SPORTS FIELD USAGE ANALYSIS

For

Somerset Hills School District &

Bernardsville Borough

Somerset County, New Jersey

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INTRODUCTION

The Somerset Hills School District (SHSD) and Bernardsville Borough (Borough) engaged the landscape architecture and sports engineering group of T&M Associates to provide a brief overview and analysis of present sports field usage between the two entities. The specific goal was to evaluate usage trends, (as feasible) available field space and to provide recommendations for future accommodation of both school and Borough recreation programs, including number of fields needed.

To facilitate our work an initial kick off meeting was held with the project steering committee on November 26, 2013. A subsequent meeting was held with members of the steering committee and Michael Hoppe, Assistant Principal/Director of Athletics for Bernardsville High School on January 6, 2014. The Steering Committee included the following members:

Borough of Bernardsville (Borough)
Mayor Lee C. Honecker
Douglas Walker, Assistant to the Director of Public Works
Cheryl Ferrante, Recreation Director
Joseph Rossi, Councilman

Somerset Hills School District (SHSD)
Nancy Hunter, Business Administrator
Lauriann Swadba, School Board
Donna Coons, President, School Board
Louis Palma, School Board

BACKGROUND DATA

The Somerset Hills School District is a regional school district that directly serves students from the municipalities of Bernardsville, Far Hills, and Peapack-Gladstone with a sending/receiving relationship with Bedminster Township for high school grades 9 - 12. Based on information provided by SHSD, present enrollment is 2,015 students (excluding Bedminster K-8) and enrollment trends as reported by SHSD suggest a nominal decrease of 5 students per year for the foreseeable future.

Somerset Hills School District
School Population
At 10/31/14

Town	Grades K-4	5-6	7-8	9-12	**Total By Town**	**% of Total**
Bernardsville	462	234	226	398	1320	51%
Far Hills	35	14	13	29	91	3.5%
Peapack/Gladstone	127	60	43	128	358	13.8%
Total SHSD	**624**	**308**	**282**	**555**	**1769**	
Bedminster	298	110	141	269	818	31.6%
Total SHSD + Bedminster	**922**	**418**	**423**	**824**	**2587**	

T&M met with both school officials and Borough representatives to understand current field demands and the overall relationship between the SHSD and the Borough with regards to ownership, maintenance and scheduling. It was noted that several prior reports by both the Borough and SHSD had been completed relative to the issue of field usage. Specifically we examined the facilities at the Bernards High School, Bernardsville Middle School and Bedwell Elementary School. Presently "Olcott Field" at Bernards High School, is a synthetic turf field and is principally used by the varsity football, lacrosse and soccer teams throughout the fall and spring seasons. We note that the play fields at the middle and elementary schools are Borough owned facilities and are commonly referred to as the "Polo Grounds". Borough facilities beyond the "Polo Grounds" include Southside-Kiwanis Park, Claremont Park and the Rosebowl softball field.

Bernardsville Borough incorporated in 1924, has a land area of approximately 13 square miles and has a population of 7,707 residents per the 2010 census. This represents an approximate 5% increase from the 2000 census and a 14% increase from the 1990 census. It is noteworthy that while the number of households decreased in the 2010 census, from 2,723 in 2000 to 2,685, the percentage of households with children under the age of 18 increased from 35.9% to 40.6%. Based on the census data 28.6% of the population was under the age of 18. Comparatively 26.1% of the population was under the age of 18 in the 2010 census.

Far Hills Borough was incorporated in 1921 as part of a cession from Bernards Township. It contains approximately 5 square mile of land area and is home to approximately 919 residents. Per the 2010 census, 24% of the population is under the age of 18. Due to its small size, Far Hills shares recreation amenities with Bernardsville. Although not presently used for Bernardsville Borough or SHSD recreation and sports play, Far Hills is home to the Far Hills Fair Ground. The Fair Grounds contains three (3) ball fields and open area suitable to accommodate flat field sports.

Peapack-Gladstone Borough was incorporated in 1921 by the joining of two villages and subsequent cession from Bedminster Township. The Borough consists of approximately 6 square miles of land area

and is home to approximately 2,582 residents. Per the 2010 census, 26.5% of the population is under the age of 18. The Peapack and Gladstone Recreation Commission offers a number of recreation programs for residents, including little league, soccer, football, cheerleading and lacrosse, all of which utilize facilities at the Polo Grounds to meet demands for play space.

Bedminster Township was settled in 1798 and contains approximately 26 acres of land area and is home to 8,165 residents per the 2010 census. 17.7% of the population is under the age of 18 and all high school age children, grades 9-12, attend school at Bernards High School. The Township has approximately 34 acres of active parkland but limited flat field area which is often overlapped with ball fields, eliminating the possibility of simultaneous play. Only Burnt Mills Park contains one dedicated soccer field. This park is approximately 10 miles from Bernards High School.

A review of the Somerset County census information to identify population trends suggests the County's population is increasing between 1.5% and 2.2% per year since the 2010 census with a total population of 330,585 for the 2013 estimate. The county population of persons under the age of 18 in 2012 was presented as 24% and is consistent with the statistics for the Borough itself. *While it is not possible to predict with absolute accuracy, we can reasonably deduce from the available data and projections, that the population under the age of 18 will continue to grow, thereby providing a base of participants for both Borough and SHSD related athletic programs.*

2010 US CENSUS DATA					
Population Cohort	Bernardsville	Far Hills	Peapack & Gladstone	Bedminster	TOTAL
Total Population	7707	919	2582	8165	19373
<5 Years Old	456 (5.9%)	51 (5.5%)	119 (4.6%)	349 (4.9%)	975
5 – 9 Years Old	658 (8.5%)	55 (6%)	183 (7%)	360 (4.4%)	1256
10 – 14 Years Old	662 (8.6%)	63 (6.9%)	214 (8.2%)	416 (5.1%)	1355
15 – 19 Years Old	578 (7.5%)	67 (7.5%)	243 (9.4%)	385 (4.7%)	1273
<18 Years Old	2204 (28.6%)	220 (24%)	684 (26.5%)	1445 (17.7%)	4553
Change in total Population since 2010 Census*	+.6%	+.4%	-.5%	+.5%	

*Change in census derived from updated US Census information since 2010 census was completed.

In 2011, the Borough Recreation Department at the request of the Borough Council, initiated an independent review of the Borough owned facilities to understand current and future demands for playing fields. The final report issued in October 2012 specifically recommended that the Upper Polo Field at the Polo Grounds be turfed with synthetic turf. This report was reviewed as part of T&M's work and can be found here: http://www.bernardsvilleboro.org/web_content/pdf/forms/dept-rec/Upper-Polo-INFORMATION-SESSION-10-25.pdf and in the appendices of this report.

T&M further reviewed a prior compilation of field usage data prepared by the SHSD entitled "Chestnut Field Study," (date prepared is unknown but presumed recent, within the last 12 months). The Board of Adjustment resolution #7-23, dated May 5, 2008, was also reviewed to understand the approval decision related to the synthetic turf conversion of Olcott Field at Bernards High School. We note the resolution further documents both the qualitative and quantitative needs for additional sports fields and the benefits of synthetic turf fields. Both documents can be found in the appendices of this report.

A review of the adopted 2006 Bernardsville Borough Master Plan Reexamination Report, specifically the Recreation Plan Element, clearly states "*There is a need identified by the Bernardsville Recreation Committee for more playing fields for team sports*." It goes on to report, "*The recent expansion of the Polo Grounds will help, but the terrain in Bernardsville is largely sloping and rocky. Tension among the demand for fields, the limited supply or suitable land and the reluctance to rent space in flatter areas and incur the transportation costs and time for teams to use remote fields will undoubtedly continue*." (See appendices)

Lastly as of the writing of this report, the SHSD is presently set to commence with re-grading of the Lower Fields at Bernards High School to improve space for the flat field based on plans prepared by T&M. The goal of this work is to re-grade the site without the use of walls and to limit environmental impacts (tree removal), so that at least one half of the lower field can be used while the ball fields are also in use. This is achieved by better utilizing the void space between the outfields through re-grading of the slopes. These plans are based on several studies to maximize the use of this area. This project, however, does not currently contemplate synthetic turf, nor does the re-grading configuration eliminate the overlap of the existing baseball and softball fields into the flat field area. T&M had previously studied this option and the use of retaining walls is the only viable method for completely eliminating the overlap as shown in figure 13.

FINDINGS & METHODOLOGY

"What is the minimum number of fields required?"

This is not a straightforward question, but becomes one often asked and is often the premise of an analysis such as outlined in this report. There are no strict mathematical formulas, and no longer any national standards for determining the number of fields based on population density. Even a review of the New Jersey Educational Code, Chapter 26, Sub Chapter 7, Land Acquisition, School Closing and Land Disposal, 6A;26-7.1.D & E, states respectively "School site sizes shall be directly related to the acreage required for the structures and activities to be situated thereon…" and "All school sites shall have sufficient acreage for the following; …multi-purpose physical education field(s)…". Neither specific quantity of fields nor acreage is referenced.

Further complicating this discussion is that the creation of overlapping sports fields is no longer a viable option as there is no longer a gap in seasons among sports. With virtually yearlong play, each sport now

requires a dedicated facility which eliminates simultaneous use. Therefore, these types of analysis become a balance between both objective and subjective factors based on each community's individual needs and our professional experiences. In the industry it is reasonably presumed that there should be one playing field and one practice field for each sport offered, especially at the high school level. Secondarily, we can examine the hours of use for any natural grass field as this is the most objective and quantifiable method available for evaluating the life expectancy of any given field and potential shortages in the number of fields as a factor of overuse. For the purposes of this report, therefore, the age grouping and specific team was less critical compared to how many hours a specific facility was being used.

We also briefly reviewed facilities in adjacent municipalities. While nearby facilities may and can be used, this presents both logistical and potential financial obstacles, let alone scheduling conflicts with other user groups.

Presently SHSD utilizes the Polo Grounds to field various teams for both practice and games and does not provide dedicated busing for student athletes to the facility. While there are two (2) buses which run from the high school to the Polo Grounds, seating is limited. Students, as well as coaches and trainers, must either walk or drive independently absent of the provided buses. We note that the current cost to the district for a dedicated sports run, after school, is $400.00 per round trip based on the information provided to T&M by SHSD.

Specific User Groups included the following:

- Bernards High School
    1. Football
    2. Soccer
    3. Field Hockey
    4. Lacrosse
    5. Baseball
    6. Softball
    7. Tennis , boys and girls
    8. Track & Field, boys and girls

- Bernardsville Middle School
    1. Baseball
    2. Softball
    3. Track & field
    4. Boys soccer
    5. Girls soccer

- Youth Sports/Borough
    1. Little League – baseball and softball
    2. Somerset Hills Bulldogs
    3. Bulldogs Cheerleading
    4. Somerset Hills Lacrosse
    5. Somerset Hills Girls Lacrosse
    6. Somerset Hills Soccer
    7. Mavericks Soccer Club

Information provided by the Borough notes the following clubs and/or events which also compete for space and time at the Polo Grounds. Where known participant data is listed, however detailed use records are not available:

1. Angels (NJ Keys Baseball), Little League, ages 14 & up, 8 – 10 teams, 15 per team
2. Women's Softball League, 6 teams, 12 – 16 per team
3. Men's baseball, 6 teams, 12 – 16 per team
4. Men's Softball
5. Corporate Baseball & Softball (limited basis as availability permits) 4 teams, 20 per team
6. Bernardsville Recreation Camps, ages K -12, 200 participants daily, 6/23 – 8/4
7. USA Soccer Camps, ages 3 & up, 60 participants
8. Adult Soccer Leagues
9. Boy Scouts of America, ages 12 & up, 50 participants
10. SHSD Field Days
11. St. Elizabeth's Field Day
12. Stronghold Soccer Club

Facilities

The facilities reviewed in this study included:

Somerset Hills School District (see figure 1)

Bernards High School:

1. Olcott synthetic turf regulation size football field and track*
2. Lower Fields – 1 baseball, 1 softball 1 multi-use flat area

** Olcott Field is permitted to use temporary portable lights on a limited basis in accordance with Borough Resolution #7-23. (See appendices)*

There are six (6) primary outdoor sports offered at the high school (not including track and field or tennis) and eight (8) varsity squads.

Standard high school regulation size fields for these sports are typically:

1. Football – 160’ x 360’ exclusive of player and sideline spaces, *min. acreage required = 1.3*
2. Soccer – 165’ – 225’ x 330’ – 360’ exclusive of player and sideline spaces, *min. acreage required = 1.3*
3. Lacrosse (LAX) – 180’ x 330’ exclusive of player and sideline spaces, *min. acreage required = 1.4*
4. Softball - +/- 1.5 acres/field, 60’ baseline, 225’ to c.f. fence, *min. acreage required = 2.0*
5. Baseball - +/- 2.5 acres/field, 90’ baseline, 375’ to c.f. fence, *min. acreage required = 1.5 - 2*
6. Field Hockey – 180’ x 300’ exclusive of player and sideline spaces, *min. acreage required = 1.2*

Within the six (6) sports offered there are a total of twenty three (23) teams/squads when counting boys, girls, varsity, junior varsity; and freshmen athletes. In accordance with the Chestnut Field Study provided by SHSD, (see appendices) there are twelve (12) fall teams requiring fields for practice or play and eleven (11) spring teams requiring fields for practice or play. The High School complex no longer contains sufficient space for additional flat fields, nor tennis courts to accommodate all teams throughout the year, hence the reliance on the Polo Grounds for field use.

There are five (5) primary outdoor sports offered at Bernardsville Middle School (not including track and field). There is no distinction between squads, varsity etc., just boys’ and girls’ soccer. There are three (3) fall teams requiring fields for practice or play and two (2) spring teams requiring fields for practice or play. There are sufficient fields for the middle school teams at the Polo Grounds; however they are not solely for the use of the middle school, they are Borough owned fields and as noted above, used by the high school teams.

Based on the above, it is reasonable to conclude that at a minimum there should be one (1) field available for all high school field related sports or a total of 6 fields for the six (6) primary field sports offered, exclusive of tennis and track and field. These six (6) fields would require approximately a minimum of nine (9) acres to accommodate.

FIGURE 1

Aerial of High School Complex

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

The baseball field at Lower Fields is one of only two (2) available 90' baseline fields in the Borough. This limits older players to this field and Lower Polo Field for play.

Bernardsville Borough

Within the Borough of Bernardsville the following fields or facilities are currently used:

"Polo Grounds" – (Bedwell Elementary School & Bernardsville Middle School) (See figure 2)

1. Upper Polo – full size multi-use field (approx. 180' x 360')*
2. Lower Polo – full size multi-use field (approx. 180' x 300')
3. Upper Polo Softball/Baseball 60' baselines
4. Lower Polo Softball/Baseball 90' baselines**
5. Lower Evankow – full sized, regulation multi-use field (approx. 210' x 330')
6. Upper Evankow – practice size, multi-use field (approx. 280' x 180')
7. Six (6) tennis courts (Built by SHSD)

**Presently the Pop Warner football program has permission to use temporary, portable lights on Upper Polo field. Light use is limited to 9 PM and lights are on weekdays from August until mid-November.*

*** The ball field at Lower Polo is one of only two (2) available 90' baseline fields in the Borough. This limits older players to just this field and the BHS baseball field for play.*

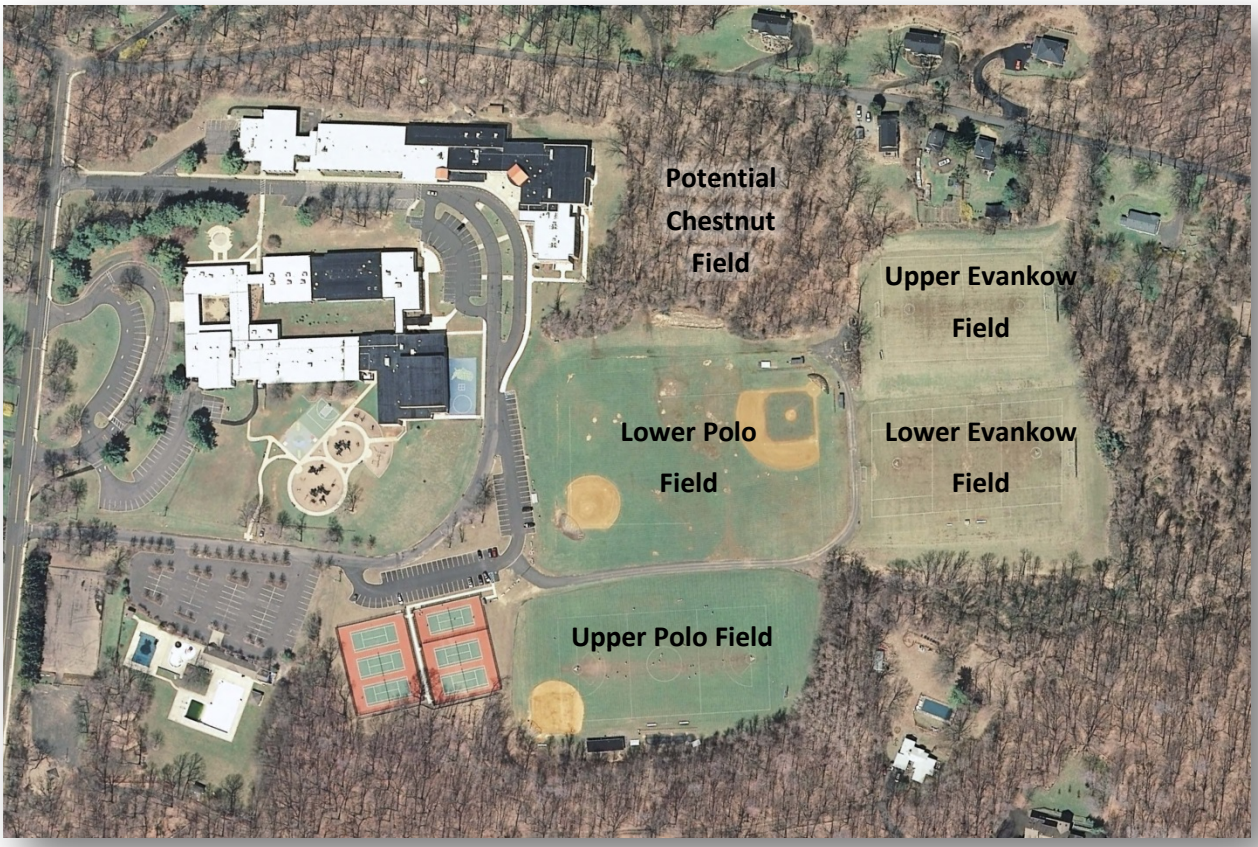


FIGURE 2

Polo Grounds

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

Southside - Kiwanis Rotary Field (See figure 3)

1. Two (2) little league fields with 60’ base lines and 180’ and 200’ outfield distances fences at center field
2. One (1) tee ball field

Rosebowl (See figure 4)

1. One (1) lit softball/baseball/little league field, 60’ base lines and approximately 270’ to outfield fence at center field.

   Rose Bowl is the only field in the Borough with permanent lights. Light use is limited to 10PM and runs from late August until late October. Lights are used on average 4 times per week.

Claremont (See figure 5)

1. One (1) little league baseball field with 60’ base lines and approximately 180- to outfield fence at center field.

FIGURE 3

Southside-Kiwanis Field

FIGURE 4

Rosebowl Field

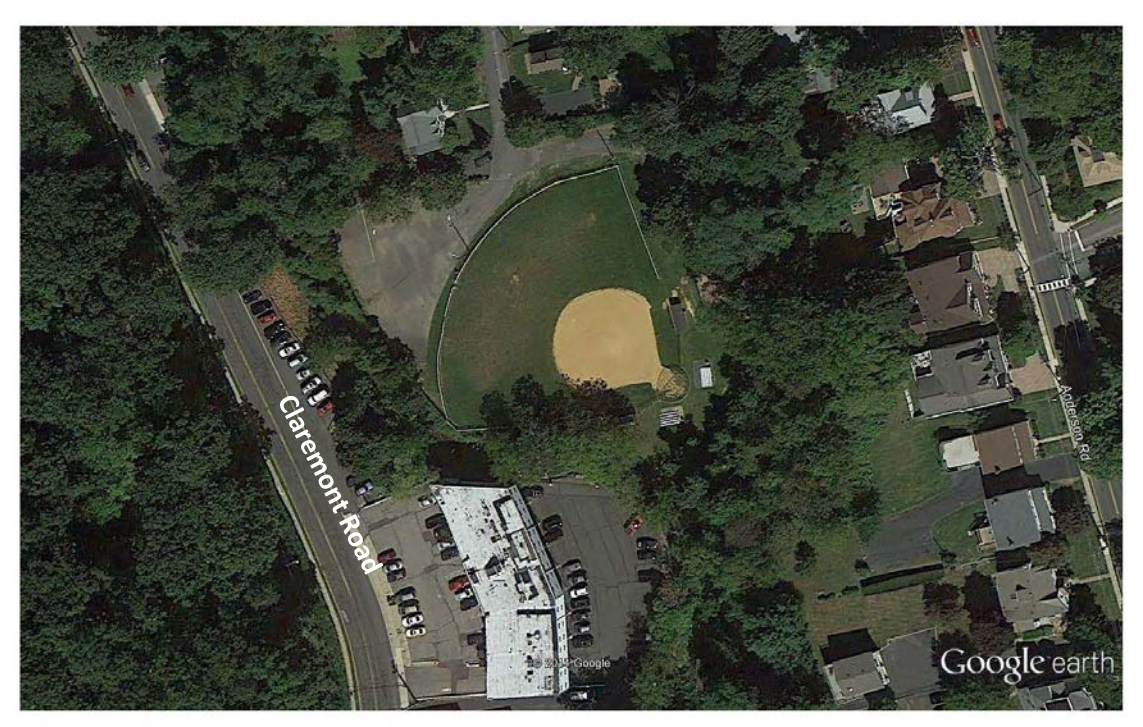


FIGURE 5

Claremont Park

Neighboring Facilities

Far Hills Borough

Far Hills Fair Grounds (See figure 6)

1. One (1) baseball field
2. Two (2) softball fields
3. One (1) multi-use field

Peapack-Gladstone Borough

Police Station (See figure 7)

1. One (1) softball field
2. One (1) baseball field

Pharmacia/Pfizer (private) (See figure 8)*

1. One (1) softball field
2. One (1) baseball field

**These fields are used by the Borough through a private agreement. Peapack-Gladstone does not have permission to grant use of these facilities to other users. Any use by SHSD or the Borough would need to be negotiated separately with Pharmacia/Pfizer.*

Bedminster Township (See figure 9)

Burnt Mills Park

1. One (1) 60' baseball field
2. One (1) 70' baseball field
3. Two (2) soccer lacrosse multi-use fields, one overlapping baseball*

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

Miller Lane Park

1. One (1) non-regulation softball field
2. One (1) 60' baseball field
3. One (1) 90' baseball field
4. One (1) soccer field overlapped by baseball*

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

River Road Park

1. One (1) 60’ softball field, overlapped by soccer field
2. Two (2) 60’ baseball fields, overlapped by soccer field
3. One (1) 90’ baseball field, overlapped by soccer field
4. Flat space to accommodate three (3) small multi-use fields but only when no baseball/softball*
5. One (1) soccer field, overlapped by baseball

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

Bedminster School (k-8)

1. Two (2) soccer fields, 130’ x 70’ (approx.)
2. One (1) non-regulation, undersized, softball/baseball field, 50’ base lines (approx.)

FIGURE 6

Far Hills Fair Grounds

FIGURE 7

Peapack-Gladstone Police Fields

FIGURE 8

Peapack-Gladstone Pharmacia/Pfizer Fields

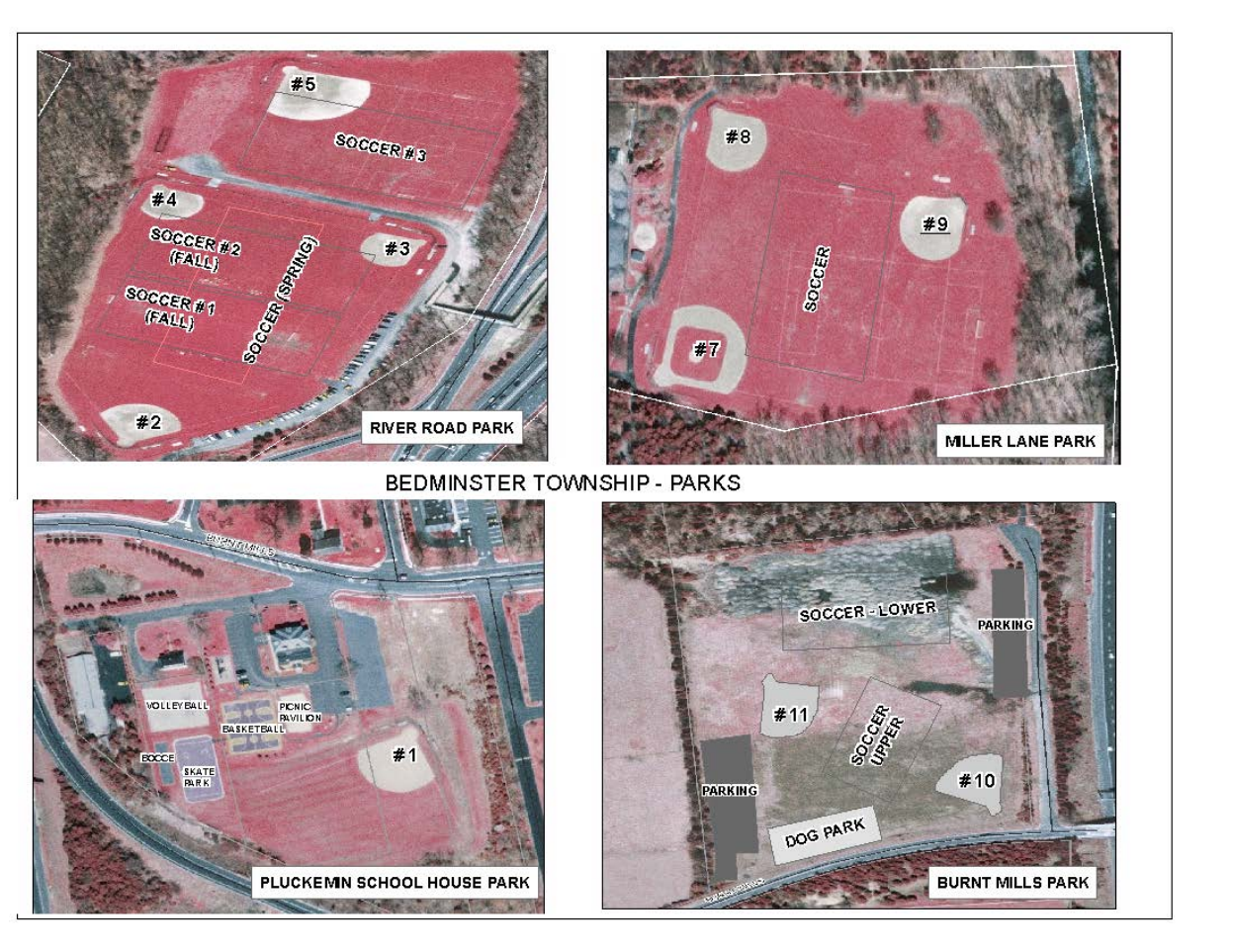


FIGURE 9

Bedminster Township Parks

**The overlap of fields precludes simultaneous use thereby limiting field availability depending on the season of play and sport utilizing the field.*

Field Condition & Maintenance

With the exception of the Olcott synthetic turf field at Bernards High School, all fields reviewed are natural grass fields with varying degrees of maintenance and conditions. By in large most fields show signs of excessive use and would benefit from some level of rehabilitation and/or maintenance including but not limited to:

- Drainage improvements; surface and sub-surface
- Top soiling and re-grading
- Turf re-establishment or replacement
- Aeration and incorporation of soil conditioners
- Seasonal resting
- Fertilization and weed control, minimally 4 times annually

Seasonal resting when coupled with proper aeration, seeding and fertilization is perhaps the number one practice to ensure the prolonged life of natural grass fields. This resting enables undisturbed root growth, limits compaction of soil and destruction of grass cover. Embracing this practice however is difficult to employ when already faced with a deficit in the number of fields.

Our experience with similar field reconstruction projects suggest an order of magnitude costs of $275,000.00 per high school sized field of 160' x 360', dependent on the level of reconstruction required.

Matrices & Usage

To further augment previously obtained data, T&M prepared and issued a facilities use matrix to establish a baseline as to the hours of use of the various SHSD and Borough facilities (see appendices). The matrices were shared with the Borough as well as SHSD, and are presented in the appendices of this report. It was clear from this exercise and review of the prior work by the Borough and SHSD that the natural grass fields of both the SHSD and the Borough were over scheduled and over used. A chief reason for this is that there is no longer a traditional "off season" for many sports utilizing flat fields. Soccer, lacrosse, football and field hockey are continually stretching the time for each play season as the demand and popularity of each sport continues to rise.

Anecdotal research and studies by the natural turf growers association, recommends that natural grass fields be *used no more than 20-24 hours per week or 680-816 hours per year for a three season period*[1]. ***This hourly use statistic formed the basis of our subsequent analysis and determinations.***

BOROUGH USAGE

The matrices provided by the Borough, outlined the use of the Polo Grounds by Borough sponsored teams. It is important to note that use of the Polo Grounds is not necessarily field specific for each occurrence of use by each user and that overlapping facilities, specifically the Lower and Upper Polo fields with both soccer and ball fields, creates an additive effect. Pop Warner, Boys Lacrosse, Girls Lacrosse Somerset Hills Soccer and Little League for instance all share the fields on Upper and Lower Polo fields. Use was not necessarily distributed uniformly amongst the four (4) flat field areas. The hours of use, therefore were viewed as an aggregate for the entire facility. The Borough matrices revealed the following hours per yearly season of use, both fall and spring seasons for the following flat field specific users:

1. Boys Lacrosse – 536 hours per year, 16 week season @ 33.5 hrs/week
2. Girls Lacrosse – 220 hours per year, 11 week season @ 20 hrs/week
3. Pop Warner football – 663 hours per year, 17 week season, @ 39 hrs/week
4. Somerset Hills Soccer – 195 total hours per year, two (2) 13 week seasons (fall & spring) @ 7.5 hrs/week

As noted Little League usage at the Polo Grounds was also indicated in the matrices. The matrices yielded the following:

1. Little League – 2,624 total hours per year, 31 weeks (fall & spring) @ *average of* 84 hrs/week (*875* hrs/field)

As there are only three (3) *specific* ball fields which can be used for this purpose, the total could be divided by three. Even if divided by three, at 875 hrs per field, this exceeds the recommended maximum hours of use (816), as well as the minimum recommended hours of use by a factor of 1.3 (875/680).

As these fields overlap, flat field areas of the Upper and Lower Polo fields, these hours must be added to the hours of use for the flat field portions of these fields by the users noted above. This compounds the wear and tear of the natural grass fields.

Viewed independently, the total little league hours, even divided amongst three fields, ***exceeds the recommend hours based on both the recommended minimum and maximum hours of usage. This coupled with any of the above note flat field hours, (even if they were divided by four fields) clearly indicates that at a minimum the Upper and Lower Polo fields of the Polo Grounds are over used and***

[1] Huth/ Centaur Products, Scott. "Artificial Turf Planning: Important Details When Planning for an Artificial Turf Project." Facility to Facility Spring 2014. Web. and "Frequently Asked Questions - Synthetic Turf Council." Frequently Asked Questions - Synthetic Turf Council. Synthetic Turf Council. Web. 20 May 2014.

exceed suggested minimums by a factor of at least two times. Most importantly this is independent of use by SHSD teams.

Illustrative Examples:
Lower Polo Field
Aggregate Polo Grounds Flat field use = 1694 hrs
If presumed divided amongst 4 fields evenly = 424 hrs/field as an average
2 ball fields @ 875 hrs/field = 1750 hours of use for little league
Therefore:
424 hrs + 1750 hrs = 2,174 hours of use for Lower Polo field
2,174/816 hrs maximum recommended usage = ***2.6 times the recommended usage***

Upper Polo Field
Aggregate Polo Grounds Flat field use = 1694 hrs
If presumed divided amongst 4 fields evenly = 424 hrs/field as an average
1 ball field @ 875 hrs/field = 875 hours of use for little league
Therefore:
424 hrs + 875 hrs = 1,299 hours of use for Lower Polo field
1,299/816 hrs maximum recommended usage = **1*.6 times the recommended usage***

Per the "Chestnut Field Study" provided by the SHSD, we note that High School boys' soccer and girls' soccer teams practice and play games at the Polo Grounds, specifically the Lower Evankow field. These practices alone, (5 days per week, 2 hours per day, for a minimum of a 10 week season) add an additional 100 hours of use, (exclusive of games) to the total number of hours per year that the Polo Grounds fields must absorb. Even with the most rigorous maintenance program, the fields at the Polo Grounds cannot withstand the use regimen currently imposed upon them.

Based on the above, it is reasonable to conclude that with usage at twice the recommended level, there is a need for twice as many fields in order to maintain each field within the recommended hourly use parameters for a single field.

Baseball, softball and little league usage was also tallied for Claremont, Rosebowl and Southside/Kiwanis Rotary Field. The matrices provided by the Borough, outlining the use of these fields revealed the following hours per yearly season of use, both fall and spring seasons:

1. Claremont – 2,688 hours per year, 32 weeks @ 84 hrs/week
2. Southside/Kiwanis – 2,688 hours per year, 32 weeks @ 84 hrs/week (combined for two fields)
3. Rosebowl – 2,388 hours per year, 32 weeks @ 75 hrs/week

This usage exceeds recommend hours by a factor of 3 times for Claremont and Rosebowl and twice the usage at Southside Kiwanis as there are currently two fields there. Based on both the recommended

minimum and maximum hours of usage this suggests the need for a minimum of six (6) additional fields or two (2) additional fields at each facility.

SHSD Usage

Based on information provided by SHSD, High School Athletic Director, Michael Hoppe, the following participant data was complied.

Participation numbers for 2013-2014

Team	Participants	FALL	SPRING
BHS			
Varsity Football	35	X	
JV Football	15	X	
FR Football	15	X	
Varsity Boys Lax	26		X
JV Boys Lax	24		X
FR Boys Lax	21		X
Varsity Boys Soccer	20	X	
JV Boys Soccer	29	X	
FR Boys Soccer	22	X	
Varsity Girls Soccer	17	X	
JV Girls Soccer	18	X	
FR Girls Soccer	14	X	
Varsity Girls Lax	25		X
JV Girls Lax	15		X
Varsity Field Hockey	13	X	
JV Field Hockey	12	X	
FR Field Hockey	13	X	
Middle School			
Field Hockey	20	X	
Girls Soccer	17	X	
Boys Soccer	19	X	
Cross Country	30	X	
Baseball	12		X
Softball	13		X
Track & Field	46		X

Based on the partial use matrix provided by SHSD (see appendices), the following was determined:

- Fall and Spring, Bernards High School (BHS) Olcott Turf Field is used on average, 2.5 hours/day, four (4) days per week including practices and games
- Fall and Spring, BHS lower filed is used, on average, 2.5 hours/day, 4 days per week for practices
- BHS Soccer Teams use Upper Polo field on average 2.5 hours/day, 4 days per week*

- Bernardsville Middle School (BMS) Soccer Teams use Lower Polo field on average 2.5hours/day, 3 days per week*
- BHS Girls Soccer Teams use Lower Evankow Field 2,5 hours/day, 3 days per week*
- BMS Field Hockey Teams use Upper Evankow Field 2.5 hours/day, 4 days per week*

*This usage is in addition to the Borough usage previously noted and further compounds the aggregate hours of use.

Borough Usage

Based on information provided by the Borough the following participant data was complied.

User Group	Activity	Field	Participants
Recreation Programs	Summer Camps	Polo	200
Somerset Hills Soccer	Soccer	Polo, 2 seasons	50
Somerset Hills Lacrosse	Lacrosse Boys & Girls	Polo	224
Somerset Hills Pop Warner	Football	Upper & Lower Polo	150 players 80 cheerleaders
Mavericks Soccer	Soccer	Polo, 2 seasons	25
Little League	Baseball	Claremont/Kiwanis/Rosebowl/Polo	150
Angels Little League	Baseball	Varies	150 (max)
Women's Softball	Softball	Varies	96 (max)
Men's Baseball	Baseball	Varies	90 (max)
Corporate Baseball/Softball	Baseball/Softball	Varies	80
USA Soccer Camps	Soccer	Polo	60
Boy Scouts of America	Sports	Varies	50

User Group	Registered	Borough Resident	Non-Resident	% of Borough Residents
Somerset Hills Girls Lacrosse	69	49	20	71%
Somerset Hills Boys Lacrosse	156	115	41	73%
Somerset Hills Pop Warner Football/Cheerleader	213	158	55	74%
Somerset Hills Little League	546	309	237 ***	56%
Recreation Summer Camps	197	176	21	89%
Women's Softball	16	9	7	56%
Mavericks Soccer	25	19	6	76%
Somerset Hills Soccer	22	12	10	54%
**** New this year 153 Bedminster participants using Bernardsville fields for games only, practices in Bedminster				

"Quality versus quantity"

Based on our meetings and conversations with SHSD and the Borough, there was clearly a need for improving the fields presently owned and used. Improving the fields, however, either by conversion to synthetic turf or as natural grass fields with re-construction in combination with improved maintenance, was not the sole answer. Based on the analysis it was clear that additional field space was also needed.

As noted in the SHSD "Chestnut Field Study" current limitations to the present field configuration, quality and location include:

- Weather related cancellations
- Cancellations create scheduling disruptions
- Playing on wet surfaces increases damage to grass and potential for player injury
- Upper Evankow field is too small for regulation play
- Overlap between ball fields and flat fields results in lost play during all seasons

Other limiting factors include the overlap of existing multi-use fields such as Upper and Lower Polo fields. Due to the fact that many sports have now become "year round", there is no seasonal break to allow baseball for instance, to occupy the same field as soccer. Both teams are now playing at the same time. Furthermore, anecdotal information suggests that differences in foot wear, specifically cleat types, for the different sports, creates unfavorable field conditions through the wear and tear of the field surface. Various sports require different playing surfaces and have different tolerances for surface irregularities. For example, field hockey and soccer require a more even and uniform surface free of ruts and irregularities than football. This significantly impacts field availability and playability.

As noted in the Upper Polo Field Turf Project report prepared by the Borough, the advantages of the converting the Upper Polo Field to a synthetic turf field are clearly evident and provided significant relief for scheduling as to the amount of playable time. As noted by the Synthetic Turf Council, a synthetic turf field can be utilized up to 3,000 hours per year, which is nearly twice the hours of present use at the Polo Grounds by all users. ***While the conversion to synthetic turf does not "add" field square footage per se, it does however enable virtually unlimited use of a field thereby somewhat easing the "quantitative" need for field space.***

As noted in the Borough's recreation study, there would have been a 113% incremental increase in potential playing days with a turf solution. In 2011, playing days would have increased over 80% as weather would not have been a factor in field availability. Of the two options vetted, the Borough Committee recommended "Option 1", which preserved the existing footprint of the upper polo field and thereby reduced potential costs and greatly reduced permitting and approval requirements. Option 2 expanded the current footprint, but required more site disturbance and hence more permitting. (See figure 10)

As noted in the Borough's Re-examination Report, the geography of the municipality is not conducive to flat field sports and open available ground is at a premium or simply non-existent. Prior recommendations included the possibility of constructing a new field at the Polo Grounds in a wooded area along Chestnut Avenue, just behind Bernardsville Middle School.

To further investigate this possibility T&M prepared an environmental constraints exhibit utilizing the NJDEP i-Map program. (See figure 11). This initial investigation reveals that this section of wooded area is listed as a "Conservation Rank 5" Federally listed conservation area for several species including Indiana Bat, Worm-Eating Warbler and Veery. While this may not specifically preclude development of sports fields in this area, Indiana Bat conservation does have permitting and construction timing ramifications. Specifically, no tree clearing can occur between March 31st and October 1st, which effectively eliminates a summer construction; only off season implementation of any new field. Additionally, given recent opposition to tree clearing to facilitate the Lower Field re-grading at the High School; there is the potential for significant public backlash, especially from the residential properties immediately across the street. Additional environmental investigation is recommended, especially a wetland investigation to verify the presence or absence of wetlands.

Similarly "land challenged", SHSD is limited to maximizing available field space at Bernards High School (BHS). As noted previously in this report, T&M has evaluated several options for solving the quantitative needs for field space at BHS. Three (3) development scenarios have been explored, each with successive amounts of environmental disturbance (tree removal) and associated costs for development. All can be developed as either natural grass or synthetic turf fields.

SHSD is presently proceeding with the construction of field option one for the lower fields at BHS as seen in figure 12. This option reduces tree removal, and limits the amount of earth fill to create an enlarged section of flat field. It does not solve the overlapping field issue which remains an impediment to simultaneous use and hence, an increase in field availability.

Option 2 for the lower fields, (See figure 13) builds on the work completed in option one, and maximizes earth fill without the use of retaining walls, but creates more tree disturbance. This option creates a full size 160' x 360' multi-use flat field but still overlaps the softball field.

Option 3 for the lower fields, (See figure 14) builds on the work completed in option two, and maximizes earth fill with the use of retaining walls, but creates more tree disturbance. This option creates a full size, multi-use flat field that accommodates soccer, lacrosse and football with regulation sized fields and completely eliminates the overlap issue with the softball and baseball fields. This option creates one (1) additional field for SHSD.

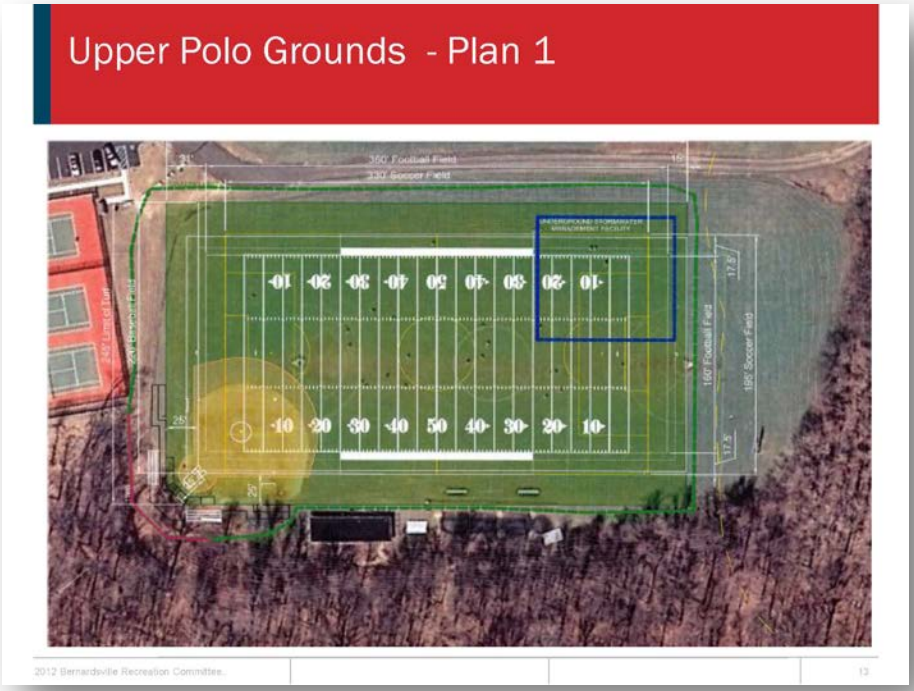


FIGURE 10

Options 1 & 2 – Upper Polo Field

Synthetic Turf Conversion

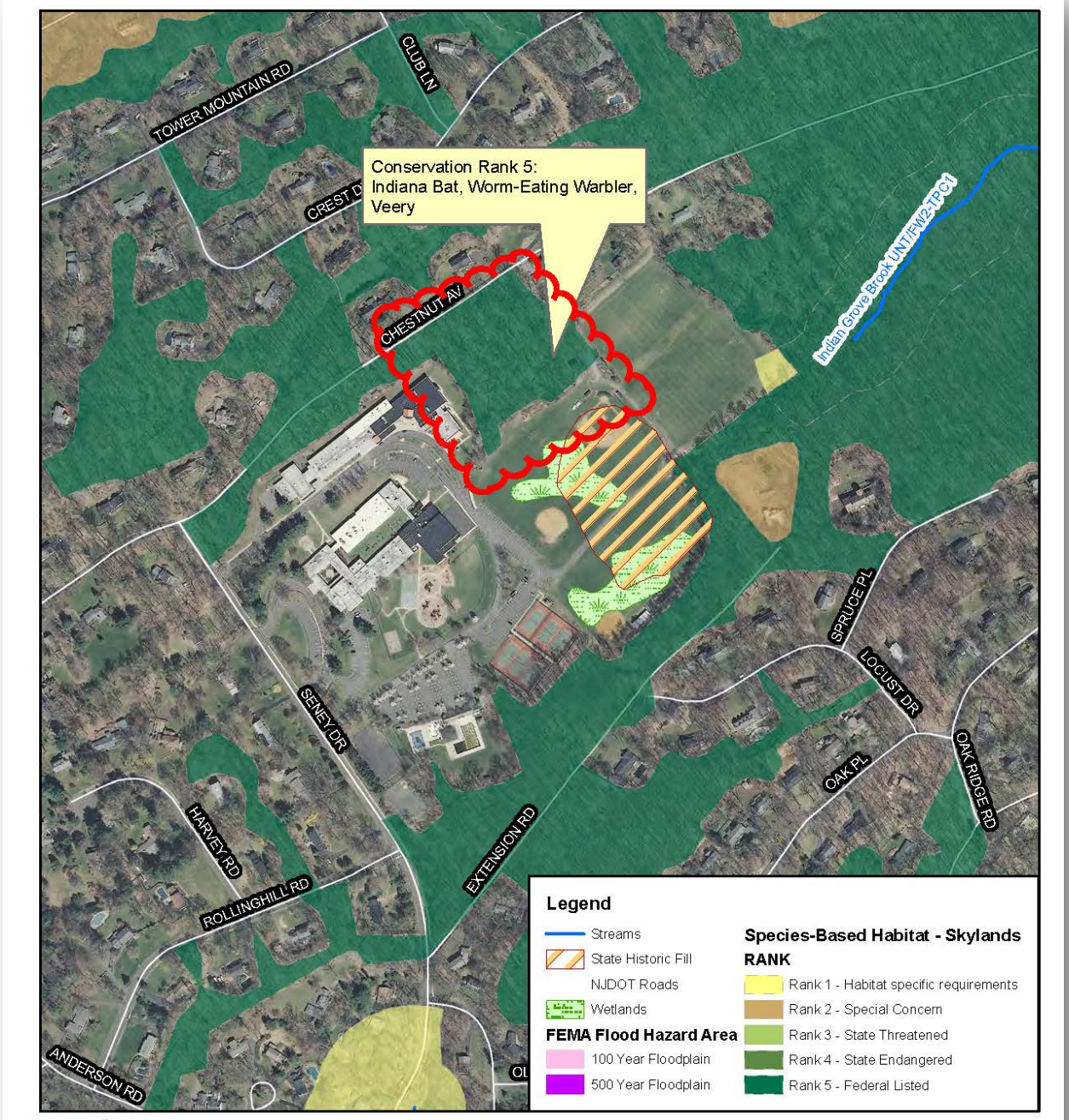


FIGURE 11

Potential Chestnut Field –

Environmental Constraints Map

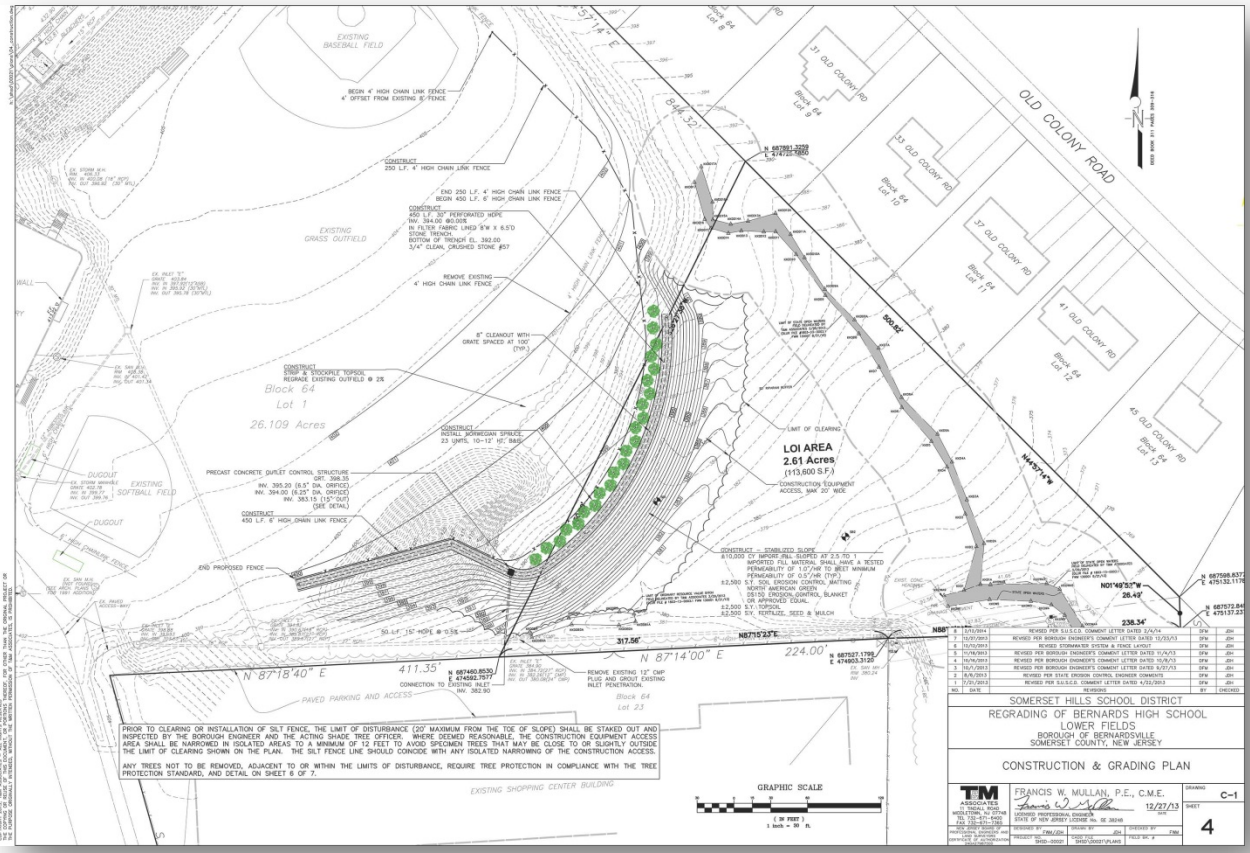


FIGURE 12

Option 1

SHSD Lower Fields – minimal grading

Estimated Cost:

$200,000.00

(Presently under construction)

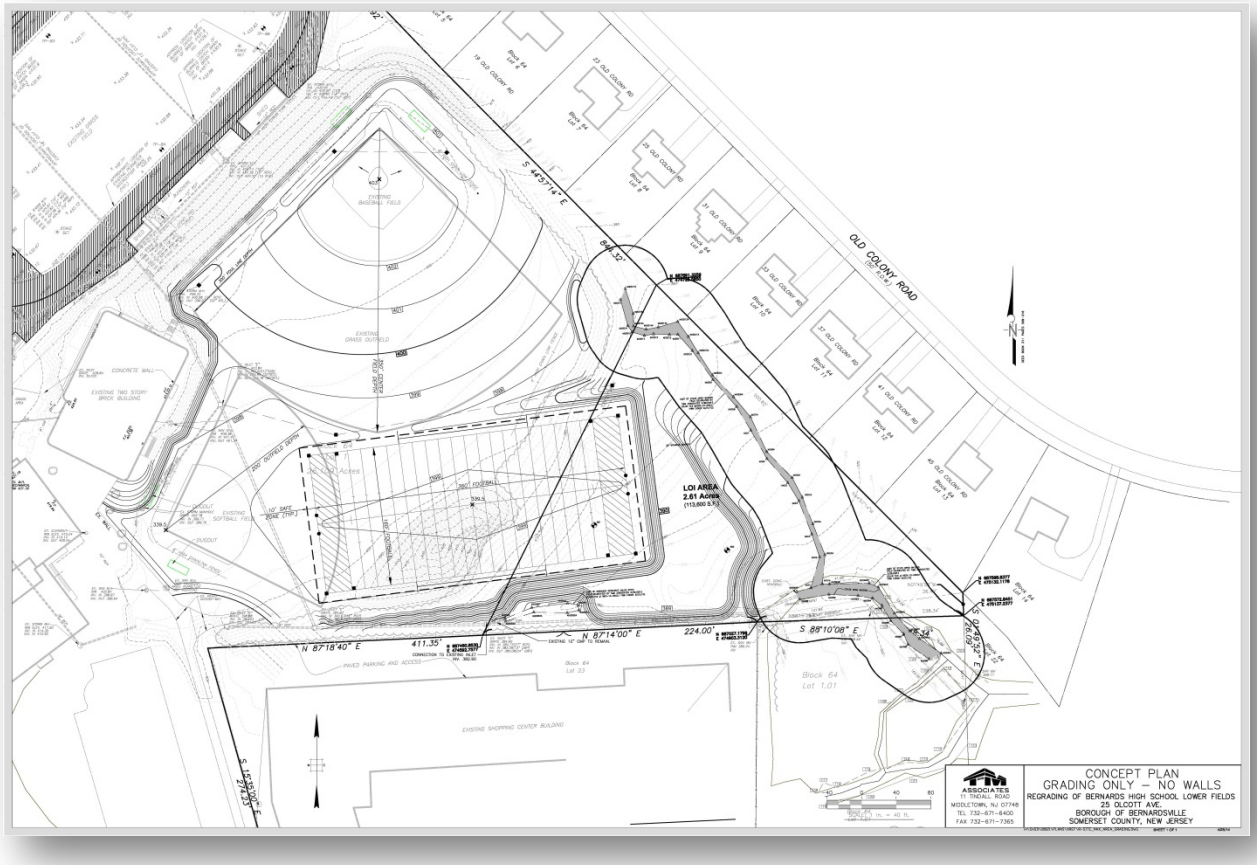


FIGURE 13

Option 2

SHSD Lower Fields - Maximum grading with no walls

Estimated Cost:

$516,000.00 as natural grass

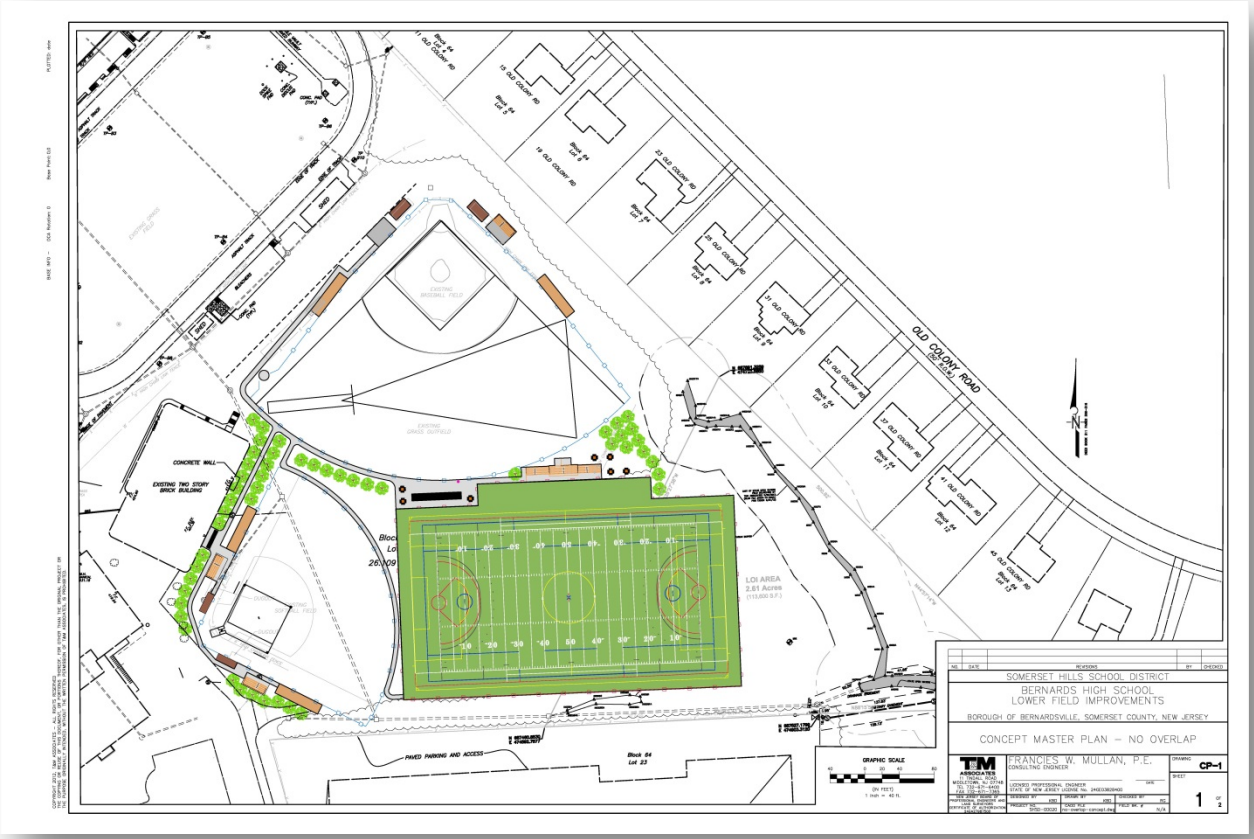


FIGURE 14

Option 3

SHSD Lower Field – No Overlap Option

Estimated costs:

$4.3 Million as natural grass

$4.96 Million with synthetic turf

"Our neighbor has space…"

In addition to creating new fields, converting existing natural grass fields to turf fields and rehabilitating current grass fields, the option remains for utilization of fields in nearby neighboring municipalities, especially those within the SHSD and Bedminster Township. The primary obstacle to this for SHSD however, is transportation of student athletes, equipment and more importantly trainers and medical supplies to treat injuries. The transportation of athletes for the Borough is not an issue as participants are responsible for their own transportation. Issues of rent or usage fees, maintenance responsibilities and scheduling are also potentially limiting factors for either entity with regards to potential field sharing agreements.

Currently use of the Polo Grounds, while not owned by the SHSD, enables the District to at least keep high school athletes within the district and within walking distance to the High School. With the proximity of Bedwell Elementary School and Bernardsville Middle School, the opportunity to have satellite storage for equipment, training rooms and medical facilities is possible within district owned buildings.

Based on the review of neighboring municipalities noted previously, the two (2) sites with the most potential for providing satellite facilities appear to be the Far Hills Fairgrounds and to a lesser extent Burnt Mills Park in Bedminster. While train travel to Far Hills Fairgrounds is possible, the logistical reliability and practicality of this option make it less desirable. Therefore, use of these facilities would ideally require the use of buses to transport students, coaches, trainers and equipment. We note that Burnt Mills Park with one dedicated unobstructed flat field is over 10 miles from the school and could be as much as a 20 minute bus ride with local traffic depending on the travel route used.

Based on information provided to T&M by SHSD, the average round trip cost for a sports bus is $400.00. We also know that the soccer and lacrosse squads typically do not practice at the High School. Given the various schedule issues and demand for use at the Polo Grounds, busing to an alternative site becomes an option. Using the high school boys' soccer team as an example, the costs to SHSD for transportation in the fall season would be $22,000.00 as follows:

- Fall season – approximately Labor Day to mid/late November or approximately an 11 week season (2014)
- Practice is five (5) days per week
- Bus is $400.00 per day for a total of 55 days or $22,000.00 per season

This cost does not include the girls' soccer squad, nor does it include spring lacrosse. However for estimating purposes, we can reasonably presume that the cost noted above could be double if the girls squad is included for the fall and that this could repeat for both boy's and girl's lacrosse in the spring. Therefore the cost to the district could be in excess of $88,000 per year to provide transportation to offsite facilities for just these four sports teams for practices alone. SHSD has confirmed that bus sharing

between the boys and girls teams is not an alternative as both the boys Varsity and Junior Varsity squads fill one bus, therefore an additional bus is required. This is clearly a significant cost impact and money which could be invested into rehabilitated or new fields at the Polo Grounds and High School.

We further note that Borough Resolution #7-23 states the following: *"Transit to remote fields involves safety and security threats to the students, and unnecessary expense to the BOE. Transit time also wastes students' valuable free time, which is already curtailed by participation in extra-curricular activities. Eliminating unnecessary transit time is in the best interest of the students."*

"Where do we go from here?"

Based on our analysis of previously complied data, review of the use matrices and conversations with representatives from SHSD and the Borough, it is clear that based on the hours used, there is a minimum need for twice as many fields as exist presently. Similarly the level of Borough ball field usage suggests a need for a minimum of six (6) and up to a total of eight (8) additional ball fields. Ideally, SHSD would provide at a minimum one field for each High School level field sport offered and ideally two fields per sport. This number of needed fields however, is not achievable given the lack of available land area within the Borough and at SHSD facilities. Therefore options are limited to; maximizing existing space, improving playability of existing fields and extending the use of current facilities.

Lighting

With the exception of the Borough's Rosebowl facility, there are presently no permanent sports lights utilized at any other facility. Field usage is limited to "day light" hours only except where temporary lights may be currently allowed and used as noted below.

Olcott Field is permitted to utilize temporary lights but with strict limitations in accordance with Resolution #7-23: *"Use of temporary lights shall be limited to weekdays during the year school year, with the temporary lighting to be turned off at 8:00 PM, except that on sixteen (16) occasions during the school year the temporary lighting may be kept on until 10:00 PM."* This extends the availability of this field by up to five (5) hours in the fall season.

At the Rosebowl facility, lights are used from late August until late October on an average of four (4) times per week and must be off by 10:00 PM. This extends the availability of this field by up to five (5) hours in the fall season. The Pop Warner Football program is permitted to use portable lights at Upper Polo Field. These lights are used weekday evenings from August until mid-November and are off by 9:00 PM. This extends the availability of this field by up to four (4) hours in the fall season.

There are a number of factors which influence the use of lights on a sports field including neighborhood opposition, costs of electricity and maintenance of both the fields and lights themselves. Lighting technology has changed significantly and today's sports lighting fixtures are night sky friendly and extremely focused, thereby virtually eliminating light trespass issues.

Naturally the addition of sports lighting, either temporary or permanent, to any field, synthetic turf or natural grass, will extend playing time and hence field availability. In the spring this may extend play by up to two (2) hours on average depending on shut off time and by up to five (5) hours in the fall, again dependent on shut off time. This extended use, however especially for natural grass fields, must be weighed against the increased time on the fields. Increased time on the fields equates to both increased maintenance and potentially shorter life span of both grass and turf. Synthetic turf fields have an average life span of 8 – 10 years depending on maintenance regimen followed and hours of use.

New Fields

Given that the Chestnut Field is the only identifiable available ground in the Borough for potential new field construction, one (1) additional multi-purpose flat field should be pursued here. Construction of this field offers specific benefits to both SHSD and the Borough. The proximity of this field to the Middle and Elementary schools improves accessibility for student use, improves lines of site for security and the ability to use security cameras, and provides access to restroom facilities within the schools.

In addition to Chestnut Field, at least two (2) flat fields, Upper Polo and Upper Evankow at the Polo Grounds should be converted to synthetic turf.

As noted previously, SHSD is presently proceeding with the construction of field option one for the lower fields at BHS, as seen in figure 12. It does not however solve the overlapping field issue. The only way to create a "new additional field" at BHS is for SHSD to pursue either option 2 or 3 as noted previously in figures 13 or 14. The only way to eliminate all field overlap issues is to construct option 3. (See figure 14). We further note that the earth grading and fill proposed for the lower field enlargement can be incorporated into either option 2 or 3, somewhat reducing future costs. Under all scenarios, including the current construction, SHSD has the option to convert the natural grass to synthetic turf to aid in reducing both qualitative and quantitative field deficits.

We note where synthetic turf is proposed, it would be lined for multiple sports either directly or through the use of "dots" which would facilitate the layout of lines for all field sports.

We offer the following recommendations and/or next steps:

1. Complete a preliminary environmental investigation of the Chestnut Avenue site to understand potential implementation and permitting impacts. The site presently has a 10% cross slope from Chestnut Avenue towards the Lower Polo Field. Once impacts are known and assuming no wetland issues, prepare a preliminary concept plan showing how the site could be developed with a regulation sized multi-purpose field. If feasible to develop, then a careful and thoughtful education campaign should be undertaken with those neighbors closest to the site to inform and educate them on the needs and mitigation steps to be taken.

2. The Borough should move forward with the conversion of the Upper Polo Field to synthetic turf and revisit the prior options as Option Two may prove more beneficial with the additional space it provides, inclusive of a ball field, provided funding and permitting obstacles can be mitigated.

3. SHSD should convert the lower fields at the High School to synthetic turf including the baseball and softball fields to fully maximize this area for year round use. We note the present configuration will not eliminate the overlap of the ball fields with the flat field uses but will eliminate weather related disruptions and aid in scheduling. An alternative layout had been prepared previously by T&M which eliminated the overlap issue but, the site costs and limits of disturbance made this option unpopular (See Figure 14). If the site costs and other objections to this plan can be mitigated, it represents the most beneficial option for SHSD.

4. If the Chestnut Field option proves unpopular to construct, then the Lower Polo Field in addition to Upper Evankow Field should also be converted to synthetic turf for games and practices, leaving Lower Evankow as a first class, regulation sized, grass field for games.

5. Both the Borough and SHSD will need to evaluate the use of sports lighting and its role in extending field use time as a means of extending field availability.

6. All remaining natural grass flat fields and ball field outfields should be re-constructed and restored as needed based on further site specific analysis. At a minimum, the annual maintenance regimen for all natural grass fields should include the following:

    - Regular mowing
    - Fertilization, pesticides, herbicides, and fungicides
    - Irrigation
    - Aerification and topdressing
    - Seeding
    - Drainage repair and/or maintenance
    - Seasonal resting
    - Bi-directional play where feasible

"How much will it cost?"

This section will outline the order of magnitude costs, either previously determined and carried forward or new estimates based on current recommended steps noted previously. We note that with any estimate, a modest 3% inflationary escalator should be incorporated, for each year beyond the original date of any prepared estimate. As is often the nature with these reports, there is often a lag time between inception and actual implementation. Costs such as those prepared by the Borough for the 2012 Upper Polo Field while still useful for order of magnitude, are now however nearly two (2) years old.

In all scenarios below, soft costs are expressed as an *average* percentage of construction costs at 15% in accordance with the ASCE Guide for the Engagement of Engineering Services. Soft costs include design, surveying, engineering, specifications, bidding assistance and construction administration - inspection services (CA&I). We note there are a number of variables which can influence soft costs and these numbers are presented as budgetary information only.

We note the SHSD is limited by the 2% hard cap on raising taxes in any given year. As such, the Board would need to seek a binding referendum or alternative funding (grants, donations, etc.) in order to raise the necessary capital funds for additional field construction and synthetic turf conversions.

1. **Chestnut Field** – the extent of the earthwork required for this site is unknown but based on the existing 10% cross slope. It is safe to presume that the use of retaining walls and/or significant cut and fill work will be required. Likewise, more stringent NJDEP permitting will be required due to the Indiana Bat habitat conservation zone.

Soft costs, engineering, permitting & CA&I	$ 225,000.00*
Construction costs	$1,500,000.00

*Of this cost, approximately $7,500.00 should be allocated to the wetland investigation and preliminary development of concept plans.

2. **Upper Polo Field Conversion (Option 1 – Figure 10)**

	Original (2012)	2014 - Adjusted
Soft costs, engineering, permitting & CA&I	$ 187,500.00**	$ 198,750.00
Construction costs (99,460 SF of Turf)	$1,250,000.00	$1,325,000.00

Upper Polo Field Conversion (Option 2 – Figure 10)

	Original (2012)	2014 - Adjusted
Soft costs, engineering, permitting & CA&I	$ 211,500.00**	$ 224,190.00
Construction costs (115,874 SF of Turf)	$1,410,000.00	$1,494,600.00

**Soft costs were not specifically broken out in the original estimate and are presumed to be additional.

We note the difference between Options 1 and Option 2 for Upper Polo Field were based on size of each facility, square footage of turf and permit requirements as Option 2, expanded beyond the current footprint and required additional permitting as reported in the 2011 Borough study (see appendices).

3. **Lower Fields – Bernards High School** – ***(Option 1)*** this option presumes the complete conversion and replacement of the baseball, softball and current proposed flat field area (see appendices) to synthetic turf based on the currently proposed re-grading (see figure 12). This includes all ancillary items such as scoreboards, dugouts, fencing etc. If existing items can be re-used, they of course would be.

Soft costs, engineering, permitting & CA&I	$ 331,800.00
Construction costs	$2,212,000.00

4. **Lower Fields – Bernards High School** – ***(Option 2)*** this option presumes constructing the minimal overlap scenario as depicted in figure 13 as a natural grass multi-use football field with natural grass baseball and softball fields remaining in their current location.

Soft costs, engineering, permitting & CA&I	$ 77,460.00
Construction costs	$ 516,400.00

5. **Lower Fields – Bernards High School** – ***(Option 3)*** this option presumes constructing the "no overlap" scenario as depicted in figure 14 as a synthetic turf multi-use flat field with natural grass baseball and softball fields remaining in their current location. This includes all ancillary items such as scoreboards, fencing, retaining walls, etc.

Soft costs, engineering, permitting & CA&I	$ 496,000.00*
Construction costs	$4,960,000.00**

**factored at 10% due to economies of scale*
***estimate accounts for work done under current proposed plan figure 12*

6. **Upper Evankow – conversion to synthetic turf as practice field**

Soft costs, engineering, permitting & CA&I	$ 150,000.00
Construction costs	$1,500,000.00*

**While preferable, the ability to extend Upper Evankow to a regulation size field has been previously deemed unfeasible due to site constraints. Further topographic survey would be required to rule out this option in any future conversion.*

7. **Natural Grass Field Reconstruction (typical/per 160' x 360' field)** –

Soft costs, engineering, permitting & CA&I	$ 41,250.00
Construction costs	$ 275,000.00*

*Reconstruction assumes, stripping topsoil and sod, re-grading, underdrainage, soil conditioners, irrigation system and new sod.

CONCLUSION

Based on our review of prior work completed by the Borough, SHSD, plus the new matrices, it is clear that there is both a qualitative and quantitative deficiency in flat fields and ball fields available for sports play for both Borough and school athletes. Quantitatively both the Borough and SHSD have severally limited or no access to additional land for expansion.

Upon completion of the current BHS lower field project, there is no more physical space at the high school without pursuing the no-overlap scenario as shown in figure 12. Furthermore, there is very limited space within the Borough to build new SHSD fields. As noted previously, the ideal scenario is to have one field for play and one for practice for *each* high school field related sport offered. This is clearly not achievable. While some additional facilities are available in neighboring municipalities, the logistics and costs of providing transportation to and from these venues is costly for SHSD.

The Borough faces similar obstacles. The limited space for expansion at the Polo Grounds along Chestnut Avenue may prove both environmentally and publically difficult to build. As the Borough is not obligated to provide transportation for its athletic participants, the use of neighboring facilities remains an option for Borough residents.

The most expeditious way to solve the qualitative aspects of the deficiency is to convert natural grass fields to synthetic turf thereby extending the available hours for play, eliminating weather related disruptions and poor field conditions as impediments to play. While this qualitative solution does not increase square footage of field space, it makes each field capable of hosting more games every day. Alternatively if turf is not utilized, then grass fields must be restored and *rested seasonally,* coupled with the vigorous maintenance regimen outlined previously.

The use of lighting has the potential to increase field availability. As the current grass fields are already overused, extending their use with lighting is counterproductive but necessary to alleviate current scheduling conflicts. If fields are converted to turf, however, the use of lights, either permanent or temporary becomes a more viable option as turf fields can more readily absorb the additional hours of use. Both the Borough and SHSD will need to carefully weigh the use of lighting as a component of solving the need for fields. While lighting does not increase field square footage, it increases field availability.

Use of synthetic turf at the Upper Polo Grounds also provides for the possibility (schedule permitting) of field rental via tournaments which can become a revenue stream for the Borough. Coupled with this, the conversion of the lower fields at the High School to synthetic turf will further help with scheduling and field availability. The no-overlap option if pursued, would increase the square footage of available field space.

The quantitative aspect is more challenging to remedy as there is limited real estate to build new fields. As previously noted, the construction of the Chestnut Field is the best option provided the

environmental and public perception issues can be mitigated. Although previously deemed too costly, (+/- $5 Million) and unpopular with neighbors, T&M has provided SHSD with conceptual plans illustrating how the lower fields at the high school could be re-built to provide an additional multi-purpose flat field with no ball field overlap (See figure 12). If this option were pursued along with Chestnut Avenue, two (2) "new" fields could be added to the available facilities mix. Coupled with Olcott Field and the conversions of Upper Polo and Upper Evankow Field, this would yield a total of five (5) synthetic turf fields to accommodate Borough, SHSD athletes, clubs sports and other identified users.

Sources cited:

http://www.mapboundary.com/New_Jersey/Somerset_County

http://quickfacts.census.gov/qfd/states/34/34035.html

http://www.co.somerset.nj.us/_maps/municipalities_map.html

http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml#none

http://www.state.nj.us/education/code/current/title6a/chap26.pdf

APPENDICIES

1. Upper Polo Information Session – October 2012, Borough of Bernardsville
2. Excerpt from Borough Re-examination Report
3. Board of Adjustment Resolution #7-23
4. Somerset Hills School District Field Usage/Chestnut Proposal
5. Somerset Hills School District Field Use Matrix
6. Borough Use Matrices
7. T&M prepared plan for current re-grading of BHS Lower Field & Estimate
8. T&M prepared estimate for “no-overlap” plan at BHS Lower Fields (See Figure 6)

1. UPPER POLO INFORMATION SESSION

Upper Polo Field Turf Project Information Session

25 October 2012

Presented by:

Bernardsville Recreation Department

Agenda

- Project Background
- Turf Field Rationale
- Project costs
- Project Funding Options
- Summary

Turf Field Background

- In 3rd Quarter 2011 at the request of the Borough Council, the Recreation Committee initiated a review of the town's field usage and related options to best serve ongoing and growing recreation demands.

- The Recreation Committee's recommendation to Borough Council during the spring of 2012 was to turf the Upper Polo field.

Current multi sport/multi-season fields and primary activities

	Upper Polo	Lower Polo	Upper Evankow	Lower Evankow
Multipurpose (Fall, Spring, Summer)	✓	✓	✓	✓
Football (Fall, mid Summer)	✓	✓		
Soccer (Fall, Spring, Summer)	✓	✓	Practice field	✓
Lacrosse (Fall, Spring, early Summer)	✓	✓	Practice field	✓
Field Hockey (Fall)	✓	✓	Practice field	✓
Cheerleading (Fall, mid Summer)	✓	✓		
Baseball/Softball (Fall, Spring, Summer)	✓	✓		

Current Organizational Demands for Polo Complex

School Teams
BHS Soccer
BHS Field Hockey
BHS Football
BHS Lacrosse
BHS Baseball
BMS Soccer
BMS Field Hockey
BMS Baseball
BMS Softball
BMS X-Country
BMS/Bedwell Phys. Ed.
St Elizabeth's - Baseball, X-Country, Soccer

Youth Sports
Little League – Baseball/softball
Somerset Hills Bulldogs
Bulldogs Cheerleading
Somerset Hills Lacrosse
Somerset Hills Girls Lacrosse
Somerset Hills Soccer
Mavericks Soccer Club
Stronghold Soccer Club

Clubs and Events
NJ Keys Baseball
Women's Softball League
Men's Baseball
Men's Softball
Corporate Base/Softball
Bernardsville Rec camps
USA Soccer Camps
Adult Soccer leagues
Boy Scouts field events
Bedwell/BMS Field Days
St Elizabeth's Field Day

School and Youth Sports participants using the Polo complex as of 2011. Lacrosse and soccer exhibiting growth in 2012 due to increase in popularity, new clubs and new teams

Description	Activity	Field	2010-2011 Participants
Recreation Programs			
	Summer Camps	Polo	180
High School			
	Baseball	Polo	28
	Boy's Soccer	Polo	38
	Girls Softball	Claremont	18
	Girl's Soccer	Polo	34
	Boy's Lacrosse	Polo	90
	Girl's Lacrosse	Polo	50
Middle School			
	Field Hockey	Polo	22
	Boy's Soccer	Polo	35
	Girl's Soccer	Polo	28
	Baseball	Polo	28
	Softball	Polo	22
Somerset Hills School District			
	Physical Education	Polo	400
School of Saint Elizabeth			
	Soccer/ Softball	Polo	15
Recreation Group			
	Somerset Hills Soccer	Polo 2 Seasons	700
	Somerset Hill Lacrosse	Polo Boys Organization and Girls	286
	Somerset Hills Pop Warner	Upper & Lower Polo	305
	Mavericks Soccer	Polo 2 Seasons	237
	Little League	Claremont, Kiwanis-Rotary, Rose Bowl, Polo	600
TOTALS			3116

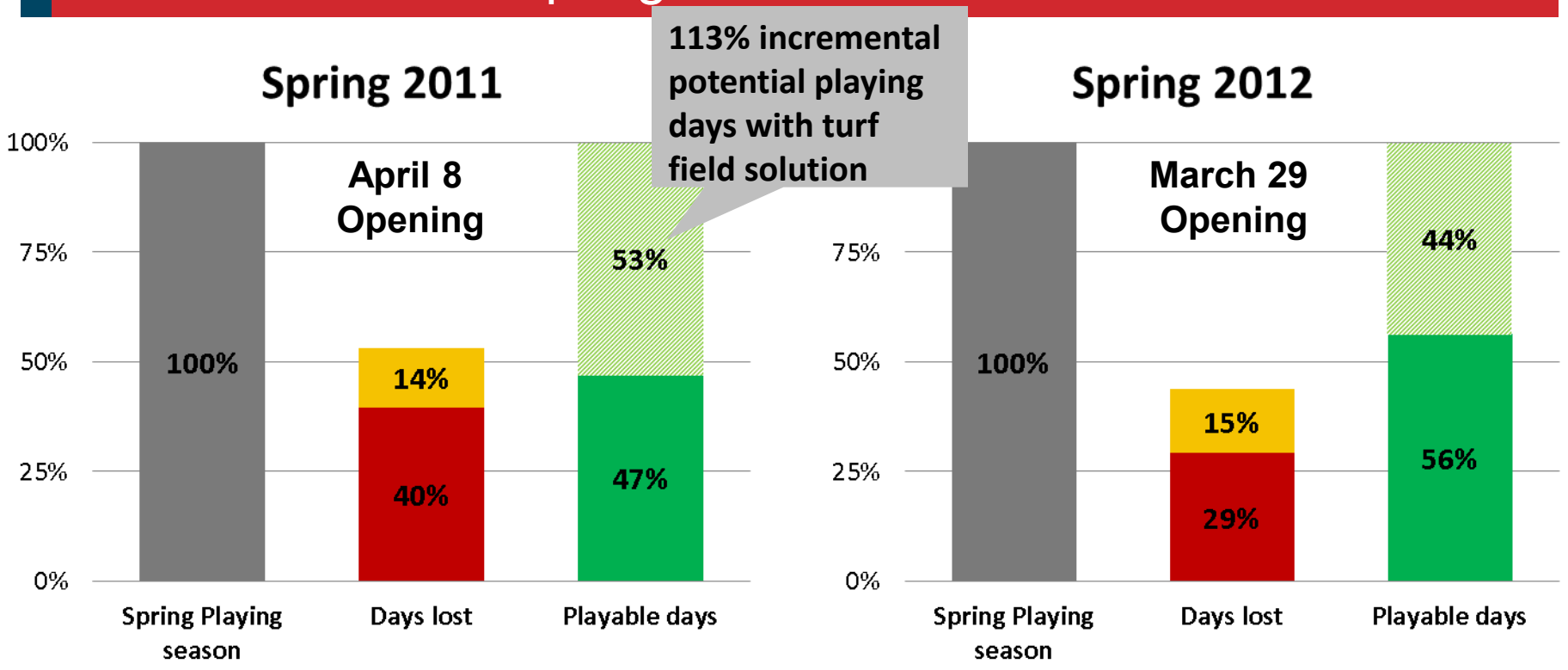
Field Demands

- High Demands on regulation size field currently supported by Lower Evankow and Upper Polo.

- Traditional one season sports are now played year long.
  - Increasing multi-team organizational demand for available multiple season field usage:
    - Lacrosse - Fall/Spring/Summer
    - Soccer - Fall/Spring/Summer

- Sports/leagues involved require regulation size fields earlier in the Spring:
  - Lacrosse – March 1st practice requests for League season beginning mid March, currently pay for indoor sessions in other areas
  - Soccer – March 1st practice requests for similar season start
  - Little League – teams seek indoor facilities as early as mid March to begin practices

Spring Sports 2011 and 2012
Turf field increases available playing time significantly over the last two springs



Spring playing season: 3/1 – 6/5

Days lost to playable field open

Days lost to weather

Playing days

In 2011 available playing days would have increased over 80% ignoring weather.

Reschedules avoided that interrupt subsequent schedules
Enables earlier season practice time and game schedules
Spring – Soccer, Lacrosse and Little League can safely practice

Upper Polo Field

Spring 2011

Benefits of Turf Field

- Increase playing time at least 50%
  - Surface available in foul weather, available earlier in Spring, rapid drying time post weather events.
  - Based upon 2010- 2012 Spring season actuals.
  - In 2011 - 52 playing days in the Spring would have been available with a playable field (52 out of 96 days).
- Participant safety
  - No ruts or holes
  - No uneven surfaces
- Consistency and durability
  - Life expectancy is 12 to 15 years
- Minimal maintenance cost
  - Estimated cost for maintaining the fields as of today is $20k

Upper Polo Field Turf Project

Cost Review

Cost Review

Recreation Committee and Borough Council sought field solution options for the Upper Polo location.

- Three Field Proposals provided by an Engineering Firm (RBA).
- Two proposals were used to come up with the referendum figures.

- **Plan 1** is estimated $1.25 million
  - Plan 1 consists of installing 99,460 square feet of turf
  - Plan 1 fits within the existing Upper Polo field footprint

- **Plan 2** is estimated $1.41 million
  - Plan 2 consists of installing 115,874 square feet of turf
  - Plan 2 expands footprint of current Upper Polo field, requires additional permitting and approval timing

Upper Polo Grounds - Plan 1

Upper Polo Grounds Plan 2

Plan 1 Cost Review - Turf

Plan 1 Cost breakdown from engineering estimates

Prep and Turf Installation:

▪ General Site Work	$ 59k
▪ Earthwork, Retaining Wall	
▪ Turf Field (99,460 SF)	$ 824k
▪ Base Prep and Turf Install	
▪ Inlaid Markings	
▪ Drainage & storm water Management	$ 137k
▪ Stone, Fabric, Piping, etc…	
Total Prep and Turf Installation:	$1,020k

Plan 1 Cost Review - Ancillary items

Plan 1 Cost breakdown (cont'd)

Ancillary Items:

▪ Pavement	$ 13k
▪ Sidewalk	
▪ Bleacher Pads	
▪ Plumbing	$ 6k
▪ Drinking Fountain	
▪ Electric	$ 9k
▪ Wiring and Conduit	
For existing storage shed	
Total Ancillary Items:	$ 28k

Plan 1 Cost Review – Equipment and other

Plan 1 Cost breakdown (cont'd)

Equipment and Miscellaneous

▪ Ball field Furnishings	$ 36k
▪ Backstop, Fencing, Benches, Bleachers	
▪ Multi-purpose Furnishings	$ 44k
▪ Soccer goals, Football Goals	
▪ Pitching Mound, Netting, Benches	
▪ Bleachers, Grooming Machine	
▪ Miscellaneous	$ 5k
▪ Trash Cans	
Total Equipment and other:	$ 85k

Plan 1 Cost Review – Summary

Plan 1 Cost breakdown (cont'd)

Overall Review:

▪ Prep and Install Field	$1,020k
▪ Ancillary Items	$ 28k
▪ Equipment/Misc.	$ 85k
Sub Total (Plan B)	$1,133k
▪ 10% Contingency	$ 113k
TOTAL FOR PLAN 1	**$1,245k**

(**Lower** range in Referendum)

Plan 2 Cost Review - Turf

Plan 2 Cost breakdown

Prep and Turf Installation:

▪ General Site Work	$ 64k
▪ Earthwork, Retaining Wall	
▪ Turf Field (115,874 SF)	$ 955k
▪ Base Prep and Turf Install	
▪ Inlaid Markings	
▪ Drainage & Stormwater Management	$ 152k
▪ Stone, Fabric, Piping, etc…	
Total Prep and Turf Installation:	$1,171k

Plan 2 Cost Review - Summary

Plan 2 Cost breakdown

- Total Summary:
  - Prep and Install Field $1,171k
  - Ancillary Items (same as Plan 1) $ 28k
  - Equipment/Misc.(same as Plan 1) $ 85k

Sub Total Plan 2 $1,283k

- 10% Contingency $ 128k

TOTAL FOR PLAN 2 **$1,411k**

(**Upper** range in Referendum)

Plan 1 and 2 compare

- Plan 1:
  - Turf Installation (99,460 SF): $1,020k
  - Additional Items: $ 112k
  - Contingency: $ 113k
- Plan 2:
  - Turf Installation (115,874 SF): $1,171k
  - Additional Items: $ 112k
  - Contingency: $ 128k

Vendor Cost Review

Comparative Quotations from Turf Manufacturers – Plan 1

Turf Install Less Site Work	Engineering Estimate	Vendor 1 Estimate	Vendor 2 Estimate
Multi-Use Synthetic Turf Sports Field	$ 448k	$ 388k	$ 398k
Base Prep	$ 348k	$ 298k	$ 308k
Inlaid Football Numbers/Arrows/ Hash Marks	$ 14k	$ 15k	$ 14k
Inlaid Soccer Markings	$ 7k	$ 4k	$ 4k
Inlaid Baseball Markings	$ 7k	$ 2k	$ 2k
Total	$ 824k	$ 707k	$ 726k

Cost Review

Cost Conclusions

- Recreation Committee has recommended Plan 1
- $325k of the cost used for the Referendum is for Ancillary Items, Equipment, Contingency and engineering estimates - providing opportunities for savings on select items.
- Actual cost to Prep and Install Field is just over $900k or 82%.
- Informal Estimates Provided by two turf manufacturers are 12% to 14% less than Engineering Estimate to install the field.
- Additionally, overall cost for the project is expected to be considerably less especially if it were to be split into 3 separate bids. (Earth work, Turf, and Ancillary Equipment/Items).

Upper Polo Field Turf Project

Funding Review

Sources of Project Funding

Current funding proposal

- $100,000 funding from the “development” portion of the Borough’s Open Space and Recreation Fund.
- $200,000 from Capital Improvement.
- $200,000 from sewer debt surplus.
- $700,000 from 4 year bond.
- $1,200,000 total

- Assumptions for planning purposes:

  No rental income

  No funding or grants from outside third parties

Assumptions

Total Cost $1.2 million (including financing)

- Monitor Project continuously:
  - Rigorous RFP and competitive process to drive managed project.
  - Seek alternative/incremental funding to reduce bond level requirement.
  - Re-evaluate if Total cost is greater than $1.2 million.

Potential opportunities to supplement funding

- Field Rental

  $30k/year based on comparable fields

  - $100.00 per hour
  - 300 hours per year
  - < 34 hours/month
  - < 9 hours/week

- Normal field maintenance saved - $20k/year

- After 10 years over $300k to $500k dedicated for "carpet surface" replacement.

Funding Summary

- $1,200,000 funding sourced.
- 100% funding from existing Borough sources.
- No new Borough Tax money to be used.

In 2023

- State-of-the-art field used by the community for 10 years.
- Supplemental funding ideas could provide sufficient funds for new carpet installed at no additional costs to Borough (field ready for another 10 years of use).

State-of-the-art field funded through 2033.

Upper Polo Field Turf Project

Conclusion

Summary

1. Need - Current and expected use for more field time and space is evident by the demands of local school and youth athletics.
2. Impact - Not changing the footprint of the current field(s) / not impacting wetlands or neighbors.
3. Cost - Engineering estimates indicate range of total project costs. In discussions with vendors there are opportunities to deliver the project at 12 to 14% below estimates.
4. Taxes - Funding comes from existing Open Space taxes and Capital improvement / No new taxes or increases.

Referendum Question

If you support the need for the Upper Polo turf project then a YES vote is required.

THANK YOU!

Thank You!

2. EXCERPT FROM BOROUGH RE-EXAMINATION REPORT

not be applicable to other areas of the Borough.

Agriculture preservation is a State Department of Agriculture program entered into by a willing farmer and willing State. To date it has not been pursued by either party in the Borough. The County has identified other areas as higher priority areas for agricultural preservation than the Somerset Hills area.

Recently, the Great Swamp Watershed Association published "The Great Swamp Greenway And Open Space Plan" (1998) wherein the above information is presented and plans for their protection are recommended. For Bernardsville, as well as throughout the watershed, the Plan recommends establishing 150 ft. buffering on all stream corridors feeding into the Passaic River and Swamp. The first 75 ft. of buffer from the stream should be planted with native trees and shrubs. The area outside the 75 ft. can be planted with grass or non-grass vegetation. It can be mowed or grazed with livestock.

It is recommended that this buffer recommendation be reviewed as to its applicability to the Bernardsville Great Swamp portion of the watershed and even the rest of the Borough as an appropriate means to protect the water quality of these streams and the environmental quality of the watershed.

Reexamination: Several draft stream buffer ordinances have been prepared by the Planning Board but none yet finalized. State regulations may usurpt local regulations regarding stream buffers or no-build areas abutting streams.

Bernardsville Borough Environment Resources Inventory.

Reexamination: This document was inserted into the Conservation Plan Element as an amendment to the Comprehensive Master Plan on March 5, 2005. The document significantly expands the data base of environmental characteristics of the Borough.

9. Recreation Plan Element

Give the 1990 population of 6,597, the above figures generate a recreation need for 56.1 acres.

Reexamination: The new tennis courts built by the School District on borough land, which residents may use in off hours, will help. While significant recreation space in suburban communities such as Bernardsville has historically been afforded by large private lots, the increasing organization of children's after-school activities makes such space less relevant. In addition, safety and other concerns tend to reduce the employment of existing fields. Kiwanis-Rotary Park was a multipurpose field 30 years ago but Little League requirements for dugouts, backstops, outfield fences and the like have resulted in its being useful today for youth baseball only. Combining all this information, plus

recommendations from the Bernardsville Recreation Committee, there is a need for playfields to accommodate growing team sport participation. This need may be in part satisfied by expansion of the Polo Grounds. This area could accommodate, for example, a new little league field and tennis courts. There is also a need for more soccer fields. The need may also require additional areas for team sports and athletic fields.
There is a need, identified by the Bernardsville Recreation Committee, for more playing fields for team sports. The recent expansion of the Polo Grounds will help, but the terrain in Bernardsville is largely sloping and rocky. Tension among the demand for fields, the limited supply or suitable land and the reluctance to rent space in flatter areas and incur the transportation costs and time for teams to use remote fields will undoubtedly continue.

Reexamination: The acquisition of property adjacent to the polo grounds and its improvements for field athletics has expanded the recreation acreage in the Borough.

1. *Encourage cluster subdivision to obtain neighborhood open space. Clustering is presently allowed in the ordinance.*

Reexamination: The Planning Board encourages cluster subdivision as a normal subdivision review policy. Presently, clustering or open space residential development is a conditional use. Open Space residential developments are evaluated on a case-by-case basis.

2. *Encourage open space easements and dedications of conservation areas from private property holdings.*

Reexamination: The Planning Board encourages open space easements and dedications.

3. *Encourage private environmentally-oriented non-profit organizations to acquire open space acreage. Particularly important is the acquisition of stream corridors and lands immediately abutting these corridors.*

Reexamination: To date non-profit organizations have not acquired open space acreage. However, this remains a desirable objective.

4. *Utilize the newly adopted Open Space Tax resources to acquire open space to preserve environmentally critical lands, stream corridors and needed parkland and playfields.*

Reexamination: To date, Open Space Tax funds in the amount of $2,367,000 has not been spent.

3. BOARD OF ADJUSTMENT RESOLUTION #7-23

OLCOTT

BOARD OF ADJUSTMENT
Resolution #7-23

WHEREAS, SOMERSET HILLS REGIONAL BOARD OF EDUCATION, (hereinafter "BOE") has applied to the Board of Adjustment of the Borough of Bernardsville for variances and site plan approval or waiver to permit replacement of an existing grass athletic field known as Olcott Field with artificial turf at the site of the BOE Regional High School fronting on Olcott Avenue, which property is known as Block 64, lot 1 on the Bernardsville Tax Map, and is located in the C-1 Commercial and R-4 Residential Zone Districts;

WHEREAS, the Board of Adjustment on December 3, December 17, 2007, January 8, January 21, February 4, February 19, April 7, and April 21, 2008, conducted a public hearing on said application, at which time all parties interested were given an opportunity to be heard; and

WHEREAS, the Board of Adjustment is familiar with the property in question, has reviewed the application and materials submitted by the applicant, and has considered all of the testimony, comments, and materials submitted at the public hearing;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Adjustment of the Borough of Bernardsville, County of Somerset, State of New Jersey, hereby makes the following findings of facts and conclusions:

a. This application is properly before the Board of Adjustment.

b. The property in question is the site of the Somerset Hills Regional High School which serves the Borough of Bernardsville and surrounding communities of Far Hills, Peapack-Gladstone and Bedminster. The site is 26.108 acres in area. The school was established in the early 1900s in a three-story stone building fronting on Olcott Avenue in the southwest corner of the subject property. That building is now used as the school administrative office and classes are conducted in a campus of educational buildings on the site. A $41,000,000 renovation project is now nearing completion on the school campus.

c. The property is located in the following environment:
(1) To the south, the property is bounded by the rear property lines of commercial properties fronting on Route 202. The adjoining properties are located in the C-1 Commercial District and contain a major retail shopping center and various office uses. A small strip of BOE land adjoining the commercial uses is located in the C-1 Zone, but its size and location is insignificant for purposes of this Application;
(2) To the west, the property is bordered by residential properties, a house of worship, and a pre-school in the Church Street/Wesley Avenue area;
(3) To the north, the BOE property fronts on Olcott Avenue and Childsworth Avenue. Olcott Avenue is the center of a neighborhood of large, gracious older homes on ample sized lots. These homes are well-maintained and reflect the unique character of a by-gone era. The original Olcott school building has 10 to 12 parking spaces in its front yard. These parking spaces are primarily used by school administrators and staff.

The remaining school frontage on Olcott Avenue and Childsworth Avenue is devoted to school athletic fields containing the football field which is proposed to be converted to artificial turf, and an all-weather running track which circumscribes the football field. There are bleacher stands on each side of the football field. This is the area known as the Olcott Field. The general slope of land is down from Olcott Avenue toward the southerly side of the school property abutting the C-1 Zone. As a result of this grade, there is little or no natural vegetation along Olcott Avenue. A narrow buffer of trees and vegetation is found closer to Childsworth Avenue;
(4) To the east, the school property abuts the rear yards of homes fronting on Old Colony Road. These homes are modest but well-maintained. A buffer of natural vegetation separates these homes from the adjoining school property.

d. The BOE proposes to remove the natural turf within the running track and to replace it with an artificial turf known as "Field Turf". Field Turf has been used over the past 10 years in approximately 2,500 applications worldwide. In New

Jersey, there are upwards of 150 applications including Giant Stadium, Princeton University, Rutgers University, private athletic clubs, and a growing number of high school athletic fields, including several in applicant's Athletic Conference. The Board has been advised that BOE students have had considerable experience with such field surfaces.

Field Turf is a dense product, several inches thick, composed of silica sand and small rubber pellets recycled from automotive tires. The infill is encapsulated in nylon mesh. Artificial grass blades are inserted in the infill to create the look and appearance of natural grass. The product provides appearance and playability comparable to that of natural turf. However, the product is very permeable so that rain waters will quickly pass through the material into the subsurface below. The product is underlain with a stone subbase and perforated piping system that will be connected to a perimeter pipe network which acts as a water retention system. Retained water will infiltrate into the ground while larger storms will be controlled by a orifice at the outlet control structure.

The Great Swamp Watershed Association initially appeared in opposition to the engineering features proposed by the BOE. Engineers from the Association and the BOE have met in concert with the Borough Engineer's Office and have agreed to technical details which meet the water run-off concerns of all parties. As a result of this agreement, the Great Swamp Watershed Association has withdrawn its opposition. The testimony has indicated that the facility will comply with the Storm Water Management Regulations applicable to a Major development, and there will be no increase in the rate of surface water run-off over that of the natural grass turf. The BOE Application was also opposed by Bernardsville Neighborhood Preservation Committee (BNPC) which represents a number of homeowners in the residential neighborhood surrounding the high school site. During the course of the hearing, BNPC reached a five year Agreement with BOE and has withdrawn its opposition. A copy of said Agreement has been made a part of the record of these proceedings. In addition, a number of individuals not represented by BNPC appeared, and remain, in opposition to this Application.

e. In its action on Application #07-21, this Board found that the BOE is faced with a serious demand for athletic facilities and had inadequate facilities to meet this demand. The BOE's decision to convert the Olcott Field to an all-weather surface is an attempt to meet this need by increasing the efficiency of the Olcott Field. Unfortunately, that increase in intensity is a substantially adverse factor to the surrounding residential neighborhood. This increase in intensity was sufficient to require an application to this Board for zoning relief. The question now is whether that relief may properly be granted.

f. The relief requested by applicant falls under R.S. 40:55D-70(d) of the Municipal Land Use Law. Generally such relief requires the applicant to demonstrate that there are "special reasons" for the granting of the variance, and that the variance may be granted without substantial detriment to the Zone Plan, Zoning Ordinance, or Public Good. The former requirement is referred to as the affirmative burden, and the latter is referred to as the negative criteria. In this case, the concept of the "Public Good", is particularly pertinent with respect to the negative criteria. This concept certainly includes the impact of noise, traffic and other activities not normally found in a quiet residential neighborhood.

g. Schools occupy a place of prominence in the New Jersey zoning. Public school education is mandated by the New Jersey Constitution. The State Board of Education, and its Administrative Departments, are charged with the responsibility of regulating public education throughout the State. Locally elected Boards of Education are charged with the responsibility of conducting the educational enterprise within each school district. The State Board of Education has jurisdiction over the location and construction of school buildings. Under prevailing case law, local municipalities are limited to designating those areas within the municipality where schools may be located. An exception exists for "other school facilities", and the Superior Court has issued Orders in the pending BNPC litigation referring this matter for action by the Bernardsville zoning authorities.

h. The Bernardsville Land Development Regulations Ordinance does not permit schools, as of right, in any zone in the municipality. Schools are only permitted under the Conditional Use Standards for an Institutional Use in the R-4 Zone and several other residential zones in the Borough. This Board has authority to grant Conditional Use relief under R.S. 40:55D-70(d)-3 of the Municipal Land Use Law. Since the school use exists as a non-conforming use under the Bernardsville Land Development Regulations Ordinance, relief is required under R.S. 40:55D-70(d)-2, for any expansion or intensification of the non-conforming use.

i. Turning first to the Conditional Use issues, the BNPC cited that the Institutional Use Standards set forth in Section 12-25-2D of the Bernardsville Land Development Regulations Ordinance in the following respects:
1. Building height is limited to 35 feet, while the auditorium of the newly constructed instructional building is 60 feet in height;
2. Parking is not permitted in the front yard, while10 to 12 parking spaces are located in front of the Olcott building;

3. The school site lacks frontage on, and access to, a Federal, State, or County road.
4. BNPC also contended that the existing floor area and proposed impervious coverage exceed R-4 Zone standards.

j. The Board notes that all of the deviations alleged with respect to the foregoing standards are either pre-existing non-conforming deviations, or standards which are pre-empted by the jurisdiction of the State Board of Education. The prevailing case law regarding Conditional Uses is to the effect that, since the use would be a permitted use if it met all of the Conditions, where one or more of these Conditions is not met, the inquiry should be whether the failure to meet such standard is sufficient to overcome the permissive intention expressed in the Zoning Ordinance with respect to such use.

In addressing this inquiry, the Board acknowledges that the school use is an Inherently Beneficial use. As such, the benefits to society from the school use are sufficient to provide the affirmative reasons for granting the relief requested. The Board concludes that conversion from a natural surface to an artificial surface will not have any meaningful adverse effect upon the Ordinance standards cited. The school campus exists, and in some form has existed, for many years. The athletic field in question has existed for many years. The only change proposed is in the nature of the playing surface. No increase in floor area is proposed and, while there may be a technical increase in impervious surface, it is merely a technical engineering classification. The plain fact is that the artificial turf looks and functions like a natural grass turf. Therefore, the Board concludes that applicant has demonstrated adequate affirmative reasons to support whatever further impact the turf conversion may have upon the cited Conditional Use, floor area, and impervious coverage Ordinances.

k. Turning next to the variance required for expansion or intensification of non-conforming use, the Board acknowledges that, as an inherently beneficial use, the applicant is presumed to serve the public welfare, and therefore satisfies its affirmative burden with respect to the expansion or intensification of non-conforming status. Applicant's status as an inherently beneficial use is critical to this finding. The additional activity, traffic, noise and other non-residential influences upon this surrounding unique residential neighborhood might well require a different conclusion with respect to an applicant not possessing such status.

l. The Board next considers the negative criteria and, in so doing, addresses the Conditional Use, floor area, impervious coverage, as well as, expansion or

intensification of non-conforming use aspects of this application. In the first instance, any detriment must be a "substantial" detriment. Obviously, anything other than a typical residential use of the property may in many respects be detrimental to the predominant residential zone plan and legitimate interests of the residents of that area. The R-4 Zone Standards and the Standards for Institutional Uses are not limited to schools, but would apply to many other uses, including some which may be operated for profit. The degree to which the zone plan and its regulations may be varied, or the degree and intensity to which a non-conforming use may be enlarged or intensified, depends to a great extent on the nature and function of the applicant.

Here, we are dealing with a school serving all of the residents of this community and surrounding communities. Maintaining a first class educational capability with all of the programs, facilities, and activities normally associated with a premier modern high school is of significant benefit to the entire community. This benefit is reflected in local property values.

Enhancing the utility of the Olcott Field, while not strictly educational is, nonetheless, an essential part of a modern high school facility. The ability to work with others in athletic activities, marching bands, and other extra-curricular activities does much to prepare students for citizenship in the real world.

Increasing the utility and effectiveness of the Olcott Field, will diminish the need to use remote field locations as frequently. Transit to the remote fields involves safety and security threats to the students, and unnecessary expense to the BOE. Transit time also wastes students' valuable free time, which is already curtailed by participation in extra-curricular activities. Eliminating unnecessary transit time is in the best interest of the students.

In addition, eliminating days and hours of Olcott Field downtime due to weather conditions will increase the efficiency of Olcott Field to the benefit of students and the BOE. These considerations demonstrate the public benefit to be obtained by conversion of Olcott Field. With respect to the impact on the Zone Plan and Zoning Ordinance, the Board observes that the community is essentially built-out. Therefore it is unlikely that there will be further requests for new schools and granting the relief requested will not set any precedent for future uses.

In addition, the BOE has reached out to the Great Swamp representatives and BNPC members, and has been able to work out arrangements with each of these groups to address their legitimate concerns. The BOE has also indicated its willingness to accept other conditions which the Board may impose to alleviate impacts on the surrounding neighborhood. Therefore, with the Conditions hereinafter imposed, the Board is able to find that, on balance, the public benefit outweighs the detriment to the surrounding community, and there will be no

substantial detriment to the Zone Plan, Zoning Ordinance, or Public Good from the granting of the relief requested.

m. Therefore, weighing the positive zoning aspects of the Turf Field conversion against the negative impacts on the surrounding neighborhood resulting therefrom, in the light of the Conditions hereinafter imposed, the Board reaches the final conclusion that the zoning benefits predominate and the application should be granted subject to the Conditions hereinafter imposed.

n. Throughout much of the public hearing on this application, both the applicant and objectors introduced verbal and written material respecting concerns for safety related to the use of recycled tire materials in the composition of the Turf Field material. Neither party produced any competent witness to testify with any legitimacy as to the danger or safety of the Turf Field material. Both sides produced hearsay written materials referring to studies and opinions of others relative to the safety or lack thereof, but no competent evidence was introduced from which the Board could make any determination regarding safety.

In the week prior to the last meeting of the Board of Adjustment, newspapers reported that the New Jersey Department of Environmental Protection had agreed to undertake a study of the safety of recycled rubber used in artificial turf applications. Whether the NJDEP study will result in definitive findings is a matter of conjecture. While the Board of Adjustment has a duty to look at safety issues as part of its negative criteria determinations, those issues typically involve matters having a zoning context. Here, the debate involves safety of the innate properties of a construction material. The Board has no expertise in such matters. It appears that a very sophisticated technical review by a competent scientific agency will be required to provide a definitive answer. Safety of students is the primary responsibility of the State Board of Education and the local Board of Education. Applicant has obviously determined to proceed with the installation indicating that the BOE, at least at this time, is satisfied with the safety of this product. Were the Board of Adjustment to rule otherwise, it would be usurping the power of the agencies to which student safety is committed. This Board can do no more than suggest that the BOE follow the course of scientific investigation relating to the safety of products in question and take action accordingly.

o. BOE also seeks Site Plan approval, or Waiver of this requirement. Replacement of the natural grass field with the Turf Field, will result in very little apparent difference in the appearance of the property. Many of the normal concerns addressed in Site Plan approval, such as landscaping, lighting, noise and

operational hours, have been addressed in the Agreement between BOE and BNPC. Additional considerations will be addressed by the Board. Therefore, the Board concludes, that Waiver of formal Site Plan approval is appropriate.

NOW THEREFORE BE IT FURTHER RESOLVED, that the Board of Adjustment of the Borough of Bernardsville, County of Somerset, State of New Jersey, under the authority of R.S. 40:55D-70(d), and R.S. 40:55D-76, that variances are hereby granted for (a) deviation of the Conditional Use Standards applicable to Institutional Uses, and the floor area and impervious coverage standards of the R-4 zone, (b) for the expansion and intensification of the prior non-conforming use, and (c) Waiver of Site Plan approval, all subject to the following Conditions:

1. All construction, alteration and use of the Olcott Field shall take place in accordance with the Plans submitted and the terms and conditions of this Resolution; which terms and conditions shall remain in effect until modified by subsequent action of this Board;

2. All plans, engineering details, and storm water issues shall be subject to the review and approval of the Borough Engineer, which approval shall, at a minimum, include the following matters: (1) Compliance with all Borough laws and regulations regarding construction of the project; (2) Compliance with applicable Storm Water Management Regulations; (3) Compliance with the terms of agreement reached between BOE and representatives of the Great Swamp Watershed Association, and (4) Compliance with the terms and conditions of the Borough Engineer''s Review Letter of January 8, 2008;

3. Within ninety (90) days from the date of this Resolution, applicant shall submit to the Board Administrative Officer a certification from a professional environmental consultant to the effect that Olcott Field and any surrounding school property which is disturbed in the construction process is not located within any wetland or wetland buffer area under N.J.D.E.P. Regulations. The Borough Engineer shall determine the validity and accuracy of such certification, and in the absence of such approval, applicant shall submit a Letter of Interpretation issued

by N.J.D.E.P.

4. Within ninety (90) days from the date of this Resolution, applicant's Engineer shall submit to the Board Administrative Officer six (6) copies of the Site Plan revised to comply with the terms and conditions of this Resolution and the technical requirements of the Borough Engineer. The revised Site Plan will provide signature lines for execution by the Borough Engineer and the Chair and the Secretary of this Board, and a notation that it is the Site Plan as to which a Waiver was granted by this Resolution;

5. As part of the Turf Field replacement project, applicant will install additional landscaping as described in the Landscape Buffer Plan (1 Sheet), prepared by Joseph D. Perello, Certified Landscape Architect of the Spiezle Group, dated 6/29/07. The Landscape Buffer Plan shall be revised (if not already so revised), in the following respects:

A: 1. The fence currently shown to be installed parallel to Olcott Avenue is to be moved South so that it is on the school side of the proposed berm and plantings;

2. The proposed berm and plantings in that area are to be moved toward the road, to the maximum extent possible (while remaining on school property);

3. The current construction, staging area and entrance is to be restored to its original state (prior to the commencement of the current school expansion project) as soon as possible after completion of the current school expansion project and installation of the Turf Field;

4. The BOE contractor shall remove and/or prune, as necessary or appropriate, all dead, diseased, or dying trees in the area shown as "Existing Trees" on the Plan;

5. Applicant shall file six (6) copies of the revised Landscape Buffer Plan with the Board of Adjustment Administrative Officer within ninety (90) days after the date of this Resolution.

B. Prior to planting trees or other landscaping, the BOE Contractor shall consult with a representative of the School Board and the Borough Engineer in the field as to final location for all proposed plantings, to maximize screening of adjacent residential properties;

C. The BOE Contractor shall install and maintain protective fencing, as indicated by the Borough Engineer, to protect existing trees during the construction process;

D. It shall be the obligation of the BOE to replant and replace, any trees or landscaping reflected on the Landscape Buffer Plan in the event of loss of such planting. Replacement plants shall be of the same type, location and initial planting height of the plants replaced.

6. Nothing in this Resolution shall be deemed to permit installation of permanent field lighting facilities. Use of temporary field lighting facilities shall be limited to weekdays during the school year, with the temporary lighting to be turned off at 8:00 p.m., except that on sixteen (16) occasions during the school year the temporary lighting may be kept on until 10:00 p.m.

Temporary lighting facilities shall not exceed a height of 40 ft. and shall be appropriately shielded as necessary to prevent unnecessary spillage of light onto residential properties. Such lighting facilities shall not be generator powered, but shall use public utility power serving the high school buildings.

Temporary lighting shall be turned off as soon after the conclusion of the game or event, as is consistent with the safety of departing spectators and participants. During the months of December through August, on days when the temporary lighting facilities are not in actual use, the temporary lighting facilities will be removed from the field, and either removed from the school premises or stored on school premises in a shielded area out of view of residential neighbors.

7. Use of the Olcott Field shall be limited to Somerset Hills Regional School District functions and athletic events. BOE will not rent out, or engage in any quid pro quo arrangements with unrelated users of any nature, with the following exceptions:

(1) BOE may permit use of the Olcott Field by Somerset Hills Regional School District teams for Sunday practices in preparation for imminent County, State, or Conference tournament playoff games scheduled for the following Monday. But for this exception, BOE shall not schedule any other Sunday use of Olcott Field;

(2) BOE may permit the Bernardsville Recreation Department to use Olcott Field for Pop Warner and similar local athletic activities on Saturdays from 9:00 A.M. to 4:00 P.M., and on one weekday evening per year with the use of temporary lighting facilities. Such use of temporary lighting facilities shall count as one of the sixteen (16) annual occasions where use of lighting facilities until 10:00 p.m. is permitted under Condition No. 6 of this Resolution;

(3) BOE may continue to extend to residents the courtesy use of the running track for walking and exercise purposes.

8. Except for emergency situations, the public address system associated with the

Olcott Field will only be used while the Field is in use for permitted school functions and scheduled school athletic events. The PA system will not be used for team practices, band practices, and similar day-to-day activities.

9. This approval is subject to all other approvals required by law and to the payment of all costs and fees pursuant to the Development Regulations Ordinance of the Borough of Bernardsville.

ROLL CALL VOTE:
Those in Favor: Mr. Biba, Mrs. Desjourdy, Mr. Greenebaum, Mr. Negri, Mrs. Shea

Those Opposed: None

The foregoing is a true copy of a Resolution adopted at the meeting of the Board of Adjustment of the Borough of Bernardsville on May 5, 2008 as copied from the minutes of said meeting.

Date: May 5, 2008

Joy W. Vavrek
Administrative Officer

turf-rsl.08

4. SHSD CHESTNUT FIELD PROPOSAL

Somerset Hills School District
Field Usage/Chestnut Proposal

Objective:
To analyze and comment on the field requirements for teams representing the Somerset Hills School District.

Background:
The Somerset Hills School District fields teams for both High School and Middle School competition. The purpose of the program is to encourage participation in a healthy, active after school activity. Team sports that require field usage are represented in the following charts:

Bernards High School (Based on 2011/2012 Seasons)

Sport	**Season**	**Participants**	**Level**
Baseball	Spring	36	Varsity, Junior Varsity, Freshman
Lacrosse- Boys	Spring	51	Varsity, Junior Varsity, Freshman
Lacrosse- Girls	Spring	30	Varsity, Junior Varsity
Softball	Spring	40	Varsity, Junior Varsity, Freshman
Tennis- Boys	Spring	29	Varsity, Junior Varsity
Field Hockey	Fall	55	Varsity, Junior Varsity, Freshman
Football	Fall	58	Varsity, Junior Varsity, Freshman
Soccer- Boys	Fall	49	Varsity, Junior Varsity, Freshman
Soccer- Girls	Fall	51	Varsity, Junior Varsity, Freshman
Tennis- Girls	Fall	42	Varsity, Junior Varsity
Track & Field- Boys	Spring	40	
Track & Field- Girls	Spring	46	

Bernards High School Totals:
Spring Teams requiring fields for practice/play: 11
Fall Teams requiring fields for practice/play: 12

Bernardsville Middle School

Sport	Season	Participants
Baseball	Spring	
Softball	Spring	
Track & Field	Spring	
Field Hockey	Fall	
Soccer- Boys	Fall	
Soccer- Girls	Fall	

Bernardsville Middle School Totals:
Spring Teams requiring fields for practice/play: 2
Fall Teams requiring fields for practice/play: 3

Field Availability

Field	Location	Size	Season in Use
Olcott	Bernards High School	Full Size	Fall, Spring
Lower BHS	Bernards High School	Full Size**	Fall
Lower BHS	Bernards High School	½ Field**	Spring
Upper Polo	Polo Grounds	Full Size	Fall, Spring
Lower Polo	Polo Grounds	Full Size	Fall
Upper Baseball	Polo Grounds		Spring
Lower Baseball	Polo Grounds		Spring
Lower Baseball	Polo Grounds	Baseball	Spring
Lower Evankow	Polo Grounds	Full Size	Fall, Spring
Upper Polo	Polo Grounds	Practice Size	Fall, Spring

**** Field size is based upon work to be completed summer 2013**

Field Usage and criteria:

- field requirements for fall teams begin at the start of the August preseason. The official date of preseason is governed by NJSIAA
- Spring teams can utilize the Olcott Turf Field as early into the season as possible but are bound by weather conditions on the Polo field complex
- practices held during the school year run from 3:00-5:30pm daily (Monday- Friday)
- It is the responsibility of the Athletic Director to schedule practice fields
- Historically, football and field hockey have utilized space at the high school fields for fall practices (Olcott Turf Field and lower fields) while the boys soccer and girls soccer have travelled to the polo grounds for practices.
- While the lower high school field gives extra practice/game space during the fall season, its usage during the spring seasons is limited due to its orientation between the baseball and softball diamonds. At best, only one half of the field will be utilized due to the safety concerns of balls from baseball or softball entering the practice field.
- Olcott Turf field usage during the spring can also be impacted when track & field competitions are held
- Games schedules are planned up to a year in advanced by the Athletic Director and are governed by NJSIAA guidelines.
- Games begin at 4:00pm and are usually completed by 6:pm. This time frame should allow for game stoppage and overtime play, but further extensions beyond 6:00pm are possible.
- Soccer games are played as singletons: ideally the scheduling of games between different squads is held at the same time but in different locations. Lacrosse, however, is scheduled as “back-to-back” competition

with the junior varsity squad following the varsity game. On such days, play can continue until 7:00pm

- Field Hockey and Football use the Olcott Turf Field for all games. Both Boys and Girls soccer will utilize both the Olcott Turf Field and the Lower Evankow fields for games.
- Games are played primarily on weekdays but Saturday games are possible.
- All teams participate in county and state level tournaments that are scheduled after team draws that occur during the season. Scheduling of these games is harder to predict as the record of the team is utilized as a criteria for home team advantage. State games are held during the week, but county games are played on Saturdays. Normally, the Olcott Turf Field is sufficient for our county requirements, but in the years of athletic success there can be up to three teams requiring playing space on one Saturday.

Access to field locations

Bernards High School: Students and spectators have use of the Bernards High School main parking lot and back parking lot for all events.

Polo Grounds: Students and spectators have access to: Tennis Parking lot, Polo Fields lot (adjacent to fields), Bedwell lots (side and back), and the Bernardsville Middle School lot. The first two locations are the locations primarily utilized by students arriving for practices/games. The remaining lots are not available until the departure of students and staff from the Bedwell School and Bernardsville Middle School.

Limitations of Present Field Situation

- Weather related closures result in missed practices and cancelled games
- Rescheduling of games causes disruption to practice grids
- Playing on wet surfaces results in field damage and ensuing safety issues from damaged fields
- Upper Evankow is limited in usage possibilities due to size
- Orientation of fields between baseball/softball diamonds results in loss of playing fields during the spring.

Benefits of a Chestnut Turf Field

- Availability of a all season playing surface that will for the unimpeded scheduling of practices/games
- Elimination of the need for lining and other changes of field for varying sports

- Ease of congestion on the complex. Although numbers will be stable, the utilization of space will be more efficient resulting in a better practice/playing experience for all
- Adequate overflow parking availability
- Access to bathroom facilities for the public

Usage Proposal

Somerset Hills School District will continue to utilize the Olcott Turf Field on a daily basis for practices and games. The Lower Bernards High School Field (to be completed in Summer 2013) will be in use during the weekdays but can become available to the public on weekends during fall and spring. SHSD can make accommodations with recreation for the lining of the fields for scheduled sports activities. Spring usage may be limited by town baseball and/or softball competitions.

The proposed Chestnut field at the Polo Grounds location will be utilized by the Bernards High School and Bernardsville Middle School teams Monday through Friday until 6:00pm, at which time the field will be available for township recreation. The availability of field at 6:00pm is predicated on the completion of any games that may be playing. Practicing teams, though, will always yield space to the township recreation at 6:00pm.

Saturday and Sunday usage of the Chestnut Field will be reserved for Bernardsville Recreation usage. Any adjustments to the weekend schedule need to be authorized by the Borough Recreation department.

Understanding the need to create consistency in scheduling, the Bernards Recreation Department and SHSD will strive to create a master grid of available field space and placement of teams at each location. Changes to the grid will be communicated weekly between all parties so that optimal utilization of fields is achieved. (Proposal Attached)

5. SHSD FIELD USE MATRIX

Week of
Oct. 1,2012

	BHS Olcott Turf	BHS Olcott Turf	BHS Lower Field	BHS Lower Filed	BHS Baseball	BHS Softball	Polo Upper	Polo Upper	Polo Lower	Polo Lower	Lower Evankow	Lower Evankow	Upper Evankow	AWAY Teams
Monday														
3:00-4:00pm	JV Football Game		V Football Practice	V Field Hockey Practice			V Boys Soccer Practice	JV Boys Soccer Practice	BMS Boys Soccer Practice	BMS Girls Soccer Practice	JV Girls Soccer Practice	V Girls Soccer Practice	BMS Field Hockey Practice	
4:00-5:30pm														
6:00-dark							Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Tuesday														
3:00-4:00pm	V Boys Soccer Game		V Football Practice	V Field Hockey Practice			JV Boys Soccer Practice	BMS Boys Soccer Practice	BMS Girls Soccer Game			JV Girls Soccer Practice	BMS Field Hockey Practice	V Girls Soccer
4:00-5:30pm														
6:00-dark							Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Wednesday														
3:00-4:00pm	V Football Practice	V Boys Soccer Practice	JV Football Practice	V Field Hockey Practice			JV Boys Soccer Practice		BMS Boys Soccer Practice	BMS Girls Soccer Practice	JV Girls Soccer Practice	V Girls Soccer Practice	BMS Field Hockey Practice	
4:00-5:30pm														
6:00-dark							Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Thursday														
3:00-4:00pm	V Field Hockey Game		V Football Practice	JV Football Practice			V Boys Soccer Practice	JV Boys Soccer Practice			JV Girls Soccer Practice	V Girls Soccer Practice	BMS Field Hockey Practice	BMS Boys Soccer
4:00-5:30pm														BMS Girls Soccer
6:00-dark							Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Friday														
3:00-4:00pm														
4:00-5:30pm														
6:00-dark							Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Saturday														
	BHS Usage		Recreation	Recreation			Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
			Recreation	Recreation			Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
Sunday														
			Recreation	Recreation			Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	
			Recreation	Recreation			Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	Recreation	

6. BOROUGH FILED USE MATRICES

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Boy's Lacrosse

Coach/Coordinator Chris Trebus Email ctrebus@independenceconstructors.com

Fall Schedule Facility/Field(s) Utilized	Day of Week Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Time of Day Duration	Practice	Game
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule March 15 - June 30										
Polo Field Complex	X	X	X	X	X			4:30 PM to Dark	*	*
Polo Field Complex						X		8:00 AM to 4:00 PM	*	*
Polo Field Complex							X	1:00 PM to 5:00 PM	*	*
High School Turf (When Available)						X		8:00 AM to 4:00 PM	*	*
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Little League

Coach/Coordinator Mike Falduto Email mikemdf4834@aol.com

Fall Schedule September 23- October 21	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
Rose Bowl (1 Field)	X	X	X	X	X			4:30 PM to Dark	*	*
Polo Field Complex (3 Fields)	X	X	X	X	X			4:30 PM to Dark	*	*
Claremont Road (1 Field)	X	X	X	X	X			4:30 PM to Dark	*	*
Kiwanis Field (3 Fields)	X	X	X	X	X			4:30 PM to Dark	*	*
Rose Bowl (1 Field)						X		8:00 AM to 4:00 PM	*	*
Polo Field Complex (3 Fields)						X		8:00 AM to 4:00 PM	*	*
Claremont Road (1 Field)						X		8:00 AM to 4:00 PM	*	*
Kiwanis Field (3 Fields)						X		8:00 AM to 4:00 PM	*	*
Rose Bowl (1 Field)							X	9:00 AM to 5:00 PM	*	*
Polo Field Complex (3 Fields)							X	9:00 AM to 5:00 PM	*	*
Claremont Road (1 Field)							X	9:00 AM to 5:00 PM	*	*
Kiwanis Field (3 Fields)							X	9:00 AM to 5:00 PM	*	*
Spring/Summer Schedule March 15- September 22										
Rose Bowl (1 Field)	X**	X**	X**	X**	X**			8:00 AM to Dark	*	*
Polo Field Complex (3 Fields)	X**	X**	X**	X**	X**			8:00 AM to Dark	*	*
Claremont Road (1 Field)	X**	X**	X**	X**	X**			8:00 AM to Dark	*	*
Kiwanis Field (3 Fields)	X**	X**	X**	X**	X**			8:00 AM to Dark	*	*
Rose Bowl (1 Field)						X		8:00 AM to Dark	*	*
Polo Field Complex (3 Fields)						X		8:00 AM to Dark	*	*
Claremont Road (1 Field)						X		8:00 AM to Dark	*	*
Kiwanis Field (3 Fields)						X		8:00 AM to Dark	*	*
Rose Bowl (1 Field)							X	8:00 AM to Dark	*	*
Polo Field Complex (3 Fields)							X	8:00 AM to Dark	*	*
Claremont Road (1 Field)							X	8:00 AM to Dark	*	*
Kiwanis Field (3 Fields)							X	8:00 AM to Dark	*	*

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.
** Fields are utilized Monday through Friday July and August only

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Pop Warner

Coach/Coordinator Sean Gagnon Email Gatorg13@gmail.com

Fall Schedule August 1 - November 30	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
Polo Field Complex	X	X	X	X	X			5:00 PM to Dark	*	*
Polo Field Complex						X		8:00 AM to 4:00PM	*	*
Polo Field Complex							X	9:00 AM to Dark	*	*
								to		
								to		
								to		
								to		
Spring Schedule										
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Boy's Travel Baseball

Coach/Coordinator Terry Travis Email tptravis7@comcast6.net

Fall Schedule	**Day of Week**							**Time of Day**		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule June 1 - July 31										
Rose Bowl		Various Dates						6:00 PM to 8:00PM	*	*
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Girl's Lacrosse

Coach/Coordinator Sharon Warren Email Sharon_warren21@hotmail.com

Fall Schedule	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule April 15 - June 30										
Polo Field Complex		**X**	**X**	**X**				5:00 PM to Dark	*	*
Polo Field Complex		**X**		**X**				5:00 PM to Dark	*	*
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Mavericks Soccer

Coach/Coordinator Joelle Buzby Email Joelle.buzby@verizon.net

Fall Schedule - September 30 - November 23	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
Rose Bowl	X	X	X	X	X			5:00 PM To 7:00 PM	*	*
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule March 15 - May 30										
Various Fields	X	X	X	X	X			4:00 PM to 5:30 PM	*	*
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Somerset Hills Soccer

Coach/Coordinator Mike Gallo Email mngallo@hotmail.com

Fall Schedule September 1 - November 30	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
Polo Field Complex	**X**		**X**		**X**			4:30 PM To 7:00 PM	*	*
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule April 1 - June 30										
Polo Field Complex	**X**		**X**		**X**			4:30 PM To 7:00 PM	*	*
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team St. Elizabeth School Softball

Coach/Coordinator Denise Killeen Email deniseakilleen@aol.com

Fall Schedule	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule March 15 - June 30										
Rose Bowl	**X**		**X**		**X**			3:00 PM To 6:00 PM	*	*
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

User Group/Team Men's and Boy's Baseball

Coach/Coordinator _____ Email _____

Fall Schedule	Day of Week							Time of Day		
Facility/Field(s) Utilized	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Duration**	**Practice**	**Game**
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring/Summer Schedule May 1- September 30										
Rose Bowl (Men's)							X	9:00 AM to 12:00PM		X
Rose Bowl (Boy's)							X	12:00 PM to 3:00 PM		X
								to		
								to		
								to		
								to		

NOTES * The leagues each play 5 to 10 games from May through September.

Bernardsville Borough - Somerset Hills School District
Field Use Study - User Schedule

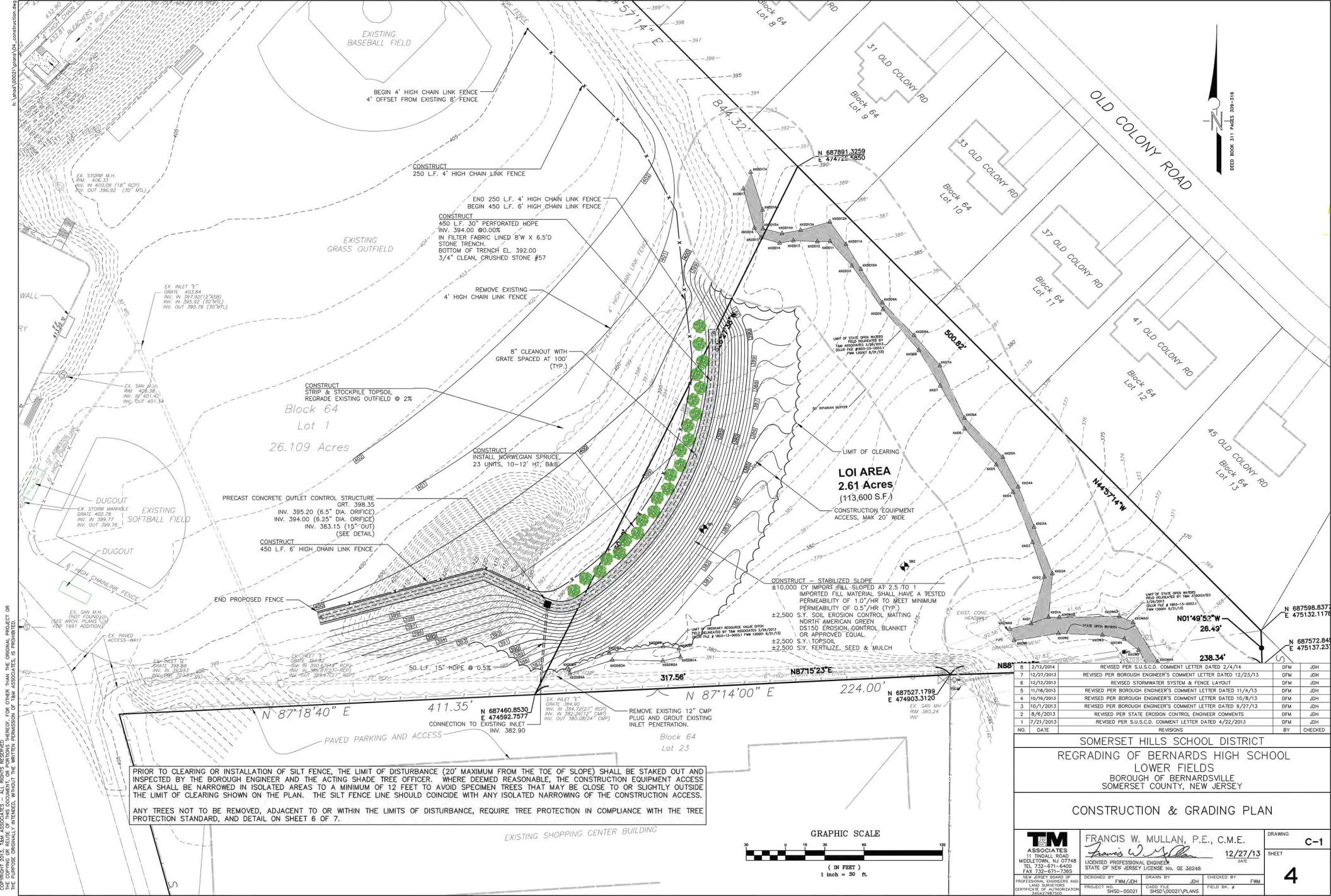
User Group/Team Women's Softball

Coach/Coordinator Sarah Mcparland Email slmcparland@yahoo.com

Fall Schedule	Day of Week							Time of Day		
Facility/Field(s) Utilized	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Duration	Practice	Game
								to		
								to		
								to		
								to		
								to		
								to		
								to		
Spring Schedule June 1- August 31										
Claremont Road		**X**						6:00 PM to 8:00 PM		
								to		
								to		
								to		
								to		
								to		

NOTES * The Borough does not currently maintain practice/game information. I have contacted the league representitive in an effort to obtain this information.

7. T&M PLAN FOR RE-GRADING OF LOWER FIELD AT BHS



PRIOR TO CLEARING OR INSTALLATION OF SILT FENCE, THE LIMIT OF DISTURBANCE (20' MAXIMUM FROM THE TOE OF SLOPE) SHALL BE STAKED OUT AND INSPECTED BY THE BOROUGH ENGINEER AND THE ACTING SHADE TREE OFFICER. WHERE DEEMED REASONABLE, THE CONSTRUCTION EQUIPMENT ACCESS AREA SHALL BE NARROWED IN ISOLATED AREAS TO A MINIMUM OF 12 FEET TO AVOID SPECIMEN TREES THAT MAY BE CLOSE TO OR SLIGHTLY OUTSIDE THE LIMIT OF CLEARING SHOWN ON THE PLAN. THE SILT FENCE LINE SHOULD COINCIDE WITH ANY ISOLATED NARROWING OF THE CONSTRUCTION ACCESS.

ANY TREES NOT TO BE REMOVED, ADJACENT TO OR WITHIN THE LIMITS OF DISTURBANCE, REQUIRE TREE PROTECTION IN COMPLIANCE WITH THE TREE PROTECTION STANDARD, AND DETAIL ON SHEET 6 OF 7.

NO.	DATE	REVISIONS	BY	CHECKED
8	2/12/2014	REVISED PER S.U.S.C.D. COMMENT LETTER DATED 2/4/14	DFM	JDH
7	12/27/2013	REVISED PER BOROUGH ENGINEER'S COMMENT LETTER DATED 12/23/13	DFM	JDH
6	12/12/2013	REVISED STORMWATER SYSTEM & FENCE LAYOUT	DFM	JDH
5	11/18/2013	REVISED PER BOROUGH ENGINEER'S COMMENT LETTER DATED 11/4/13	DFM	JDH
4	10/16/2013	REVISED PER BOROUGH ENGINEER'S COMMENT LETTER DATED 10/8/13	DFM	JDH
3	10/1/2013	REVISED PER BOROUGH ENGINEER'S COMMENT LETTER DATED 9/27/13	DFM	JDH
2	8/6/2013	REVISED PER STATE EROSION CONTROL ENGINEER COMMENTS	DFM	JDH
1	7/21/2013	REVISED PER S.U.S.C.D. COMMENT LETTER DATED 4/22/2013	DFM	JDH

SOMERSET HILLS SCHOOL DISTRICT

REGRADING OF BERNARDS HIGH SCHOOL LOWER FIELDS

BOROUGH OF BERNARDSVILLE
SOMERSET COUNTY, NEW JERSEY

CONSTRUCTION & GRADING PLAN

T&M ASSOCIATES
11 TINDALL ROAD
MIDDLETOWN, NJ 07748
TEL 732-671-6400
FAX 732-671-7365

FRANCIS W. MULLAN, P.E., C.M.E.
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW JERSEY LICENSE No. GE 38248
12/27/13 DATE

NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS CERTIFICATE OF AUTHORIZATION 24GA27987500

DESIGNED BY	DRAWN BY	CHECKED BY
FWM/JDH	JDH	FWM
PROJECT NO. SHSD-00021	CADD FILE SHSD\000021\PLANS	FIELD BK. #

DRAWING C-1
SHEET 4

SOMERSET HILLS SCHOOL DISTRICT
REGRADING OF BERNARDS HIGH SCHOOL LOWER FIELDS
NOVEMBER 5, 2013
CONSTRUCTION COST ESTIMATE

NO.	ITEM DESCRIPTION	UNIT	TOTAL QUAN.	UNIT PRICE	COST
1	SOIL EROSION AND SEDIMENT CONTROL	LS	1	$11,000.00	$11,000.00
2	TREE REMOVAL	LS	1	$12,500.00	$12,500.00
3	STRIP AND STOCKPILE EXISTING TOPSOIL	SY	9700	$1.50	$14,550.00
4	GRADE AND COMPACT DONATED FILL MATERIAL	CY	12000	$2.75	$33,000.00
5	RESPREAD TOPSOIL	SY	9700	$1.50	$14,550.00
6	8" SOLID WALL HDPRE PIPE	LF	20	$30.00	$600.00
7	15" SOLID WALL HDPE PIPE	LF	50	$50.00	$2,500.00
8	24" PERFORATED HDPE PIPE	LF	450	$70.00	$31,500.00
9	4' DIAMETER PRECAST DRAINAGE MANHOLE	UNIT	1	$3,500.00	$3,500.00
10	RECONSTRUCTED INLET, TYPE 'E'	UNIT	1	$1,000.00	$1,000.00
11	CHAIN LINK FENCE, BLACK FUSE BONDED PVC, 4' HIGH	LF	700	$27.00	$18,900.00
12	FILTER FABRIC	SY	1150	$2.00	$2,300.00
13	3/4" CLEAN CRUSHED STONE #57	TON	300	$50.00	$15,000.00
14	SEEDING AND FERTILIZING, TYPE 'G'	SY	9700	$1.00	$9,700.00
15	STRAW MULCHING	SY	9700	$1.00	$9,700.00
16	NORWAY SPRUCE, 10' - 12'	UNIT	23	$600.00	$13,800.00

TOTAL ESTIMATED CONSTRUCTION COST = $194,100.00

8. T&M ESTIMATE FOR "NO OVERLAP" PLAN AT BHS LOWER FIELD

4/17/2014

PRELIMINARY CONSTRUCTION COST ESTIMATE
SOMERSET HILLS SCHOOL DISTRICT
BERNARDS HIGH SCHOOL LOWER FIELD IMPROVEMENTS
CONCEPT MASTER PLAN - NO OVERLAP
Summary of Costs

NO.	ITEM/DESCRIPTION	COST
1	SITE WORK	$1,245,000.00
2	STORM DRAINAGE	$250,000.00
3	MULTIPURPOSE FIELD (220' X 360')	$990,000.00
4	BASEBALL FIELD	$525,000.00
5	SOFTBALL FIELD	$290,000.00
6	WALKWAYS/SEATING AREAS	$55,000.00
7	SIGNAGE AND PARK APPURTENANCES	$50,000.00
8	FENCING AND WALLS	$590,000.00
9	LANDSCAPING & RESTORATION	$243,000.00
10	UTILITIES	$85,000.00
11	PERMIT FEES	$10,000.00
12	CONTINGENCIES (5%)	$216,650.00
	TOTAL CONSTRUCTION COST =	**$4,549,650.00**
	ADDITIONAL COST TO FULL SYNTHETIC TURF =	**$714,000.00**

Notes:

1 This cost estimate is preliminary and intended for project planning and budgeting purposes only.
2 The proposed improvements include the construction of a new synthetic turf multi-purpose field and reconstruction of the natural grass baseball and softball fields. The baseball and softball fields remain in their current locations with no fields overlap.
3 This estimate is based on the proposed improvements and ball field layout depicted on a plan entitled "Somerset Hills School District, Bernards High School Lower Field Improvements, Concept Master Plan - No Overlap", Drawing CP-1, Sheet 1 of 2, dated February 10, 2012, prepared by Francis W. Mullan, P.E. of T&M Associates, Middletown, NJ.

BERNARDS HIGH SCHOOL LOWER FIELD IMPROVEMENTS
COMBINATION NATURAL GRASS
SOFTBALL SYNTHETIC TURF - NO OVERLAP
BOROUGH OF BERNARDSVILLE

NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
1	**SITE WORK**				
	MOBILIZATION	LS	1	$90,000.00	$90,000.00
	PAYMENT AND PERFORMANCE BONDS	LS	1	$36,000.00	$36,000.00
	CONSTRUCTION FIELD OFFICE	LS	1	$25,000.00	$25,000.00
	CONSTRUCTION LAYOUT	DAY	10	$2,500.00	$25,000.00
	SOIL EROSION AND SEDIMENT CONTROL	LS	1	$10,000.00	$10,000.00
	CLEARING SITE	AC	7	$5,000.00	$35,000.00
	STRIPPING TOPSOIL	AC	7	$2,000.00	$14,000.00
	BORROW EXCAVATION	CY	50,000	$20.00	$1,000,000.00
	DEMOLITION	LS	1	$10,000.00	$10,000.00
				SUBTOTAL	$1,245,000.00
				SAY	**$1,245,000.00**
2	**STORM DRAINAGE**				
	12" CORRUGATED POLYETHYLENE PIPE, SMOOTH INTERIOR UNDERDRAIN	LF	1,100	$30.00	$33,000.00
	24" CORRUGATED POLYETHYLENE PIPE, SMOOTH INTERIOR UNDERDRAIN	LF	250	$50.00	$12,500.00
	36" CORRUGATED POLYETHYLENE PIPE, SMOOTH INTERIOR UNDERDRAIN	LF	500	$70.00	$35,000.00
	15" REINFORCED CONCRETE CULVERT PIPE	LF	1,100	$40.00	$44,000.00
	FIELD INLET	UNIT	20	$1,800.00	$36,000.00
	MANHOLES	UNIT	12	$2,500.00	$30,000.00
	DROP MANHOLES	UNIT	4	$10,000.00	$40,000.00
	OUTLET CONTROL STRUCTURE	UNIT	1	$10,000.00	$10,000.00
	CONCRETE HEADWALLS	UNIT	1	$5,000.00	$5,000.00
				SUBTOTAL	$245,500.00
				SAY	**$250,000.00**
3	**MULTIPURPOSE FIELD (220' X 360')**				
	12" UNDERDRAIN	LF	1,650	$20.00	$33,000.00
	PANEL DRAIN	LF	9,000	$3.00	$27,000.00
	CONCRETE CURB	LF	1,500	$20.00	$30,000.00
	BASE STONE, 5" THICK	SY	12,450	$8.00	$99,600.00
	FINISH STONE, 2" THICK	SY	12,450	$3.50	$43,575.00
	FILTER FABRIC	SY	25,000	$2.00	$50,000.00
	SYNTHETIC TURF	SF	112,000	$5.00	$560,000.00
	TEAM BENCHES	UNIT	2	$1,800.00	$3,600.00
	HANDICAP COMPANION BENCH	UNIT	2	$800.00	$1,600.00
	BLEACHERS, ELEVATED (10 ROW, 21' / 90 SEATS)	UNIT	2	$24,000.00	$48,000.00
	GOALS	PAIR	1	$15,000.00	$15,000.00
	CONCRETE BLEACHER PAD, 6" THICK	SF	1,100	$6.00	$6,600.00
	PRESS BOX/CONCESSION/STORAGE	UNIT	1	$50,000.00	$50,000.00
	SCOREBOARD	UNIT	1	$20,000.00	$20,000.00
				SUBTOTAL	$987,975.00
				SAY	**$990,000.00**

BERNARDS HIGH SCHOOL LOWER FIELD IMPROVEMENTS
COMBINATION NATURAL GRASS
SOFTBALL SYNTHETIC TURF - NO OVERLAP
BOROUGH OF BERNARDSVILLE

NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
4	**BASEBALL FIELD**				
	6" UNDERDRAIN	LF	5,450	$16.00	$87,200.00
	ROOTZONE MIX, 8" THICK	SY	10,000	$9.00	$90,000.00
	INFIELD MIX WITH STABILIZER, 4" THICK	SY	1,600	$10.00	$16,000.00
	MOUND CLAY, 6" THICK	SY	75	$100.00	$7,500.00
	WARNING TRACK WITH STABILIZER, 4" THICK	SY	950	$12.00	$11,400.00
	SOD	SY	10,000	$5.00	$50,000.00
	BACKSTOP	UNIT	1	$20,000.00	$20,000.00
	FOUL POLES, TYPE B	UNIT	2	$1,000.00	$2,000.00
	TEAM BENCHES	UNIT	2	$1,800.00	$3,600.00
	HANDICAP COMPANION BENCH	UNIT	2	$800.00	$1,600.00
	COVERED TEAM BENCH AND ENCLOSURE	UNIT	0	$6,000.00	$0.00
	CONCRETE BLOCK DUGOUTS	UNIT	2	$20,000.00	$40,000.00
	BLEACHERS, NON-ELEVATED (5 ROW, 21' / SEATS 58)	UNIT	2	$8,000.00	$16,000.00
	BULL PEN AREA	UNIT	2	$5,000.00	$10,000.00
	CHAIN LINK FENCE, 4' HIGH, WITH GATES	LF	450	$40.00	$18,000.00
	CHAIN LINK FENCE, 6' HIGH, WITH GATES	LF	325	$50.00	$16,250.00
	CHAIN LINK FENCE, 8' HIGH, WITH GATES	LF	500	$75.00	$37,500.00
	CONCRETE BLEACHER PADS, 6" THICK	SF	800	$6.00	$4,800.00
	AUTOMATIC IRRIGATION SYSTEM	LS	1	$90,000.00	$90,000.00
				SUBTOTAL	$521,850.00
				SAY	**$525,000.00**
5	**SOFTBALL FIELD**				
	6" UNDERDRAIN	LF	2,000	$16.00	$32,000.00
	ROOTZONE MIX, 8" THICK	SY	4,500	$9.00	$40,500.00
	INFIELD MIX WITH STABILIZER, 4" THICK	SY	1,250	$10.00	$12,500.00
	MOUND CLAY, 6" THICK	SY	75	$100.00	$7,500.00
	SOD	SY	4,500	$5.00	$22,500.00
	ARCH BACKSTOP	UNIT	1	$20,000.00	$20,000.00
	FOUL POLES, TYPE B	UNIT	2	$900.00	$1,800.00
	TEAM BENCHES	UNIT	2	$1,800.00	$3,600.00
	HANDICAP COMPANION BENCH	UNIT	2	$800.00	$1,600.00
	CONCRETE BLOCK DUGOUTS	UNIT	2	$20,000.00	$40,000.00
	SCOREBOARD	UNIT	1	$12,000.00	$12,000.00
	BULL PEN AREA	UNIT	2	$5,000.00	$10,000.00
	BLEACHERS, NON-ELEVATED (5 ROW, 21' / SEATS 58)	UNIT	2	$8,000.00	$16,000.00
	CHAIN LINK FENCE, 4' HIGH, WITH GATES	LF	360	$40.00	$14,400.00
	CHAIN LINK FENCE, 6' HIGH, WITH GATES	LF	400	$50.00	$20,000.00
	CHAIN LINK FENCE, 8' HIGH, WITH GATES	LF	400	$75.00	$30,000.00
	CONCRETE BLEACHER PADS, 6" THICK	SF	800	$6.00	$4,800.00
				SUBTOTAL	$289,200.00
				SAY	**$290,000.00**
6	**WALKWAYS/SEATING AREAS**				
	DENSE GRADED AGGREGATE BASE COURSE, 4" THICK	SY	1,650	$5.00	$8,250.00
	BIT. STAB. BASE CRSE., MIX I-2, 3 1/2" THICK	TON	350	$90.00	$31,500.00
	BIT. CONC. SURFACE CRSE., MIX I-5, 1 1/2" THICK	TON	150	$90.00	$13,500.00
				SUBTOTAL	$53,250.00
				SAY	**$55,000.00**

BERNARDS HIGH SCHOOL LOWER FIELD IMPROVEMENTS
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NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
7	**SIGNAGE AND PARK APPURTENANCES**				
	RECYCLING WASTE CONTAINERS, 3 CLUSTER	UNIT	6	$5,000.00	$30,000.00
	BIKE RACKS	UNIT	2	$1,700.00	$3,400.00
	PICNIC TABLES	UNIT	6	$1,500.00	$9,000.00
	FLAG POLE, 30' HIGH, WITH FLAGS	UNIT	1	$6,000.00	$6,000.00
				SUBTOTAL	$48,400.00
				SAY	**$50,000.00**
8	**FENCING AND WALLS**				
	CHAIN LINK FENCE, 4' HIGH	LF	450	$35.00	$15,750.00
	CHAIN LINK FENCE, 6' HIGH	LF	475	$45.00	$21,375.00
	CHAIN LINK FENCE, 18' HIGH WITH NETTING	LF	590	$200.00	$118,000.00
	MODULAR BLOCK RETAINING WALL	SF	14,400	$30.00	$432,000.00
				SUBTOTAL	$587,125.00
				SAY	**$590,000.00**
9	**LANDSCAPING & RESTORATION**				
	SHRUBS	UNIT	660	$75.00	$49,500.00
	DECIDUOUS TREES	UNIT	85	$700.00	$59,500.00
	EVERGREEN TREES	UNIT	30	$500.00	$15,000.00
	TOPSOIL, 6" THICK (IMPORTED, SHREDDED AND SCREENED)	SY	5,715	$7.00	$40,005.00
	SOD	SY	5,715	$5.00	$28,575.00
	AUTOMATIC IRRIGATION	LS	1	$50,000.00	$50,000.00
				SUBTOTAL	$242,580.00
				SAY	**$243,000.00**
10	**UTILITIES**				
	ELECTRIC SERVICE	LS	1	$30,000.00	$30,000.00
	ELECTRIC FOR IRRIGATION SYSTEM	LS	1	$20,000.00	$20,000.00
	WATER SERVICE (INCL.METER, METER PIT & BACKFLOW PREVENTOR.)	LS	1	$15,000.00	$15,000.00
	DRINKING FOUNTAIN	UN	3	$4,000.00	$12,000.00
	FLUSH BOX HYDRANT	UN	4	$2,000.00	$8,000.00
				SUBTOTAL	$85,000.00
				SAY	**$85,000.00**
11	**PERMIT FEES**				
	SOIL EROSION AND SEDIMENT CONTROL PLAN CERTIFICATION	LS	1	$5,000.00	$5,000.00
	FLOOD HAZARD AREA INDIVIDUAL PERMIT	LS	1	$1,000.00	$1,000.00
	MISCELLANEOUS LOCAL AND AGENCY PERMITS	LS	1	$4,000.00	$4,000.00
				SUBTOTAL	$10,000.00
				SAY	**$10,000.00**