Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field A
Synthetic Turf Field

➢ Multipurpose Field – Synthetic Turf Improvements
  ○ General Conditions, Bonding, Site Preparation, Site Removals, Erosion Controls $100,000

Synthetic Turf:
  ○ Synthetic Turf Field (sand/rubber system (81,250 SF)) $325,000
    ▪ 2.25” HT. Turf, Logo, Inlaid Field Lines, Maintenance Equipment
  ○ Earthwork/Field Drainage $400,000
    ▪ Strip and dispose of topsoil, mass earthwork, formation of subgrade
    ▪ Collector pipe, underdrain, geotextile membrane
    ▪ Turf Anchor Curb with Integral Ball Safety Net Sleeves

Subtotal $825,000
20% Budget for A/E, Routine Construction Administration and Contingency $165,000

Total Suggested Project Budget $990,000

Optional Improvements:
  ○ Replace Crumb Rubber/Sand Infill with Alternative Infill and Shock Pad $160,000 to $300,000
  ○ Walkway Improvements $25,000
  ○ New Bleachers $45,000
    ▪ Concrete Pad
    ▪ (2) 60 seat bleacher systems
  ○ Field Lighting – Metal Halide $350,000
  ○ Field Lighting – LED $450,000

Notes:
1. This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.
2. Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.
FIELD B - SYNTHETIC TURF OPTION

CONCEPTUAL LAYOUT
REGIONAL SCHOOL DISTRICT NO. 18

SYNTHETIC TURF FIELD 88,920 S.F.

FIELD DIMENSIONS:
SOCCER 195' X 360'*
FOOTBALL 160' X 360'
GIRLS LACROSSE 195' X 360'
BOYS LACROSSE 180' X 330'

*SOCCER FIELD CAN BE STRIPED WITH WIDER PLAYING SURFACE (210') BUT SHORTER LENGTH (330')

EXISTING BALL NETTING TO REMAIN
FIELD UNDER DRAINAGE WILL TIE INTO EXISTING STORM DRAIN SYSTEM

PERMANENT OR PAINTED LINES
FOOTBALL: WHITE
SOCCER: YELLOW
BOYS LACROSSE: BLUE
GIRLS LACROSSE: RED

CONCRETE SIDEWALK CONNECTION TO BLEACHERS
EXISTING BLEACHERS TO REMAIN
EXISTING IRRIGATION SYSTEM TO BE REMOVED FROM LIMITS OF FIELD. 1 OR 2 TURF VAULTS WITH QUICK COUPLERS WILL BE INSTALLED ALONG PERIMETER OF SYNTHETIC TURF

SYNTHETIC TURF FIELD 88,920 S.F.

FIELD DIMENSIONS:
SOCCER 195' X 360'*
FOOTBALL 160' X 360'
GIRLS LACROSSE 195' X 360'
BOYS LACROSSE 180' X 330'

*SOCCER FIELD CAN BE STRIPED WITH WIDER PLAYING SURFACE (210') BUT SHORTER LENGTH (330')

FILE B - SYNTHETIC TURF OPTION

CONCEPTUAL LAYOUT
REGIONAL SCHOOL DISTRICT NO. 18

SYNTHETIC TURF FIELD 88,920 S.F.

FIELD DIMENSIONS:
SOCCER 195' X 360'*
FOOTBALL 160' X 360'
GIRLS LACROSSE 195' X 360'
BOYS LACROSSE 180' X 330'

*SOCCER FIELD CAN BE STRIPED WITH WIDER PLAYING SURFACE (210') BUT SHORTER LENGTH (330')
Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field B
Synthetic Turf Field

- **Multipurpose Field – Synthetic Turf Improvements**
  - General Conditions, Bonding, Site Preparation, Site Removals, Erosion Controls $100,000

**Synthetic Turf:**

- Synthetic Turf Field (sand/rubber system (88,920 SF)) $360,000
  - 2.25” HT. Turf, Logo, Inlaid Field Lines, Maintenance Equipment
- Earthwork/Field Drainage $450,000
  - Strip and dispose of topsoil, mass earthwork, formation of subgrade
  - Collector pipe, underdrain, geotextile membrane

**Subtotal** $910,000
20% **Budget for A/E, Routine Construction Administration and Contingency** $180,000

**Total Suggested Project Budget** $1,090,000

**Optional Improvements:**

- Replace Crumb Rubber/Sand Infill with Alternative Infill and Shock Pad $170,000 to $310,000
- Rotating Football Uprights $25,000
- Walkway Additions $20,000
- Field Lighting – Metal Halide $350,000
- Field Lighting – LED $450,000

**Notes:**
1. *This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.*
2. *Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.*
Geothermal Considerations
Conceptual Design – Field C
Synthetic Turf Field

Milone & MacBroom, Inc. spoke with the installer of the geothermal well system currently located beneath Field C behind Lyme – Old Lyme High School to determine the feasibility of constructing a synthetic turf field overttop the well field. The following information was conveyed in the discussion:

1. There is an underground vault at the western edge of the field which must remain accessible.

2. The only reason you would need to uncover the well field is if a leak is discovered.

3. Finding the location of a leak can be invasive:
   a. The first step in locating the leak involves the use of x-ray equipment to narrow down the location.
   b. A 5’x5’ excavation is made to uncover the piping which
   c. The piping is approximately 4’ below finished grade.

4. The existing geothermal piping is warrantied for 50-years.

5. Failure of piping typically occurs within the first year or two.

6. Concerns with any type of construction above or around geothermal systems is typically associated with deeper excavations for storm drainage or fencing.

7. If construction overttop the system occurs, they strongly encourage inspection and pressure testing of the system prior to closing up the site. This inspection and testing will determine if construction activities caused any damage which will require repair while the system is still accessible.

The installer does not know of any installations where a synthetic turf athletic field has been constructed overttop. However, he felt that if constructed properly with extra care given to protecting the well system, you can construct of field over this system.
FIELD C - SYNTHETIC TURF OPTION

CONCEPTUAL LAYOUT
REGIONAL SCHOOL DISTRICT NO. 18

69 LYME STREET
OLD LYME, CONNECTICUT  MAY 2017
Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field C
Synthetic Turf Field

- **Multipurpose Field – Synthetic Turf Improvements**
  - General Conditions, Bonding, Site Preparation, Site Removals, Erosion Controls: $100,000

**Synthetic Turf:**
- Synthetic Turf Field (sand/rubber system (93,500 SF)): $375,000
  - 2.25” HT. Turf, Logo, Inlaid Field Lines, Maintenance Equipment
- Earthwork/Field Drainage: $600,000
  - Strip and dispose of topsoil, mass earthwork, formation of subgrade
  - Collector pipe, underdrain, geotextile membrane
  - Turf anchor curb
  - Retaining wall
  - Relocate driveway

**Subtotal:** $1,075,000

20% Budget for A/E, Routine Construction Administration and Contingency: $215,000

**Total Suggested Project Budget:** $1,290,000

Optional Improvements:
- Replace Crumb Rubber/Sand Infill with Alternative Infill and Shock Pad: $175,000 to $325,000
- Walkway Additions: $110,000
- Scoreboard: $35,000
- Ball Netting: $40,000
- Perimeter Fencing & Gates: $55,000
- Field Lighting – Metal Halide: $350,000
- Field Lighting – LED: $450,000

**Notes:**
1. *This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.*
2. *Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.*
RECOMMENDED IMPROVEMENTS
- Improve irrigation water supply
- Aerate and de-compact topsoil layer
- Implement sand top-dressing and over-seeding maintenance program

ADDITIONAL IMPROVEMENTS
- Install geocomposite drains in sand filled trenches 10'-20' O.C. and tie into existing storm drainage system

CONCRETE BLEACHER PAD
(2) 60-seat bleacher systems. Accessible and companion seating available at each end.

CONCRETE SIDEWALK

FIELD A - NATURAL GRASS

CONCEPTUAL LAYOUT
REGIONAL SCHOOL DISTRICT NO. 18

69 LYME STREET
OLD LYME, CONNECTICUT
MAY 2017

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Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field A
Natural Grass Field

- **Multipurpose Field – Natural Grass Improvements**
  - General Conditions, Bonding, Site Preparation, Erosion Controls $25,000

**Irrigation:**
- Improve Groundwater Supply $250,000
  - New Overburden Wells on West Side Campus
  - Install Centralized Storage Tank

**Turf Improvements:**
- Turf Grass Maintenance Program $40,000
  - Core Aerate
  - Sand Topdress
  - Overseed

**Subtotal** $315,000

20% Budget for A/E, Routine Construction Administration and Contingency $65,000

**Total Suggested Project Budget** $380,000

**Optional Improvements:**
- Add Pond Water Supply $70,000
- Walkway Improvements $25,000
- New Bleachers $45,000
  - Concrete Pad
  - (2) 6(2) 60 seat bleacher systems
- Field Lighting – Metal Halide $350,000
- Field Lighting – LED $450,000

**Notes:**
1. *This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.*
2. *Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.*
FIELD B - NATURAL GRASS
CONCEPTUAL LAYOUT
REGIONAL SCHOOL DISTRICT NO. 18
69 LYME STREET
OLD LYME, CONNECTICUT  MAY 2017

RECOMMENDED IMPROVEMENTS:
- IMPROVE IRRIGATION WATER SUPPLY
- AERATE AND DE-COMPACT TOPSOIL LAYER
- IMPLEMENT SAND TOP-DRESSING AND OVER-SEEDING MAINTENANCE PROGRAM

ADDITIONAL IMPROVEMENTS:
- INSTALL GEOCOMPPOSITE DRAINS IN SAND FILLED TRENCHES 10'-20' O.C. AND TIE INTO EXISTING STORM DRAINAGE SYSTEM

NATURAL GRASS FIELD 18,920 S.F.
FIELD DIMENSIONS:
- SOCCER 195' X 360'
- FOOTBALL 160' X 360'
- GIRLS LACROSSE 195' X 360'
- BOYS LACROSSE 180' X 330'

4-POLE ATHLETIC FIELD LIGHTING - LED OR HID LUMINAIRES

EXISTING BALL NETTING TO REMAIN

INSTALL PERMANENT ROTATING FOOTBALL UPRIGHTS

CONCRETE SIDEWALK CONNECTION TO BLEACHERS

EXISTING BLEACHERS TO REMAIN

CENTER SCHOOL
Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field B
Natural Grass Field

- Multipurpose Field – Natural Grass Improvements
  - General Conditions, Bonding, Site Preparation, Erosion Controls $25,000

Irrigation:
  - Improve Groundwater Supply $250,000
    - New Overburden Wells on West Side Campus
    - Install Centralized Storage Tank

Turf Improvements:
  - Turf Grass Maintenance Program $45,000
    - Core Aerate
    - Sand Topdress
    - Overseed

Subtotal $320,000
20% Budget for A/E, Routine Construction Administration and Contingency $65,000

Total Suggested Project Budget $385,000

Optional Improvements:
  - Add Pond Water Supply $70,000
  - Walkway Improvements $20,000
  - Field Lighting – Metal Halide $350,000
  - Field Lighting – LED $450,000

Notes:
1. This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.
2. Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.
RECOMMENDED IMPROVEMENTS
- Strip/remove existing grass
- Re-grade field to create uniform crown
- Install irrigation from new water supply
- Seed or sod with a blend of Kentucky blue grass athletic field turf varieties
- Implement sand top-dressing and over-seeding maintenance program

PROVIDE PORTABLE BLEACHERS FOR SPECTATOR SEATING

PROVIDE ACCESSIBLE ROUTE TO FIELD AND SPECTATOR AREA

NEW SCOREBOARD

NATURAL GRASS FIELD
130,000 S.F.
FIELD DIMENSIONS:
SOCCER 210' X 330'
GIRLS LACROSSE 195' X 330'
BOYS LACROSSE 180' X 330'

LIMITS OF GEOTHERMAL BORE FIELD

SLOPE = 1.5%

LYME - OLD LYME
HIGH SCHOOL

REGIONAL SCHOOL DISTRICT NO. 18
CONCEPTUAL LAYOUT

MAY 2017

99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773  Fax (203) 272-9733
www.miloneandmacbroom.com

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OLD LYME, CONNECTICUT
Engineer’s Opinion of Probable Construction Costs
Conceptual Design – Field B
Natural Grass Field

- **Multipurpose Field – Natural Grass Improvements**
  - General Conditions, Bonding, Site Preparation, Erosion Controls $35,000

  **Irrigation:**
  - New Pond Supply $200,000
    - Install Lower Storage Tank
    - New Irrigation System

  **Turf Improvements:**
  - Replace Turf $150,000
    - Strip turf
    - Regrade Field
    - Install Sod

**Subtotal** $385,000

20% Budget for A/E, Routine Construction Administration and Contingency $80,000

**Total Suggested Project Budget** $465,000

**Optional Improvements:**
- Add Overburden Wells on West Side Campus $105,000
- Upgrade to Centralized Storage Tank $30,000
- Walkway Improvements $15,000
- New Scoreboard $35,000
- Field Lighting – Metal Halide (4-Pole System) $350,000
- Field Lighting – LED (4-Pole System) $450,000

**Notes:**
1. This budget is based upon conceptual level design plan only. Detailed design is required to further refine budget.
2. Should any “Optional Improvements” be selected, 20% contingency/design fee must be added to cost.