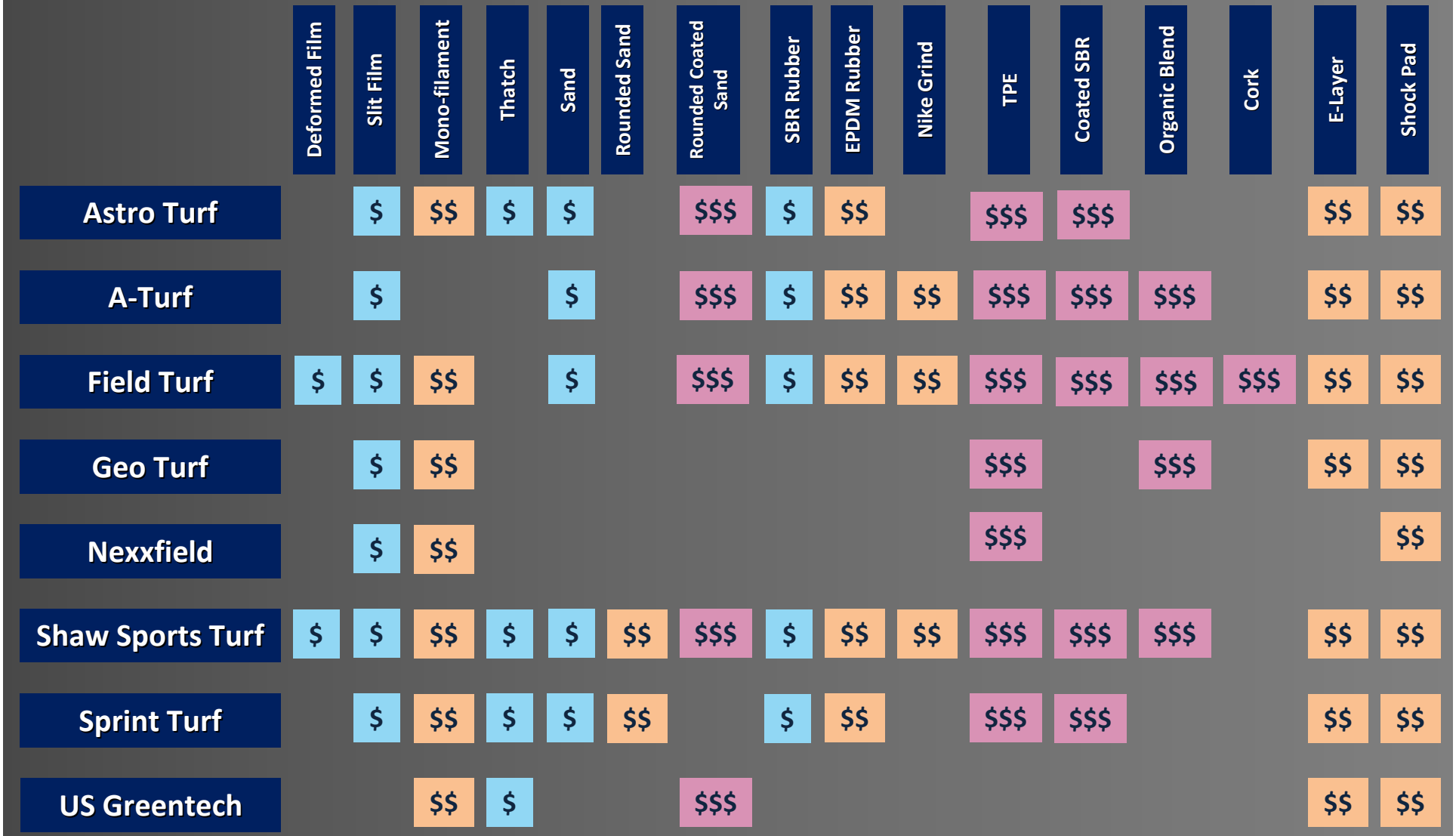
- 2014 NYC Dept of Health
- 2010 Connecticut Dept. of Public Health
- 2010 UC Berkeley SBR Toxicity Study
- 2009 NYS DEC Chemical & Temperature Assessment
- 2008 NYS DEC Environmental/Health Impact



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Cost Comparison



Nyack UFSD Life Cycle Costs

(Assumes all 4 Synthetic Turf Fields with square footage of 320,258)

		Synthetic Turf	
	Natural Grass	SBR Infill	Organic Infill
Installation Costs	$1,601,290	$2,786,245	$3,442,774
Costs per SF	(5.00/SF)	(8.70/SF)	(10.75/SF)
Expected Life Span	10 years	12 years	8 years
Annual Depreciation	$ 160,129	$ 232,187	$ 430,346
Initial Annual Maintenance Cost	$ 37,254	$ 7,500	$ 53,008
Replacement Cost at Life Span	$ 800,645	$1,441,161	$1,761,419
Replacement Costs per SF	(2.50/SF)	(4.50/SF)	(5.50/SF)
Annual Depreciation	$ 80,065	$ 120,096	$ 220,177
15- Year Annualized Cost	$ 170,695	$ 217,270*	$ 385,275**
Annual Cost Difference		$ 46,575	$ 214,580

* Includes all of initial installation costs, 12 years of maintenance costs, 3/12 of replacement cost and an additional 3 years of maintenance costs divided by 15 to get annualized cost

** Includes all of initial installation costs, 8 years of maintenance costs, 7/8 of replacement cost and an additional 7 years of maintenance costs divided by 15 to get annualized cost

Nyack UFSD Maintenance Cost Comparison (All 4 Synthetic Turf Fields)

		Synthetic Turf	
	Natural Grass	SBR Infill	Organic Infill
Sprinklers on/off/repairs	$ 1,900	$ -	$ 1,900
Cutting/Fertilizing/Aerating/Seed	$ 19,184	$ -	$ -
Athletic Field Line paint	$ 3,162	$ -	$ -
Labor - Line and Maintain and *Groom/Decompact	$ 8,740	$ 3,500*	$ 20,000*
Water for Irrigation	$ 4,268	$ 500	$ 4,268
Infill Replacement Allowance	$ -	$ 3,500	$ 26,840
Total	$ 37,254	$ 7,500	$ 53,008