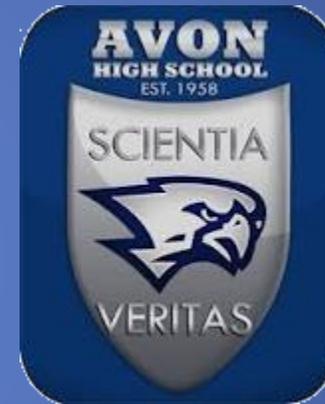


Avon High School Synthetic Turf Field Project Design Development Phase Town of Avon, CT



Synthetic Field Project Subcommittee – Special Meeting

May 1, 2016



Site Master Plan – Concept Plan A



Concept Plan A



Project History – Multiple Sites Evaluated

Thompson Road Site

1. First Considered for new fields
2. Concept abandoned (2015) due to:
 - Need for new sewer line
 - Additional maintenance costs
 - Remote from adjacent school uses
 - Lack of parking for large events
 - Lack of existing utility infrastructure
 - Potential for increased traffic
 - Construction and Earthwork costs
 - Adjacent regulated wetland areas/permitting
 - Zone change required

High School Site

1. Preferred site due to:
 - Proximity to existing school & school programming
 - Takes best advantage of existing infrastructure, parking, utilities
 - Takes advantage of existing field grading
 - Existing developed site
2. Subcommittee voted to recommended Concept A at High School to Town Council 4/18/2016

A. Expansion of Track & Field in Current Location

1. Effect on Baseball to the East
2. Move Inner Lanes of Track to the Outside (increase field width)
3. Move Bleachers to the East Side of the Track
4. Accommodate Future Sports Field Lighting
5. New Press Box
6. Improved Field events / Event Programming

B. Multi-Purpose Synthetic Field within the Existing Track

1. Adequate width for Football, Field Hockey and LAX
2. Soccer Field Width on track interior?
3. Improved grading and planarity
4. All weather usage, reduce rescheduling, early season availability
5. Increased usage / best advantage of existing infrastructure.

C. Multi-Purpose Synthetic Field Located on the Current Field Hockey Field

1. Primary Field Hockey use.
2. Other uses: Soccer (small), Lacrosse.
3. Plan for possible future sports lighting.
4. Bleachers and Press Box?
5. Improved grading and planarity
6. All weather usage, reduce rescheduling, early season availability
7. Increased usage / best advantage of existing infrastructure.



Avon High School – Field Renovations Project

Statement Of Need (abridged)

1. New sports continue to be added to the regular venue of athletics programming. Football has been historically popular, however the increased popularity of soccer, as well as the addition of men's and women's Lacrosse programs have greatly increased the demand on all town fields.
2. Per the 2007 Recreation & Park Facilities Master Plan for the town of Avon, youth sports participation in Avon is higher than in surrounding communities, further increasing the demand on existing fields.
3. The 2007 Recreation & Park Facilities Master Plan for the town of Avon documented the then current scheduling for all town of Avon athletic fields and identified the need for additional athletic fields within the town to accommodate current demand. This report identified the need for 2 full size synthetic turf multipurpose rectangular fields in town as well as 7 youth size multipurpose rectangular fields.
4. Natural turf fields can only sustain a limited amount of usage based on a municipal level maintenance budget. As field demand and usage increases, field quality, playability and safety typically decrease, and the potential for injury increase.
6. The Avon high school site presents an existing developed site that avoids duplication of developing additional parking, driveways and utilities.

Avon High School – Field Renovations Project

Statement Of Need (abridged)

8. The fields at the Avon high school property are adjacent to the school, avoiding additional busing and transportation costs and concerns.

9. The existing track and fields at the High school are past their expected life-cycle, are intensively used, and are currently in need of general renovation.

10. The use of synthetic turf multiplies the potential usage of the fields, while decreasing maintenance costs. A synthetic field can be used 2 times as much as a natural field without affecting quality or maintenance costs. A synthetic turf field with lighting can be used up to 3 times as much without affecting quality of play or maintenance costs. This increased usage avoids having to develop new properties and acreage to construct additional fields to accommodate the over use of existing fields.

12. Though high in initial costs, due to its ability to be highly utilized, synthetic turf can be as low as half the cost of natural turf on a *per-use* basis.

13. The use of athletic field lighting, further reduces the *per-use* cost of the turf by extending usage hours. Lighting also allows working parents to attend sporting events, increasing participation as well as potential ticket sales.



Avon High School – Field Renovations Project

Statement Of Need (abridged)

14. Synthetic turf drains vertically and does not require surface drainage structures, increasing the effective width of the field. (which is notable for development within an existing narrow running track layout.).

15. There have been many scientific studies on synthetic turf and sand and rubber infill materials by manufacturers, universities, independent research and state and federal agencies. Not one has documented a reason (health, environmental or safety-wise) not to install the most current generation of properly installed synthetic turf materials.

16. Synthetic turf has been shown to reduce athletic injuries in comparison to a poorly maintained natural turf in numerous independent studies.

17. The use of synthetic turf will eliminate the usage of hundreds of thousands of gallons of irrigation water per field on an annual basis, as well as eliminate the need for weekly mowing, fertilization, lime, herbicides and pesticides required to keep natural turf in a vigorous, safe and playable condition.

18. The use of synthetic turf will alleviate demand and maintenance pressures on existing natural turf fields, as the synthetic turf will handle increased usage and can be scheduled for use in wet weather.



Avon High School – Existing Site



Existing Conditions



Site Master Plan – Concept Plan A



Concept Plan A



Site Master Plan – Concept Plan A



Site Master Plan – Concept Plan A



Conceptual Cost Estimate – Base Bid

Conceptual Cost Estimate – (12/2015)
 (2015 to 2016 has seen escalation of costs ++)

CONCEPTUAL BUDGETARY CONSTRUCTION COSTS (HARD COSTS)		BASE ITEMS	
Base Project Scope			
1. Site Preparation		lump sum	\$50,000.00
2. Site Drainage Improvements (provided by Town Engineering Department)		lump sum	\$25,000.00
3. New All-Weather Main Multi-Use Turf Field (including maintenance equipment)		lump sum	\$917,500.00
4. Sports Field Equipment (compatible for all-weather turf)		lump sum	\$25,000.00
5. New 8-Lane Track		lump sum	\$435,000.00
6. Track & Field Events (Long/Triple Jump, Pole Vault, High Jump, & Shot Put)		lump sum	\$100,000.00
7. Site Improvements (walkways, retaining walls, and landscape buffers)		lump sum	\$150,000.00
8. Home Bleachers & Press Box (750 Seats)		lump sum	\$225,000.00
9. Visitor Bleachers (250 Seats)		lump sum	\$62,500.00
10. Main Field Lighting		lump sum	\$350,000.00
11. Escalation, Contingency, and Allowances (15%)		lump sum	\$351,000.00
Hard Costs Total			\$2,691,000.00
Base Bid Project Total			\$2,877,500.00

Conceptual Cost Estimate – Alternates

Conceptual Cost Estimate – (12/2015)

CONCEPTUAL BUDGETARY CONSTRUCTION COSTS (HARD COSTS)		ADD/ALTERNATE ITEMS	
Alternates			
1. New All-Weather Secondary Turf Field (Field Hockey)	lump sum		\$656,500.00
2. Secondary Field Lighting	lump sum		\$350,000.00
3. Storage Building	lump sum		\$35,000.00
4. Escalation, Contingency, and Allowances (15%)	lump sum		\$156,225.00
Alternates Total			\$1,197,725.00
Base Bid & Alternates Project Total			\$4,075,225.00

**Conceptual Cost Estimate is based on standard industry pricing and the Schematic Design scope of work. It will continue to be refined into an Estimate of Probable Construction Costs as the project design develops in further detail.*

**We have made certain assumptions about the existing conditions and design of certain components of the project that may have an impact to the overall project cost.*

** We have assumed that the existing topsoil is suitable for reuse with only minor modifications.*



Conceptual Cost Estimate – Soft Costs

Conceptual Cost Estimate – Soft Costs (12/2015)

CONCEPTUAL BUDGETARY DESIGN COSTS (SOFT COSTS)		BASE ITEMS	
1. Phase 1 - Pre-Referendum Services		lump sum	\$9,500.00
2. Phase 2 - Post Referendum Services (estimated)		lump sum	\$112,000.00
3. Town Bidding and Contract Expenses (estimated)		lump sum	\$10,000.00
4. Project Financing (estimated)		lump sum	\$55,000.00
Soft Costs Total			\$186,500.00



Lifecycle Cost Analysis

Conceptual – (12/2015)

Expense	Natural Grass Field (Conventional)	Natural Grass Field (Organic)	All-Weather Turf Field
Initial Costs			
Field Base and Drainage Construction Costs	\$275,000	\$275,000	\$350,000
Surfacing Construction Costs	\$135,000	\$165,000	\$475,000
Maintenance Equipment Cost	\$0	\$0	\$25,000
Total Initial Cost	\$410,000	\$440,000	\$850,000
Annual Costs			
Maintenance Cost	\$24,500	\$35,000	\$4,500
Water (Irrigation) and Repairs Cost	\$5,500	\$5,500	\$0
Athletic Field Painting	\$9,500	\$9,500	\$500
Total Annual Cost	\$39,500	\$50,000	\$5,000
Total Cost Over 15 Years Lifespan	\$592,500	\$750,000	\$75,000
Surfacing Replacement Costs (over 15 years)			
Decompact, Airate, and Re-Sod (4 times)	\$115,000	\$140,000	\$0
New All-Weather Surface	\$0	\$0	\$450,000
Total Replacement Costs	\$115,000	\$140,000	\$450,000
Total Lifecycle Cost (over a 15 year period)	\$1,117,500	\$1,330,000	\$1,375,000
Total Cost Per Year	\$74,500	\$88,667	\$91,667
Number of Available Field Hours Per Year	300	300	800
Number of Events/Practices Available Per Year (assumed 3 hour per event)	100	100	266.67
Average Cost Per Event	\$745	\$887	\$344

Design Development Phase

High School Concept A – General Tasks

1. Gather detailed Site Information
2. Refine Project Program, Scope & Budget
3. Refine Site Layout Plans
4. Refine Scope and Materials Choices:
 - Create Detailed project program & scope
 - Synthetic Turf and Infill
 - Running Track Materials
 - Bleachers
 - Lighting
 - Outbuildings
5. Detailed cost estimates
6. Reconcile refined scope with budget
7. Identify Areas for additional testing/investigation
8. Identify Next Steps and potential challenges
9. Identify Permitting challenges and constraints
10. Formulate design, permitting and construction schedules.
11. Document progress for future phases



Design Development Phase

High School Concept A – Methods for Progress

1. Interactive meetings & Presentations – Information Seeking
2. Interactive meetings & Presentations – Technical information & education
3. Detailed programming meetings and questions
4. Task Matrix Review
5. Design Documentation (meeting minutes)
6. Design Documentation – Design Plans & Renderings
7. Community involvement and presentations
8. Periodic detailed cost estimates and budget reconciliation
9. Final Design Development Package
 - Design Development Plans
 - Color rendering for project advocacy
 - Project Narrative / Scope outline
 - Budget Cost Estimate
 - Proposed project schedule
 - Next Steps Outline

Site Master Plan – Concept Plan A



Similar Projects Nearby:

O'Brian Stadium – Windsor H.S (2014):

2.5" turf, sand and rubber – Latex track surfacing



Bloomfield H.S (2015):

2.5" turf, sand and rubber – Latex track surfacing (overlay)

East Lyme High School

2.5" turf, sand and rubber – Urethane track surfacing
1200 Seat bleacher, pressbox, lighting



Similar Projects Nearby:

Lyman Hall H.S. Wallingford (2015):

2.5" turf, sand and rubber – Latex track surfacing (pending)



South Windsor High School (2015):

1.75" turf on pad, coated sand infill –

Torrington High School (2014):

2.5" turf, sand and rubber – Urethane track surfacing,
700 seat bleacher, pressbox, lighting & entry.



Similar Projects Nearby:

Joel Barlow High School Redding (2013):

2.5" turf, sand and rubber – Urethane track surfacing,
500 seat bleacher, pressbox, lighting & entry.



Plainville High School (2015)

2.5" turf, sand and rubber – Latex track surfacing (pending),
(synthetic football and softball fields)



Design Development Phase

NEXT MEETING:

FACILITY PROGRAMING:

Attendees: Committee, Athletic Director, Coaches(?)

Goals: Define project program, priorities, and scope based on how the facility is currently used as well as current wants and needs. Create a 'wish list'

Method: Many questions regarding field use, sports programming, existing facilities, and perceived needs.

Timing: Allow two hours (this is the longest meeting of the process)

Deliverable: Meeting minutes that will form a scope for the 'dream facility'.
(Future meetings will reconcile this scope with the project budget)



QUESTIONS ???