Acknowledgements

Somerset Vo-Tech Athletic Complex Master Plan
Regional Center Partnership of Somerset County, New Jersey

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Borough of Raritan
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Somerset County Planning Board
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Architect’s Project No. 09029
July 2010
RESOLUTION
Regional Center Partnership of Somerset County

Multipurpose Athletic Facility at Somerset County Vocational Technical Schools
Feasibility Study:

Acceptance of Final Report

WHEREAS, the Somerset County Regional Center Strategic Master Plan addresses various planning issues in the Somerset Regional Center including the need for additional active recreational and athletic facilities within the Region; and

WHEREAS, existing athletic fields within the Regional Center area are currently overwhelmed with players to the point that the fields within the Region are operating at over capacity and it has become difficult to keep the athletic fields in good operating condition; and

WHEREAS, after considering various potential sites in the Regional Center, the Regional Center Partnership of Somerset County (RCP) in conjunction with the municipal recreation directors from the Regional Center communities decided that the most favorable site for a potential multi-purpose athletic facility was the Somerset County Vocational-Technical Schools campus in Bridgewater Township and that a feasibility study should be conducted to determine what constraints and opportunities may exist at the Somerset County Vocational Technical Schools site; and

WHEREAS, the RCP consulted with representatives of Somerset County Vocational Technical Schools concerning the idea of conducting such a feasibility study and obtained critical feedback concerning same; and

WHEREAS, RCP, Somerset County Vocational Technical Schools and Bridgewater, Raritan and Somerville all signed a Memorandum of Understanding (MOU) in which everyone agreed to review the feasibility study findings and participate in discussions to determine the most feasible options available for potential funding strategies and cost-sharing opportunities for any improvements, and that the consultant ultimately retained to conduct the feasibility study would only consider those lands deemed by Somerset County Vocational Technical Schools to be available for such a feasibility study; and

WHEREAS, Bridgewater, Raritan and Somerville and the RCP developed a scope of work and advertised a Request For Proposals (RFP) to conduct a feasibility study to identify opportunities and constraints and order-of-magnitude costs for upgrading and/or expanding the existing Somerset County Vocational Technical Schools athletic fields; and

WHEREAS, after reviewing numerous proposals, the RCP awarded a contract to the consultant team Brandt et al. Carroll, Inc. of Lexington, Kentucky and The RBA Group of Parsippany, New Jersey (the consultants) to perform the feasibility study; and

WHEREAS, a series of public meetings was held with various stakeholder groups to obtain input concerning the needs and wants relative to the demand for athletic facilities in the Regional Center; and

WHEREAS, per the MOU, a Steering Advisory Committee consisting of representatives from Bridgewater, Raritan, Somerville, Somerset County Planning and Engineering staffs, Somerset County Park Commission and Somerset County Vocational Technical Schools evaluated three concept proposals and their respective order-of-magnitude costs for a multipurpose athletic facility at Somerset County
Vocational Technical Schools that were prepared by the consultants and selected the plan that has become known as the “Preferred Concept Plan D,” and

WHEREAS, the consultants prepared and presented a draft Final Report that was favorably received at a public meeting and RCP regular meeting; and

WHEREAS, County Planning Board staff presented the Preferred Concept Plan “D” to the Somerset County Vocational Technical Schools Board of Education and the Final Report which were favorably received by Somerset County Vocational Technical Schools Board of Education members; and

WHEREAS, the Final Report recommends that a Stewardship Committee consisting of representatives from the Regional Center Partnership of Somerset County, the Somerset County Board of Chosen Freeholders, the Somerset County Planning Board, the Somerset County Park Commission and Somerset County Vocational Technical Schools will explore all possible funding strategies and possibilities concerning the implementation of the Preferred Concept Plan “D” and whether to utilize synthetic turf for one or more of the multi-purpose athletic fields.

NOW THEREFORE BE IT RESOLVED that the Regional Center Partnership of Somerset County, Inc. accepts the Final Report entitled Somerset County Vo-Tech Athletic Facilities Feasibility Study, dated July, 2010; and

BE IT FURTHER RESOLVED that copies of this Resolution shall be forwarded to the Somerset County Board of Chosen Freeholders, the Somerset County Park Commission, the Somerset County Planning Board, the Township of Bridgewater, the Boroughs of Raritan and Somerville and the Somerset County Vocational Technical Schools Board of Education.

I, James P. Ruggieri, Secretary of the Regional Center Partnership of Somerset County, Inc. in the State of New Jersey, do hereby certify that the foregoing is a true copy of a Resolution adopted by said Regional Center Partnership of Somerset County, Inc. at its meeting of July 21, 2010.

James P. Ruggieri, Secretary
Regional Center Partnership of Somerset County
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I. Introduction

A. Project Purpose

1. The members of the Regional Center Partnership (RCP) of Somerset County, the Boroughs of Raritan and Somerville and the Township of Bridgewater, along with the Somerset County Park Commission, have been experiencing tremendous demand for quality multi-purpose athletic fields. The Somerset Regional Center Strategic Master Plan addresses various planning issues for a multi-municipal planning region in central New Jersey. Among the list of regional planning priorities identified in the Regional Center Strategic Master Plan is the need for additional active recreation and athletic facilities within the Regional Center. A clear example of this demand is how existing athletic fields in the Regional Center are currently overwhelmed by players. Many of the fields are operating over capacity to the point where the overuse is causing the field conditions to deteriorate and the municipalities cannot improve them.

2. The Regional Center Strategic Master Plan recommends that the Regional Center Partnership of Somerset County (RCP) begin exploring its options for creating a new regional multi-purpose athletic complex. The RCP and the Regional Center municipalities of Bridgewater, Raritan and Somerville desire to have a facility that can accommodate multiple athletic uses including, but not necessarily limited to, soccer, lacrosse, baseball, softball, football, field hockey, etc. The site considered to be conceptually most ideal for accommodating this type of regional facility is the existing playing fields at the Somerset County Vocational-Technical School (SCVTS) campus in Bridgewater Township located on Vogt Drive.

B. Project Process

1. The RCP developed a Memorandum of Understanding among the Regional Center municipalities for the development of this Feasibility Study and Master Plan. This MOU identifies that the Office of the County Engineer will oversee the day-to-day operations of the project initiative.

2. The RCP established a Master Plan Steering Advisory Committee consisting of representatives of:
   - RCP of Somerset County
   - Somerset County Vocational-Technical Schools
   - Somerset County Park Commission
   - Borough of Raritan
   - Borough of Somerville
   - Township of Bridgewater
Introduction

3. The RCP also established a subcommittee to select a Consultant. Ultimately the RCP received proposals from thirteen teams, performed interview of the top firms, and selected the team of Brandstetter Carroll Inc. of Lexington, Kentucky and The RBA Group of Parsippany, New Jersey.

4. The Master Planning process included the following phases:

   a. Site Analysis Phase to review and analyze the site characteristics and their impact on the proposed development.

   b. Program Development Phase to identify the most desired facilities to be included in the project. This phase included public input meetings and several stakeholder group interviews of various interest groups.

   c. Alternative Plans Phase to explore at least three alternative concept designs.

   d. Final Master Plan Phase with the updated version of the preferred alternative plan along with an opinion of probable project cost, phasing recommendations, operations costs, and other recommendations.
II. Site Analysis

An Opportunities & Constraints summary was prepared for the Regional Center Partnership to provide supporting information for the feasibility study. The following summary highlights the existing conditions and development issues that may impact the feasibility of the project. At the conclusion of this report are appendices containing relevant drawings.

A. Existing Conditions

The Somerset County Vocational and Technical High School is located at 14 Vogt Drive, Bridgewater, Somerset County, New Jersey. The property consists of a total tract area of approximately 62 acres located within Block 557, Lot 3. The athletic field feasibility study focuses on +/- 19.5 acres that make up the existing athletic fields and adjacent parking lot. This area is bounded by I-287 to the south, single family housing to the west, existing Vo-Tech campus buildings to the north, and by the existing Vo-Tech Horticulture Building, Bus Maintenance Building and Ross Brook to the east.

Prior to the construction of the high school, the property was used for agricultural purposes and during construction of the high school substantial changes were made to the existing grades. The site generally drains from northwest along Vogt Drive to the southeast and into Ross Brook. The topography changes are noteworthy and vary from elevation 133 on the north end of the ball fields adjacent to the main Vo-Tech campus to elevation 85 south of the ball fields along I-287. Ross Brook, which runs along the east property line of the high school is not a designated C1 water course according to NJDEP mapping. The majority of the site is open, either containing built improvements or open lawn, with an occasional tree. Mature forested areas are located along Ross Brook and in isolated locations along I-287. Single family housing abuts the western edge of the ball fields separated by a wooded buffer of approximately 75'.

The existing athletic field area consists of two ball fields (skinned infields) and two multi-purpose rectangular fields that overlap the outfields of the ball fields. The fields are natural grass and do not contain lights or irrigation. The topography is defined by a significant change in elevation which splits the area into an upper (elevation 106) and lower terrace (elevation 87). This limits the possibilities for expansion without significant re-grading or the use of retaining walls. Accessibility to the upper terrace is also something that should be addressed in the future. The upper terrace contains the ball field used by the Vo-Tech baseball team as well an overlapping rectangular field. The ball field area fencing, players benches and bleachers are outdated and in need of replacement. There is no outfield fence or warning track. The infield and outfield were recently renovated by the high school as part of general maintenance and a new 2” copper water line was installed from the Horticulture Building to the fields and provides quick couplers for the lower and upper fields (See Appendix A). If irrigation and/or heavier demands for water are required in the future, a larger water main may be required.
The lower terrace contains the softball field and an overlapping rectangular field. Existing storm inlets are located within the lower terrace area (See Appendix A) but there is no evidence of field underdrains in the lower or upper terrace. During site visits, standing water was noted in the terrace within the existing swale and the inlets were not draining properly. Research of the original high school site plan from 1969 indicates other athletic fields planned in this area that were never developed (See Appendix C). The original soil boring reports found for the fields performed at the time of development identify a heavy red clay and shale content. The fields would benefit from an underground drainage system which could connect into the existing pipe network to facilitate the removal of surface water from the fields and minimize down time. If desired in the future, the existing storm drainage system could be extended to support drainage for a new synthetic turf surface.

Current parking for the athletic fields is located to the east of the athletic fields. This parking area provides 216 spaces, is lighted and has concrete curbing. It is easily accessible to the lower terrace ball fields, however there is no accessible route to the upper fields. The parking appears to have adequate inlets which drain surface water to a manmade ditch that empties into Ross Brook (See Appendix A). The pavement condition is fair to poor with moderate cracking and includes some areas of patching. The existing parking lot also provides access for the Horticulture Building immediately to the south and to the Bus Maintenance Facility. East of the parking lot is a small open and level lawn area which transitions into woodland before reaching Ross Brook. This open area has the potential for +/- 50 space parking lot expansion if needed.

The Horticulture Building and Bus Maintenance Building are the two main structures located on the property adjacent to the athletic fields. The Horticulture Program has an interest in possibly utilizing some of the lands adjacent to the athletic fields for their turf management program. This building has water, gas, electric and sanitary services as well as a small parking lot and fenced in maintenance shed/yard. The recently installed 2”copper water line for the athletic fields comes from this building. The Bus Maintenance building and storage yard is in fair condition and could possibly serve a dual role in the future if storage is required for the athletic field complex. Vo-Tech has plans for a future academic building to be constructed south of the existing gymnasium (north of the ball fields) and has provided the building footprint to the consultants for use in preparing the concept plans.

B. Freshwater Wetlands

Freshwater wetlands regulated pursuant to the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A) are located on the subject property. These were located during the existing conditions survey process. The boundary of these wetlands is shown on the Existing Conditions Map (See Appendix A). Ross Brook runs along the eastern edge of the property and is not a designated C1 water course. Preliminary findings indicate that these wetlands are ordinary and of intermediate resource value with associated transition areas of 0 and 50 feet.
respectively. NJDEP issued a Freshwater Wetlands Letter of Interpretation/Line Verification notice dated July 26, 2010. This LOI/Line Verification notice remains in effect for five years.

C. Utilities

1. Electric

Power is available for future ball field lighting and/or for a small accessory structure via Building ‘C’ on the Vo-Tech campus (See Appendix B). This building is located just north of the existing ball fields and currently has a 400 amp spare on Panel DPP. This panel is 480/277 Volt 3 phase, 4 wire service. The panel is located on the outside wall adjacent to the athletic fields and based upon discussion with Mike Kuschyk, Director of Building and Grounds at the high school, this could be utilized for future field lighting and general electrical requirements if necessary. MUSCO Lighting provided plans indicating that the proposed light fixtures for the fields would require 644 amps if all of the sports field lights were used at the same time. This assumes the service provided is 480V single phase. Vo-Tech has existing 480V 3 phase available in Building ‘C’, but there is only (1) 400 amp spare. Therefore, additional power is needed for the field lighting. Additional consideration is needed for the future restroom/concession building. A 200 amp service panel for this building should be considered.

2. Gas

Gas service is available at the Horticulture Building directly east of the ball fields. The gas meter for this service can be seen on the west side of the building.

3. Water

Water is available at the Horticulture Building directly east of the ball fields via a 6” cement lined water main, class 150, running south from Vogt Drive along the eastern edge of the ball fields. This line is fed from a 12” waterline located within Vogt Drive (See Appendix D)

4. Sewer

Nearest sanitary service is an existing 4” sanitary line running from the Horticulture Building to the 14” Bridgewater-Northbranch Trunkline at Ross Brook. The invert elevation for this sanitary line at an existing manhole behind the Horticulture Building is 77.00. The invert elevation at the trunkline is 66.80 (See Appendix D). During the field survey, the manhole for this line located behind the Horticulture Building was lifted and a visual inspection of the pipe was made. There was a very strong odor coming from this line and it may need cleaning and/or further investigation prior to utilizing for any athletic field purposes.
D. **Zoning**

The existing site is located within the R-40 (Single Family Residential Zone) as identified on the Bridgewater Zoning Map. The existing school is a conditional use within the zone. The existing fields were previously approved and are considered existing uses. Since the primary use will be recreational facilities, the bulk requirements for structures would not be of concern. It is possible that an accessory structure such as a concession stand or bathroom facilities may be constructed, but these improvements would most likely be centrally located on the site and not close to property lines where setbacks would be a concern.

There is a buffer requirement of 75 feet from residential properties where there is a non-residential use proposed such as the proposed athletic facility. The existing field appears to meet this setback requirement. It is recommended that any proposed fields be designed to meet the 75’ setback from the residential homes.

Parking dimensions for Bridgewater require 9 ½’ x 18’ parking spaces where typical parking space sizes are 9’ x 18’. The requirements for number of spaces for recreational facilities are not specifically identified in the local ordinance but we would recommend providing 60 spaces per field.

Minimum lighting standards identified in the local ordinance require an average of 1.5 footcandles in parking lots and a maximum footcandles at the property line of 1.0 footcandles. Based upon the lighting information provided by MUSCO Lighting, the light levels at the property line will be 0 to 0.1, much less than the 1.0 mentioned above. It is also identified that maximum height of lighting should not exceed 25 feet. The ordinance is more specific to office/warehouse use when it comes to lighting, but recreational facilities are not contemplated as part of the non-residential use.

Steep slopes are to be identified on development plans and no improvements are permitted within areas of 30% slope or more. A small portion of the existing terrace slope behind the baseball field marginally exceeds 30%. However, based on the fact that these existing slopes were manmade at the time of the ball field construction, it is believed that disturbance within this area would likely be permitted. The steep slope discussion in the ordinance is specific to minimize the number of residential units permitted and does not contemplate steep slopes within recreational areas.

In summary, through our review of the zoning requirements for the subject parcel and the proposed recreational use, it appears that there may be some areas where the designers will need input from the municipality and the surrounding residential neighborhood, specifically regarding lighting. The fact that the existing site is currently being used for recreational use is a benefit and would justify the continued and proposed use for a recreational facility.
III. Development Program

The following is the program of development for the potential multi-purpose athletic facilities to be located at the Somerset Vo-Tech Campus. The potential facilities list is based upon the needs of various organizations that were interviewed in March 2009. The facility criteria, user groups and other pertinent information are listed for the major types of facilities requested. These criteria are the basis of the next phase, which is the development of alternative concept plans for the site.

A. Baseball Field

1. A high school size baseball field was indicated as being strongly needed by several groups. The Somerset Vo-Tech School could use two of these fields if possible for varsity and junior varsity teams.

2. Criteria:
   a. 90 foot base paths
   b. Grass infield preferred.
   c. Outfield fence should be a minimum of 310’ down the lines and 375’ to 400’ in center field. Outfield fences are preferred.
   d. Backstop
   e. Bleachers
   f. Dugouts
   g. Bullpen areas
   h. Batting cages (could be used for softball also)
   i. Lights are needed to extend use and allow for more organizations to use the facility. Lights should be designed to limit spill light to surrounding areas.
   j. Ideal orientation to consider the low evening sun is to have the line from home plate to second base 15 degrees east of north. Second best option is 180 degrees from the first choice.
   k. Irrigation desired.
   l. Scoreboard desired

3. Potential User Groups:
   a. Somerset Vo-Tech School team and physical education classes
   b. Bridgewater Township (including Bridgewater Baseball Inc.), Somerville Borough and Raritan Borough recreation programs.
   c. Immaculata High School
   d. Somerville High School
Development Program

e. Bridgewater-Raritan High School
f. Tournaments in conjunction with fields at other facilities

B. Softball Field

1. Criteria:
   a. High school size softball field.
   b. 60’ base path and skinned (dirt) infield.
   d. Backstop
   e. Bleachers
   f. Dugouts
   g. Lights to extend play and provide more opportunities for groups to use the field.
   h. Irrigation desired.
   i. Scoreboard desired
   j. Ideal orientation to consider the low evening sun is to have the line from home plate to second base 15 degrees east of north. Second best option is 180 degrees from the first choice.

2. Potential User Groups:
   a. Somerset Vo-Tech School team and physical education classes
   b. Bridgewater Township (including Bridgewater Baseball Inc.), Somerville Borough and Raritan Borough recreation programs.
   c. Immaculata High School
   d. Somerville High School
   e. Bridgewater –Raritan High School
   f. Tournaments in conjunction with fields at other facilities
   g. This field could also be used for youth baseball.

C. Multi-Purpose Rectangular Fields

1. Criteria:
   a. Should be designed to be used for soccer, field hockey, lacrosse, and football practice. Ideal size would be 80 yards by 120 yards to accommodate all sports and possibly smaller fields for younger children. The National Federation of State High School Associations, which the NJ State Association follows, recommends soccer field sizes of 100-120 yards long by 55-80
yards wide. The fields at Hillsborough High School and College of New Jersey that are used for state championships are 110 x 65 and 120 x 73 yards. Each has additional area around the field for safety. The National Federation recommends an additional 10' outside of the boundary lines for safety. Football is 120 x 53.34 yards plus 5 yards on each end and 2 yards on the sidelines, so the overall size would be 130 x 57.34 yards. Lacrosse is 60 x 110 yards plus an additional 7.5 yards on the sides and 5 on each end for a total size of 75 x 120 yards. Field Hockey is 60 x 100 with 7.5 yards on the sides and 5 on each end for a total size of 75 x 110 yards. Therefore, the recommended size of 80 x 120 will meet all of these needs. Ideally a little extra would be added to the ends for football. The turf area could be narrowed down to 75 yards wide if needed. The 80 x 120 yards results in a total of 86,400 square feet for each field.

b. The ideal surface would be synthetic turf to maximize use of the field. An alternate surface would be high quality natural sports turf with an irrigation system.

c. Ideal sun orientation is north to south or angled slightly east of north.

d. Should be lighted to maximize use.

e. Two such fields are preferred if possible.

2. Potential User Groups:

a. Somerset Vo-Tech School team and physical education classes
b. Bridgewater Township, Somerville Borough and Raritan Borough recreation programs.
c. Immaculata High School
d. Somerville High School
e. Tournaments in conjunction with fields at other facilities
f. Bridgewater Soccer Association
g. Bridgewater Athletic Association
h. Bridgewater Pop Warner Football for practice during the week and Saturday mornings.
i. Bridgewater Football League
j. Bridgewater Lacrosse Association

D. Support Facilities

Facilities will be needed to support the function of the above activities and facilities. These include:
Development Program

1. Restrooms
   a. Facility should be centrally located to the complex.
   b. Include restrooms for players, coaches, spectators and other users of the facility.
   c. Team locker rooms.
   d. Architecture is desired to be as “Green” as possible.
   e. Could possibly include a concession stand that could be operated by the Culinary Arts Program at the Vo-Tech School.

2. Parking
   A minimum of 60 car parking spaces should be provided per field.

3. Walkways
   a. Paved sidewalks should be provided to each facility and a perimeter walking trail is desired. Slopes should be less than 5% to accommodate persons of all abilities.
   b. The School also desires walkways to lead from the main campus to the Horticulture Building.
   c. The walkways could also provide a path for emergency vehicles to access each of the fields.
   d. Trails could also extend into the wooded area east of the Horticulture Building.
   e. An exercise course and stations could be developed along the trails, both the paved trails around the athletic complex and the natural trails east of the parking lot.

4. Maintenance Facility
   a. Ideally there would be a building to house the mowers and maintenance machinery as well as serve as a base for the maintenance workers. Two garage bays would be sufficient. Outside storage bins (16’ x 16’) with a roof to keep the materials dry should be provided for the baseball field soil admixtures.
   b. The Vo-Tech School Staff indicated there is an old pole barn adjacent to the parking lot that is an eyesore. It houses two buses now. This could be renovated to serve as the maintenance facility.
5. Storm Water Detention
   a. The increase of impervious surfaces of the parking lot, walkways, and structures will require storm water detention on the site. In the final design phases, the following methods, or combination, should be further investigated.

   (1) A series of small detention ponds in green areas throughout the site,
   (2) Underground detention in pipes under the parking lot,
   (3) Storage of storm water in the gravel below the artificial surface,
   (4) Rain gardens and bio-retention swales in conjunction with demonstration areas by the Horticulture Curriculum.

E. Somerset Vo-Tech School Site Considerations

1. The Somerset Vo-Tech School Horticulture Program has some specific needs it wishes to address on the site. These include:
   a. An area designated possibly for a demonstration and learning laboratory for their turf management program.
   b. Demonstration landscaping in front of the Horticulture Building.
   c. Walkway to the main campus.

2. Reserve a space between the main campus and the athletic field area for a new academic building.

3. Physical Education classes will use the new facilities.

4. Include examples of sustainable design in the new development possibly including rain gardens, wetland gardens, rainwater harvesting, native species planting, etc. The restroom building could possibly be a LEED Certified building.

5. Consider incorporating the Culinary Arts program in a concession stand.

6. The School’s athletic field needs are for a baseball field, softball field and two rectangular fields the size of a large soccer field. Ideally there would be two baseball fields for the varsity and junior varsity teams if space allows.

7. The design must consider the potential for future expansion of the school.
IV. Concept Plans

The following are general observations and comparisons of the three concept plans that are being presented. A preliminary order of magnitude cost was prepared for each of these to identify the general comparison of the cost. These costs are not an opinion of probable project cost because some items have not been included, but mainly the items have been included that vary among the plans. For each of the plans, the text will describe the proposed features, pros and cons.

A. Concept Plan A

Plan Features

1. The plan includes an enlarged upper level with a retaining wall on the south side towards I-287 to allow both the baseball and softball field to be developed at the upper level.

2. The middle level near the proposed education building has been graded so that both of the two multi-purpose athletic fields would be located on a lower level of the existing softball field. A retaining wall is shown around the north end of the north field to allow this to take place. This allows bleachers to be built into the hillside.
3. An area is planned to be reserved for the turf management program south of the proposed softball field between the upper level and the interstate.

4. A sloped roadway is located north of the retaining wall and between the retaining wall and the new education building that leads from the existing parking lot up to the upper terrace to provide emergency access and maintenance vehicle access.

5. Two loop trails are presented, one on the upper level and one on the lower level around the multi-purpose fields.

6. A series of steps and ramps are developed in the center of the site to provide access from the lower to the upper level. This is common to all of the plans.

7. A central restroom and concession building is located at the bottom of the stairs.

8. Parking lot allowing for 62 additional spaces would be developed east of the existing parking lot area. A wall will be required in the north east corner to accomplish this.

9. The order of magnitude construction subtotals of $2.63 million (See Attachment J).

Pros

1. This plan allows for all four of the primary athletic fields to be independent of each other with no overlap.

2. The baseball and softball field are located at the upper level with the spectator areas back to back and right at the top of the stairs and ramp system.

3. The paved road provides good access to the upper level for deliveries, emergencies and maintenance.

4. The multi-purpose fields could both have seating on the hill side. These would be excellent fields for the development of synthetic turf at this lower level.

5. The area reserved for the turf management program is located west of the large lower terrace leaving that entire lower terrace available for the other athletic fields. The preliminarily designated wetland area will be located in the center of the area, which could be worked around very easily.

6. Access is provided over to the main campus from the upper terrace level.
Concept Plans

7. The rectangular fields are located in the optimum north-south orientation.

8. The baseball field and trail have minimal impact on the upper level preliminarily designated wetland area to the north west of the upper terrace.

Cons

Of the three concept plans, this has the highest order of magnitude cost, primarily due to the development of the retaining wall and the earthwork related to the development of those walls.

1. The excavation results in doubling the amount of earth required for the upper level fill. There would generally be additional fill to go in other locations.

2. The softball field grading and wall extend into the preliminarily designated wetland area.

B. Concept Plan B

Plan Features

1. This plan has an overlapping multi-purpose field and the baseball field at the upper level terrace.

2. A multi-purpose rectangular field is located in the north-south orientation in the center of the site.

3. The softball field is shown at the mid level terrace located adjacent to the proposed new education building. The slope would be extended southward to allow for the development of the softball field.

4. The steps, ramp and restroom/concession building are located in the center of the site providing access between the lower and upper terrace levels.

5. The area reserved for the turf management program is located primarily on the south end of the lower terrace level.
6. A trail system loops around the upper level and also around the multi-purpose fields.

7. A walkway/roadway would be developed on the new slope area which will provide access from the lower level of the parking lot to the upper level for maintenance, security and the potential emergency vehicles.

8. The order of magnitude cost is $1.9 million (See Attachment J).

Pros

1. The primary rectangle multi-purpose field is located in a north-south orientation.

2. The softball field and the primary rectangle field are independent and have no overlapping features.

3. This option does not require the development of any walls.

4. The area reserved for the turf management program avoids development beyond any of the preliminarily designated wetland area.
Concept Plans

Cons

1. The baseball field and the rectangular field overlap each other which would not allow for a fence to be placed around the entire baseball field.

2. The upper level multi-purpose field is in an east-west direction which is not ideal.

3. The baseball field sun orientation could be difficult if trees would not block the low west sun.

4. The loop trail system is shorter than the other options on this plan.

5. The soccer field and trail would extend slightly into the preliminarily designated wetland area in the north west corner of the upper terrace.

C. Concept Plan C

Plan Features

1. This complex also has the rectangular field overlapping the baseball outfield at the upper terrace level.
Concept Plans

2. The rectangular multi-purpose field and softball field are located on the lower terrace level on the existing lower area.

3. This plan also includes the restroom/concession building, steps and ramp between the lower and upper terraces, but they are located further north than the other plans at the north end of the lower terrace.

4. This plan also includes five tennis courts on the mid level terrace area that is located between the softball field and the new proposed education building.

5. The future turf management area is located on the west to east direction and entirely on the area between the upper level terrace and Interstate 287.

6. The order of magnitude cost for this concept is $2.0 million which is between the cost of the other two concepts.

Pros

1. The primary rectangle multi-purpose field and softball field are separate with no overlap.

2. This plan provides tennis courts which the other plans do not. They are located on the terrace that was originally intended to have tennis courts and was graded for this purpose.

3. This plan requires no walls, therefore, reducing some of the cost. It does not have any major earthwork as well.

4. This concept avoids most of the wetland on the north west corner of the upper terrace level.

Cons

1. The upper level has a rectangular field overlapping the baseball field which would not allow for a fence completely around the baseball field.

2. There is a longer walk from the Horticulture area to the area reserved for the future turf management program. This is basically equal.

D. Concept Plan D

The three Concept Plans were presented to the Steering Committee on May 20, 2009. The following comments were incorporated in the updated Plan D.

1. In the southeast corner, adjacent to the softball field, try to develop two tennis courts and a practice tennis wall if it will fit within this area.
2. The legend should indicate the maintenance complex that will be located in the existing pole barn area.

3. The bleachers on the hillside will not need to be as large as it is anticipated that there will not be regularly scheduled high school type activities here, so these could be small bleachers.

4. The area between the athletic fields and the interstate highway is reserved for use as a future educational laboratory in connection with the school’s turf management program.

E. Concept Plans E & F

During discussion of the acceptance of the Master Plan, questions arose pertaining to the criteria for the ideal softball field sun orientation being on a line from home plate to second base to be 15 degrees east of north. The Committee asked the Consultants to provide additional review of this criteria as they relate to the proposed Master Plan. Therefore, Plans E and F were generated to explore two optional arrangements. Plans E and F can be found in Appendix E.
Concept Plans

Plan E shows the softball field with home plate to second base at 15 degrees east of north, which is the ideal orientation for sun angles. The west evening sun (from the top of the page) will shine only on the first base player’s eyes as they receive throws from 3rd base or shortstop. This puts home plate farther away from the baseball field and extends the wall out into the area designated for the turf management program and the “Wetland Buffer Compensation” area as shown on the plan in the current report. It does allow for an extension of the trail around the perimeter of the field for a longer walk.

Plan F is another variation with the opposite orientation with the field at 180 degrees from Plan E, which is the second most ideal arrangement. This results in the low sun only in the eyes of the 3rd base player as she throws to 1st base. As you can see, this is only slightly different than Plan D. This plan also results in the field extending out into the area reserved for the turf management program and more wall than the Draft Master Plan. Both plans E and F extend into the “Wetland Buffer Compensation” area as shown on the Master Plan in the Draft Report.

The arrangement in the Draft Plan is totally acceptable with good sun orientation. The Consultants feel that there is very little added benefit from changing the field to either of these options and that the current plan works better from a spectator safety standpoint as the bleachers are back-to-back and are more easily protected from foul balls from the adjacent field by the backstops. The current plan also works better if there was ever a desire to develop a press box to serve both fields with the backstops adjacent to each other. The current arrangement also works better for sharing light poles between the fields (at least on one and possibly two poles).
V. Master Plan

Following discussion of the concepts and selection of the updated Concept D, the Master Plan was developed to include the addition of athletic field light locations and wetland buffer reduction areas and compensation areas. The Master Plan also reduces the size of the area reserved for a future turf management program to minimize impact of the existing wetlands. It should be noted that a Letter of Interpretation has been submitted to the New Jersey Department of Environmental Protection (NJDEP) for verification of the on-site wetlands and at the time of this report, NJDEP has not verified the wetland information shown on the Master Plan. Therefore, the Master Plan may have to be altered depending on the NJDEP comments.

A. Master Plan Description

The preferred Master Plan utilizes the existing terrace onsite to develop two distinct areas of recreation activities. Linking all of the activities is a paved, accessible path to accommodate all users and provide maintenance access for the facility. The site program includes (1) 200’ softball field, (1) 375’ baseball field, (2) 225’x360’ multipurpose rectangular fields, (2) tennis courts with practice wall, area reserved for future turf management program, paved walking trail/service access, athletic field lighting, bleachers, restroom/concession building, maintenance facility and 62 additional parking spaces. In order to develop this plan, the existing upper terrace would be expanded southward and a retaining wall constructed to allow the softball field and tennis courts to be constructed adjacent to the baseball field. Additionally, bleachers, lights, a tennis court practice wall and walking trail/service road would be developed. The lower terrace would remain essentially intact and the existing softball field would be removed to make room for the new rectangular fields, concession stand/restroom facility, bleachers, lighting and walking trail/service road. Steps and ramp access would be provided for access between the two terrace levels. The area reserved for the turf management program will be located south of the upper terrace and accessible from the tennis court area. The additional parking identified would be constructed east of the existing parking lot and accommodate 62 additional spaces. To support the operations and maintenance of the complex, Vo-Tech would allow part of the existing maintenance building located in the parking lot east of the fields to be used for equipment storage.

B. Phasing

Phased construction of the Master Plan should be considered to reduce the initial capital outlay for the project. Since the new plan maintains the original terracing, phasing can be achieved without disturbance to existing field areas to remain. Once the decision of which fields should be constructed first has been made, final plans could be completed for the partial construction of the site. It is recommended that any underground utilities including athletic field lighting conduit and the perimeter path be constructed within the initial phase in order to minimize underground disturbance to the improved areas in the future and provide access between the lower level and upper level. Two possible scenarios for phasing are included below:
1. Scenario ‘A’ – Baseball/Softball Field Priority Construction
   a. Phase 1- Build baseball field, softball field, retaining wall, field lighting, pathway to upper terrace, and utilities. Remove existing softball field fencing and infield on lower terrace and restore with turf for soccer/lacrosse activities.
   b. Phase 2- Build (1) synthetic (or natural) turf rectangular field, restroom/concession building, steps, ramp, field lighting and additional parking.
   c. Phase 3- Build (1) natural (or synthetic) turf rectangular field, tennis courts and lighting.

2. Scenario ‘B’ – Alternative Construction Sequence
   a. Phase 1 – Perform all major earthwork, install major utilities such as storm, sanitary, etc, and develop the retaining walls. This will prepare the site for all other construction.
   b. Phase 2 - Develop the fields, trail system, steps, ramp, and parking.
   c. Phase 3 – There are three separate projects that can follow Phase 2 in any order, depending on funding and need.
      (1) Restroom and concession building
      (2) Tennis courts.
      (3) Lighting of the athletic fields.

C. Opinion of Probable Project Cost

The Opinion of Probable Project Cost for construction of the Master Plan is $3,345,372 (See Attachment J). This opinion of probable project cost was developed using all natural turf fields and includes sports field lighting with budget numbers provided by Musco Lighting (See Attachments G-I). The estimate does not include the cost of any grading work that may be associated with the future turf management area. Appendix J also indicates that the construction cost of the project with the two multi-purpose fields as artificial turf would be increased to $4,506,394 and the overall project cost with design fees and other Owner costs would be approximately $4,844,373

D. Potential Funding Options

If the multipurpose athletic facility at Vo-Tech is to be built, all possible funding options need to be considered which warrants that a stewardship group be created to explore, consider and oversee these funding possibilities. Potential
funding sources are listed below which may include any combination of cost-sharing approaches:

- Somerset County Vo-Tech School Board of Education
- Somerset County Board of Chosen Freeholders
- Bridgewater Township
- Raritan Borough
- Somerville Borough
- Corporate
- State grant (NJDEP and/or NJDCA)
- Private foundation

1. Formation of a Stewardship Group

It is recommended that the following entities be represented on this stewardship group:

- Somerset County Board of Chosen Freeholders
- Somerset County Park Commission
- Regional Center Partnership of Somerset County
- Somerset County Planning Board
- Somerset County Vocational-Technical Schools

Lead agency: either SC Planning Board or Regional Center Partnership of Somerset County

2. Cost-sharing possibilities and strategies for consideration

Rather than one entity bearing the responsibility for financing the entire complex, it is more likely the project can be financed through some method of cost-sharing arrangement among the participating entities and in combination with a possible grant from a foundation and/or a state grant. Vo-Tech may want to consider implementing all or part of the construction phase through their Capital Improvement Program (CIP).

The financing of the installation of synthetic turf needs to be considered, possibly as a separate financing item (a cost comparison between natural versus artificial turf is provided in this report). A variety of cost-sharing scenarios should be evaluated which consider different scenarios or arrangements that could be pursued to help distribute the overall implementation costs. These scenarios could range from dividing costs equally among all public entities to pursuing foundations and grant opportunities. It is recommended that the shared services expertise available through the Somerset County Business Partnership (somersetbusinesspartnership.com) be utilized to help facilitate the establishment and implementation of any cost-sharing arrangement.

3. Sources of Potential Long-term Revenue

A portion of the cost to advertise could be dedicated towards facility maintenance and/or long-term synthetic turf replacement, if synthetic turf is utilized for one or both of the multi-purpose fields:

a. Advertisement space along the outfield fences
b. Programs sponsorship during major sporting events

c. User fees (eg, companies, corporations, etc.); it is recommended that a user-fee schedule be established to offset the routine maintenance costs.

4. Funding Sequence

a. Engineering/design costs: Regional Center Partnership and other possible sources

b. Construction (Phases 1 and 2 as described in this report) Vo-Tech/County/municipalities

c. Maintenance costs (see above under “Sources of Potential Long-term Revenue”)

5. Time Frame

a. State Wetlands Permit: Initial construction should commence before the state Freshwater Wetlands delineation permit expires in 5 years from the date of permit issuance; ie, if the wetlands permit from NJDEP is issued in 2010, then construction of the multipurpose athletic fields should ideally commence before 2015.

b. Availability of funding sources (state/private foundation grant restrictions or stipulations)

c. Availability of state grants, depending on their availability relative to ongoing state budget cuts.

d. Inflation: construction costs generally increase over time such that construction should begin sooner than later to avoid long-term increases in construction costs.
VI. Draft Operations Plan

The long term operations and maintenance of the athletic complex will determine the overall success of the investment in the capital costs. The facility must be maintained as a first class facility to continue to serve the needs of the Somerset Vo-Tech School and the RCP municipalities. As identified in the earlier section, the maintenance cost will vary based upon whether the rectangular fields are artificial turf or natural grass. The following are items to consider in the operations and maintenance of the complex.

A. Operations and Maintenance Considerations

1. The existing pole barn used as a bus garage should be converted to a maintenance building to house the tractors, mowing and maintenance equipment and act as a headquarters for the maintenance staff.

2. The Somerset County RCP should determine the most logical entity to operate and maintain the facility. Currently the SCVT School is maintaining the facility. Bridgewater Township assisted in the effort a few years ago, but they have not used the facility the last two years due to renovation of the turf on the baseball/soccer field. The determination should also consider which organization will schedule the complex. Options that have been discussed to date include: maintenance by the SCVTS with scheduling of the non-school use by others; maintenance and scheduling by the Somerset County Park Commission; or by Bridgewater Township.

3. All natural grass fields should be irrigated to maximize the ability to regenerate turf and to develop the healthiest turf.

4. All natural grass turf should have a regular schedule of irrigation, weed control, fertilizer, aeration, and over-seeding on an annual basis and replacement of turf in worn areas as needed.

5. Infields of the baseball and softball fields should have admixtures to minimize the adverse affect of rain. Products such as Turface (heat treated Montmorillonite clay product) or similar products allow the surface to absorb water in wet weather and hold it in dry weather. Similar products in the turf areas also allow the soil to retain moisture and minimize compaction.

6. The crown of the infields is critical to proper drainage. Under-drains can help drainage, but the surface drainage is the most important factor. Under-drains should be provided under the base paths and at the edge of the field at the backstop and dugouts to provide a secondary route for water to drain.
7. The batters boxes and pitcher’s mounds should be developed with proper clay materials for stability.

8. The surface of natural turf must be sloped at a minimum slope of 1.5 percent (1.5 feet in 100 feet). Any more slope will be too steep and affect play, and less is difficult to maintain without puddling.

9. The overall cost for the maintenance and operation of the four fields if they are natural turf will be approximately $14,348 per field as identified in the analysis of the artificial turf compared to natural grass fields. The cost can be lowered to $5,200 for each artificial turf field.

10. Other than the field maintenance, the following must be maintained:
   a. Restroom cleaning and maintenance on a daily basis.
   b. Pavement resealing approximately every third year.
   c. Trash pickup daily.
   d. Perform immediate repair of any problem areas or vandalism.

B. Scheduling Considerations

1. Natural grass fields may be used during school hours by the Physical Education program, by two teams after school hours for practice or games, and for two community events each night. On the weekends the fields can be used for no more than three events on Saturday and two on Sunday. Any more events will wear the fields out too quickly.

2. The natural grass fields should not be used prior to April 15 or later than November 1 due to wet conditions.

3. Artificial turf fields can be used any time there is not snow on the field. A typical season on artificial turf is between March 1 and November 30. The weather is often too cold for activities outside of this time.

4. The typical use of artificial turf fields will include Physical Education classes during the school day, two team practices or games after school and two community events each weeknight and up to six events on Saturday and four on Sunday. Most local recreation programs start after noon on Sunday. Sunday mornings are often reserved for adult activities. More events can be scheduled if less time is allocated for warm-up between games or events.

C. Estimate of Annual Operations Costs

The overall cost of operating and maintaining each of the athletic fields will be similar to the amount indicated in the next section for each field, which is about
$14,348 per field for natural grass fields. This results in an overall cost of about $57,000 per year for the athletic fields alone. In addition, annual costs for the restroom/concession building, parking lot maintenance, trail maintenance, and mowing of the rest of the site must be considered. It is estimated that this will result in a total of about $23,000 per year for a total park maintenance cost of $80,000.
Section VII
Natural Grass vs. Artificial Turf Comparison
VII. Natural Grass vs. Artificial Turf Comparison

The demand for athletic fields in the RCP is extremely high and the available land for the development of fields is minimal. Therefore, communities must make the best use of the facilities that they can develop. A portion of the scope of services for this project was to evaluate the costs and benefits of natural grass versus artificial turf for the multi-purpose rectangular fields. The baseball and softball fields can also be developed of artificial turf, but the fields will not be used as much as the rectangular fields and the cost/benefit is much lower for these fields. This comparison will identify the benefits of artificial turf and summarize an analysis of the cost per event (game or practice) over a 20 year period.

A. Benefits of Artificial Turf over Natural Grass

There are several reasons for developing artificial turf fields and the main ones are listed here.

1. Artificial turf allows a longer season. Basically, as soon as snow is off of the field they can be used. A normal season on natural grass is not realistic until April 15 and there are still several days where the field is too wet for use. The same is true in the fall when artificial turf can be used later in the year.

2. Monitoring of the fields to determine if they can be used due to rain takes a considerable amount of time by the recreation departments. Artificial turf avoids this use of time.

3. The longer season allows teams to avoid renting artificial turf or indoor facilities for an early start on the season.

4. Often times in wet weather, games or practices still take place on the wet fields, resulting in indentations from shoe prints. As these dry out, they become trip hazards.

5. Playing on a wet natural grass field wears out the grass, primarily in the main wear area in front of the goal for soccer and in the middle of the field for football.

6. Natural grass fields require that the turf is replaced in the main wear areas about every second year, resulting in loss of the field for a time.

7. Unfortunately, the main growing seasons for establishing grass are also the prime times for spring and fall activities.

8. Artificial turf does not require mowing, irrigation, fertilizer, weed prevention, or aeration. Avoiding these activities reduces chemicals in the soil and pollutants in the air.

9. The main lines on an artificial turf field for soccer and football would be permanent and lines for lacrosse or other sports may be painted
Natural Grass vs. Artificial Turf Comparison

occasionally. Thereby reducing the time and cost for lining. All of the lines can be installed as permanent lines if desired.

10. Irrigation systems typically require a lot of maintenance. This is not an issue with artificial fields.

11. Artificial fields do not require a crown and are therefore, flatter. This improves the multiple use capability.

12. Artificial fields are safer. The system includes rubber infill to reduce the force of bodies hitting the turf. Also, there will be no wear spots, low spots, water puddles, footprints, etc, which can all lead to injuries.

13. The following analysis shows that the cost per event (practice or games) will be higher for artificial turf, but you may experience nearly double the number of events on artificial turf and you will not have nearly as many rain-outs.

14. The drainage layer under the artificial field acts as a retention basin for rainwater.

15. The artificial turf will allow as many as 3-4 teams to practice on the same field, whereas doing this on natural grass will cause extreme wear on the field.

B. Twenty Year Cost Comparison

1. The Twenty Year Cost Comparison of Artificial Turf vs. Natural Grass Table identifies the cost factors for artificial turf and natural grass and projects the cost over a 20 year period to evaluate the long term cost.

2. The top portion of the table identifies the initial development costs. This identifies that the initial costs are significantly higher for artificial turf.

3. The next section identifies the cost for mowing and annual maintenance. This identifies a cost of about $3,500 per year for mowing and an annual cost of about $800 for the maintenance of artificial turf.

4. The cost of the irrigation system is about $6,348 per year assuming 1” per week for 5 months and using actual water costs from New Jersey communities.

5. Electric utilities will be about double, mainly due to the possibility of double the use of the fields and extension of the season in the spring and fall when it gets dark earlier.

6. The field maintenance costs identify an annual cost of $14,348 for natural grass and $5,200 for artificial turf. These costs are primarily for chemical applications, field maintenance, line painting, etc. The artificial turf
Natural Grass vs. Artificial Turf Comparison

requires a periodic brushing and discussions with several communities in New Jersey that have artificial turf fields identifies that this is mainly accomplished on an occasional basis.

7. The total annual cost over a 20 year period for maintenance for the artificial turf field is $104,000 compared to over $286,960 for natural grass fields.

8. In addition to the operation costs, the periodic maintenance must be considered. This table assumes that the natural grass will need to be replaced and recrowned and the irrigation equipment will require maintenance. This is compared to the cost of replacing the artificial turf surface carpet after about 15 years, depending on the amount of use.

9. The result is a total 20 year cost for natural grass of $556,960 compared to the artificial turf cost of $1,204,000.

10. Comparing the total cost is not a fair comparison since the artificial turf will allow significantly more games and practices. Therefore, this analysis identifies the number of events that can be predicted on each surface. The number of events was coordinated with Christine Schneider of the Bridgewater Recreation Department. Basically, this identifies that a total of 1,340 events can be planned on the artificial turf compared to only 705 for the natural grass. This may be high for the natural grass depending on the weather and loss of use due to field maintenance. The division of the 20 year cost of each field type and the number of events indicates a cost per event of $39.50 for natural grass compared to a cost of $44.93 for artificial turf.

11. Conclusion – Although the cost per event is a little higher for artificial turf, the benefits of allowing significantly more activities, reduced time for maintenance, reduced time communicating and monitoring the fields for rainouts, and other benefits identified above clearly indicate that the cost of the artificial turf is justified.

12. The Somerset County RCP may consider using artificial turf on both of the rectangular fields to maximize the use of the facility.
# Twenty Year Comparison for Developing a Natural Turf Field vs. Synthetic Turf

Field to be used for football, soccer, lacrosse, field hockey, SCVTS Physical Education Classes, and other activities.

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Natural Grass Turf</th>
<th>Artificial Turf</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Development cost</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthwork, base and drainage system</td>
<td>$100,000.00</td>
<td>$250,000</td>
<td></td>
</tr>
<tr>
<td>Sod or synthetic turf surface</td>
<td>$48,000.00</td>
<td>$450,000</td>
<td></td>
</tr>
<tr>
<td>Assumes lighting, fencing and bleachers are the same for both</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation system, backflow preventer, and water lines</td>
<td>$35,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mowing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Costs @ $20 per hour</td>
<td>$1,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mowing/maintenance = 100 staff hours for maintenance</td>
<td>$2,500.00</td>
<td>At a rate of $25 per hour with salary and benefits</td>
<td></td>
</tr>
<tr>
<td><strong>Annual Maintenance</strong></td>
<td>$800.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Irrigation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,031,860 gallons @ .00478</td>
<td>$4,932.00</td>
<td></td>
<td>Assumes 1&quot; per week for 5 months</td>
</tr>
<tr>
<td>Repair/Upkeep</td>
<td>$600.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tap fee at $68 per month</td>
<td>$816.00</td>
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<td></td>
</tr>
<tr>
<td><strong>Utilities - Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric for lights</td>
<td>$2,100.00</td>
<td>$2,800.00</td>
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</tr>
<tr>
<td><strong>Field Maintenance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Application</td>
<td>$1,000.00</td>
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<td></td>
</tr>
<tr>
<td>Aeration/Top Dress</td>
<td>$800.00</td>
<td></td>
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</tr>
<tr>
<td>Field Paint</td>
<td>$400.00</td>
<td>$200.00</td>
<td></td>
</tr>
<tr>
<td>Field Equipment</td>
<td>$200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field brushing</td>
<td>$1,400.00</td>
<td>2 times per month</td>
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</tr>
<tr>
<td><strong>Total Annual Cost</strong></td>
<td>$14,348.00</td>
<td>$5,200.00</td>
<td>$104,000</td>
</tr>
<tr>
<td>20 year subtotal</td>
<td>$286,960.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Periodic Maintenance Items</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace Sod in worn areas every 2 years</td>
<td>$10,000.00</td>
<td>$60,000.00</td>
<td>Assumes 2 events during school hours, 2 by SCVTS teams and 1 community event per week night, 3 on Saturday and 2 on Sunday, April 15 - November 1</td>
</tr>
<tr>
<td>Re-crown every 5 years (4 times)</td>
<td>$3,000.00</td>
<td>$12,000.00</td>
<td>Assumes 2 events during school hours, 2 by SCVTS teams and 2 community events per week night, 6 on Saturday and 4 on Sunday</td>
</tr>
<tr>
<td>Irrigation replacement (3 times)</td>
<td>$5,000.00</td>
<td>$15,000.00</td>
<td></td>
</tr>
<tr>
<td>Replace worn areas of synthetic turf at end of initial warranty</td>
<td>$400,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total 20 Year Cost</strong></td>
<td>$556,960.00</td>
<td>$1,240,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>705</td>
<td>1,340</td>
<td></td>
</tr>
<tr>
<td><strong>Cost per event</strong></td>
<td>$39.50</td>
<td>$44.93</td>
<td></td>
</tr>
</tbody>
</table>

**Primary seasons**
- Spring: April 15 - June 10
- Fall: August 1 - Nov. 1
- Summer: seasons
- Winter: 2022-2023

**Secondary seasons**
- Spring: March 1 - June 10
- Fall: August 1 - Nov. 30
- Summer: main seasons
Appendices

VIII. Appendices

A. Existing Conditions Map
B. Constraints Map
C. Athletic Field Area Grading/Site Plan, 1969
D. Horticulture Building Utilities Plan, 1974
E. Master Plan
F. Stakeholder Group Summaries
G. Field Lighting Budget Estimate
H. Field Lighting 25 yr. Life Cycle Cost
I. Field Lighting Photometric Diagrams
J. Order of Magnitude Costs
K. Top Giving Foundations – New Jersey
Appendix E

Somerset Vo-Tech Athletic Facilities Master Plan, Regional Center Partnership of Somerset County, New Jersey
Appendix F

F. Stakeholder Group Summaries

SOMERSET REGIONAL CENTER VO-TECH ATHLETIC COMPLEX
FEASIBILITY STUDY
PROJECT NO. 09029

STAKEHOLDER GROUP INTERVIEWS

Present at all interviews:  Jim Ruggieri, Principal Community Planner
Charles Cunión, The RBA Group

By:  Patrick D. Hoagland, ASLA

BRANDSTETTER CARROLL INC.
ARCHITECTS ENGINEERS PLANNERS

March 24, 2009

The following are summaries of the pertinent items that were discussed with several stakeholder groups on March 24, 2009 regarding the Multi-Purpose Athletic Facility being planned for the Somerset Vo-Tech School site. Keep in mind that the opinions and ideas expressed are those of the persons in the groups and not necessarily those of the Consultants.

Group #1- Somerset County Vo-Tech School Staff

In attendance:  Mike Maddaluna, Superintendent
    Diane Strober, Business Administrator
    Mike Kuschyk, Director of Buildings and Grounds
    Greg Zotti, Horticulture Program
    Walter Lane, County Planning Division
    Tom Boccino, County Engineering Division

The following items were discussed:

1. The Horticulture program has been established for several years. They hope to develop a putting green and possibly a fairway and tee-box along the interstate to help in teaching turf management and golf course management programs.

2. The area behind the horticulture building has been used for dumping in the past.

3. They intend that the area to the east of the lower parking lot would be expanded parking where there is open space now.

4. In front of the Horticulture Building, they hope to develop some demonstration landscaping.

5. There is a new 2" copper water line for watering the fields that runs from roughly the area of the parking lot near the horticulture building to the center of the complex.

6. The Vo-Tech school hopes to develop a new academic building behind one of their existing buildings adjacent to the parking lot on a terrace in the area. This is intended to be a medical arts facility, but could be some other type of facility. They have a footprint and architectural plan for this building and will provide that information to us to include on our drawings.
7. The Physical Ed and gym classes use the fields for their classes.

8. The ideal facilities that would be developed on this site to support athletic programs of the Vo-Tech school include two baseball fields for both Varsity and JV, two full size soccer fields, and a softball field. The minimum facilities that should be developed on the site include one baseball field, one soccer field and one softball field.

9. The current enrollment is 680 students in the school.

10. Bridgewater has been maintaining the fields when they use them.

11. The lower parking lot adjacent to the fields is not used very much during the school day.

12. The pole barn in the area of the horticulture building is somewhat of an eye sore. It is 40 to 50 years old. They park their buses in the barn and they do not fit in it completely. They could envision this being a nicer facility and some other multi-purpose use that would support the athletic fields as well.

13. Restrooms would be essential to the development of a quality complex.

14. The plans for the new complex should plan for an emergency vehicle route to access all of the fields. This could also double as a walking trail.

15. Ideally, there would be a walkway from the main campus to the Horticulture building to provide a better connection to the main campus.

16. They need fencing between the parking lot and the fields to keep cars off of the fields.

17. A possible fitness trail (PAR Course) could be developed in the wooded area east of the Horticulture building and possibly along the trail along the complex.

18. The Horticulture program would like to teach more in the area of sustainability, with the development of wetland gardens, rain gardens, and other green technologies such as a green roof. They have also discussed the possibility of a Christmas tree farm. This could be on that narrow sliver of land between the homes to the west of the site and Interstate 287. Conceptually, the existing parking lot between the main campus and the Horticulture area could become a demonstration project in terms of landscape design to demonstrate how parking lots can be retrofitted to be more "green" (placement of shade trees, etc.).

19. They want to develop a "WOW" factor for this complex. Especially since it is highly visible from I-287.

20. Noise will be an issue to some of the neighbors and we should be prepared to discuss this.

21. The staff noted that it gets very windy up on top of the hill where the baseball and soccer field are located.

22. Circulation will be an issue and we need to look at the entrance and exit to the parking lot. The parking could possibly be changed to one way.
23. If possible, the proposed building should be LEED certified.

24. We should look at the possibility of expansion of park land and trails in some of the area to the east of the Horticulture area.

25. The overall campus is 80 acres and about 54 are usable.

26. There is a question as to who will maintain, schedule, and shut off the lights on this facility.

27. The soil on this site is almost all clay, which is difficult for drainage. Some drainage will be required in the facility.

28. The question was raised as to what happens if the District decides to expand the school campus in the future.

29. There is a possible connection between the Culinary Arts program and a proposed concession facility on the site.

Group #2- Municipal Recreation Directors

In attendance: Frank Quinn, Somerville Borough
Christine Schneider, Bridgewater Township
Tim Kassel, President of Bridgewater Soccer League and also works with Somerville Recreation Department.

A. Christine Schneider- Bridgewater Township

1. Christine Schneider stated that currently there are 100 soccer teams and 1,400 softball and baseball players in Bridgewater Township.

2. Their main needs are for large soccer fields and 90’ baseball fields. Where they need the baseball fields mainly is for up to 16 to 17 year olds

3. They use the fields at the Vo-Tech school now after the school has finished practicing or playing games. They are in the process of adding infield material to the baseball field and have put substantial funds into the development of the softball and baseball fields.

4. The relationship with the Vo-Tech school has been great. They are pleased with the cooperation levels.

5. Ideally, the baseball fields would be separate and fenced so that there is no overlap of the rectangular field in the outfields.

6. Need real bathroom and changing rooms at the site. It is noted ideally, that there will be some space for trainer and for storage of equipment on the site also.

7. Lights are very important. A good example of the newer type of Musco lights with a controlled spill light is at the North Bridge Complex which is near this site.
8. The county recently spent $300,000 to re-crown the upper rectangular field. Therefore, this field may be a later phase of development, since they already had this investment in this field.

B. Frank Quinn of Somerville Borough

1. Lights are their number one priority.

2. They use the fields at the Torpey Complex, but there are no lights on the rectangular fields. There are lights on the baseball and softball fields. They have to pay to use these facilities.

3. A restroom and storage building would be very important. A defibrillator would need to be included in this building in a first aid area. (Consideration of the location and storage of the defibrillator may be necessary to avoid it being vandalized or stolen. Maintenance equipment and bags of material, etc. would be stored in this building as well.

4. They used North Branch Park and the Torpey Complex of the Somerset County Park Commission.

5. They have approximately 40 adult softball teams using the facilities.

6. They have one of the first recreation departments in the County and they were established in 1933.

7. They have a Sunday adult baseball league, and they also play Senior Pony, Junior Pony, and American Legion baseball on the field as well. Many of their programs are geared toward adults.

8. Immaculata High School uses Southside. Now some of the freshman teams use the facilities.

9. They had a 16 team adult soccer league which was primary Hispanic persons, but they had to do away with this because they were constantly using facilities at times not permitted.

10. The need is there for additional facilities. They noted that Sunday is a big day, especially for soccer.

11. In spring they conduct softball, soccer, and baseball leagues; and lacrosse also wants a field this time of year as well.

12. It was noted that lacrosse are typically regional teams.

13. Somerville baseball has 8 to 17 year old players. Somerville High School and Immaculata play some of their games on their facilities and teams come from a long distance to play at this facility.

14. The development of field use policies and an agreement between the Vo-Tech school and the others would be very important to establish. Obviously the Vo-Tech
school would have first priority for use of the facilities after school and then it will be used by the Regional Center Partnership Communities.

15. There are corporate needs for facilities and they are willing to pay for the fields.

16. The County needs to develop the land and they also need to open up some other fields throughout the county as well. Ideally, a new complex would not be on school land so that it can be more controlled by the communities and not the schools.

C. Tim Kassel, Bridgewater Soccer Association

1. Mr. Kassel stated that he was previously the Recreation Director in Bridgewater for 10 years and has a wide variety of background in this field.

2. This park will probably be built in phases and if so, the upper field could be accomplished last.

3. Two fields that would be 120 X 80 yards would be ideal. This will allow the use of one large field or two smaller fields across. These could possibly be placed on the upper level with the baseball fields.

4. He stated that there is a lot of wasted time at the county facilities due to poor scheduling and the fact you must pay to use their facilities.

5. How to schedule these facilities will be a major issue.

6. West Orange High School is a good example of a synthetic turf field that is used by the community very well.

7. Mr. Kassel objected to the idea of installing permanent baseball/softball field fencing at the Vo-Tech site as it might limit the ability to maximize the use of the overall area for soccer and other sporting events needing large rectangular fields.

Group #3: The High School Athletic Directors

In attendance: John Maggio, Bridgewater-Raritan School District
Pierce Fraunheim, Immaculata High School
Rick Bartolucci, Raritan Borough Recreation Director (could not meet at 3:00 with other Directors, so he attended this session)

A. Immaculata High School

1. Immaculata High School developed a turf stadium five years ago which is Field Turf and they are pleased with the results. They play a wide variety of activities on this site.

2. Baseball uses other fields throughout the county.

3. They beg the County for the use of fields.

4. They need basically everything.
B. Bridgewater-Raritan High School

1. John Maggio stated that time would be limited on the new facility for use by the High schools because the Vo-Tech School would have first choice.

2. The high school uses Basolone Stadium for many of their varsity games. Junior varsity and freshman play on other facilities. They use the middle school for girls' soccer and baseball, football, lacrosse and field hockey. They use North Bridge and Prince Rogers fields for softball and the JV baseball. They have to provide a shuttle kids.

3. There is no down time on the fields because of heavy use.

4. They lost the field at the Common Way where there used to be four fields.

5. They have summer camps on their facilities.

6. The Vo-Tech schools use their facilities also.

7. Lighted facilities are a must.

8. They get over 300 uses per year on their artificial turf field.

9. They host several tournaments.

C. Rick Bartolucci

1. They have sent their soccer program to Bridgewater. The numbers in baseball are going down.

2. Their main needs are for 90' baseball fields.


4. Lights are very important for their new facility as well as restroom facilities.

5. Tennis is still very popular in the area and more courts can be used.

6. A walking trail around their perimeter would be ideal.

D. General Discussion-

1. It was noted that most of the Vo-Tech events would be held during the week and not on the weekend. The schools do have some athletic competitions on the weekend, but the Vo-Tech school does not.

2. There are three levels of field hockey.

3. The Jack Cust Academy is popular and has several indoor and outdoor fields.

4. The Passaic County Vo-Tech School facility is an excellent example of a quality facility, and they have an excellent athletic program.
5. Both of these high schools have had Field Turf for five years and love it. Both were installed about the same time. BR High School grooms theirs about once a month and Immaculata grooms theirs about once every three months.

6. Raritan Borough Recreation- They have Babe Ruth and Pony League Baseball. They can not light any 90' diamonds in the area due to negative impact to the neighbors; therefore, lights at the Vo-Tech field would be very important.

Group #4- The Independent Athletic Organizations

In attendance: Mary Beth Fanning and Darrin Gerow, Bridgewater-Raritan Pop Warner Football
James Dominick Gonnella, Bridgewater Baseball League
Veronica Findlay and Craig Stires, Bridgewater Athletic Association
MG Hollingsworth and Chuck Apel, Bridgewater Lacrosse Club

A. Bridgewater Baseball League

1. Mr. Gonnella stated that in the spring they have 1,450 kids on 136 teams. They use every field in Bridgewater and both of the fields at the Vo-Tech facility. They added $4,000 of infield material to improve the facility at the Vo-Tech School. The labor was performed by Bridgewater Township and the material was purchased by the baseball league.

2. They also are planning to re-do the bleachers and seats at this baseball facility.

3. Between April and November they have 3,000 kids overall in the baseball program. They spent typically about $50,000 to $80,000 per year on baseball field improvements in the Township. They spent $16,000 on fencing and backstop two years ago on the infield for the softball field at the Vo-Tech School.

4. They took over the softball program for Bridgewater Township three years ago.

5. They spent $32,000 on North Bridge field #3, which is used by the freshman and junior varsity for the high school. They use it for softball now and also on North Bridge Park.

6. JVs use Prince Rogers field #1 (lighted).

7. They lost two 90' baseline fields in the last few years. Now the only lit 90' field is Prince Rogers field #1.

8. They spend about $3,500 per year at the Torpey Complex for permits.

9. They have just recently started a four year old T-ball league and have about 239 registrants in the first year.

10. A 90' field lit with fences of 310 feet down the foul line and 400 feet in the center would be ideal. They would start using the facility about 7p.m. after the Vo-Tech School is finished. Ideally, both baseball and softball fields at the complex would be lighted.
11. They currently go on tournaments for Babe Ruth, but they need fences around the fields for the tournaments. They typically will put temporary fences on fields that do not have outfield fences for their tournaments.

12. Prince Rogers field #1 is a very good example of fields that they like.

13. Softball had about five teams for travel four years ago, which has grown.

14. Overall the group has spent $750,000 over the last eight years, which includes $400,000 for a new building which includes a snack shack, vehicle storage, restrooms, meeting rooms and the other facilities.

15. They want to develop some stadium seating.

16. The high school plays three night games per year at their facility as fund raisers.

17. It was noted that the baseball organization is the only group that uses the facilities in this area that are totally Bridgewater-Raritan residents since their league is required to be all 100% with in this area.

B. Pop Warner Football

1. The Pop Warner program currently has about approximately 225 families representing 400 children in their program from kindergarten through eighth grade. This includes both football teams and cheering squads. There are six to eight football teams and six cheering squads. They practice and play from August through November at the Washington School field in Raritan. They also use North Bridge Park for cheering and other schools for cheering indoors.

2. The football teams practice Mondays through Thursday at the Washington School. The lower field is not lit and is not in very good condition. The home games are played at the high school field on the artificial turf.

3. Their main need is for practice fields during the week and Saturday mornings.

C. Lacrosse

1. Currently, there are eleven teams which range from four year olds to eighth grade. Plus, there are 100 girls in the program. They use the Middle School field and the Torpey Complex on Saturdays.

2. They hosted a national tournament recently with 100 teams which helped to pay off the loan for the Basilone Field.

3. They use the Middle School field, but it gets torn up by all use on the facility.

4. The Middle School also has a lacrosse team.

D. General Comments-
1. There was concern over the rules established by the Somerset County Park Commission and how they charge and schedule their fields. This is an issue for this and other organizations.

2. The travel soccer has a lot of out of County players and may only have 74% of its membership consisting of local residents.

3. Everybody seems to make do with what they have, but some of the organizations have had to turn away teams and participants because of lack of facilities.

4. Veronica Findlay brought forth a plan for four new rectangular fields to be located adjacent to Bridgewater High School with a ½ mile walking track around the perimeter. Another benefit to the facility, besides just the four new fields, is that it would help baseball to be able to fence in their facility and not need to have rectangular fields overlaid in the outfield. They are in the process of obtaining permits for this development and have applied to the County for some of the open space fund for this development.

5. Baseball hopes to pull in 136 team tournaments.

6. Lights in the area would ideally be the Musco brand and one of the local installers as Fagon.

7. The fields at the new Bridgewater High School Complex would be oversized to allow for practicing of multiple teams at one time.

8. It was noted that the Raritan Borough charges for the use of their fields and therefore several of them sit idle.

9. It was noted that the Raritan Park Board had unanimously voted to merge with Bridgewater Baseball, but the Borough Council voted against this.

10. On the new four field complex, John Maggio would be the one who would schedule this.

Patrick D. Haagland

April 6, 2000

PDH/dh

cc: Charlie Curion, Scott Wyssling, Jim Ruggieri
### G. Field Lighting Budget Estimate

**Musco Lighting**

**Corporate:** 100 1st Ave West  
**PO Box 938**  
**Oskaloosa, IA 52577**  
**Phone:** 319/285-0011  
**Fax:** 319/285-0022

**Manufacturing:** 2107 Skurnik Road  
**PO Box 260**  
**Muscatine, IA 52761**  
**Phone:** 319/283-2331  
**Fax:** 319/283-2332

**Web:** www.musco.com  
**Email:** lighting@musco.com

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**October 14, 2009**

**Re:** Budget estimate for Somerset Vo-Tech Athletic Complex

Thank you for your interest in Musco's Green Generation Lighting technology. We are pleased to present this information for your preliminary planning purposes. Financing solutions provided by Musco Finance are available to minimize any funding challenges you have, subject to credit approval.

This estimate includes lighting equipment, installation, and underground wiring. Musco will provide our Light Structure Green™ — engineered from foundation to poletop in 5 Easy Pieces™ — and Control Link™ systems. Offloading, assembly, and installation of the Musco equipment, installation of branch circuits from main disconnect panel to each pole location and installation of the main disconnect panel by a licensed electrical contractor.

#### Baseball Field 1 – 315'/375'/392'

**Equipment To Include:** (6) Pre-cast concrete bases; (6) Galvanized steel poles; (40) Factory-aimed and assembled luminaires; UL Listed remote electrical component enclosure; Pole length wire harnesses

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<td>50000 foot-candle design</td>
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</table>

**Softball Field – 290’ Radius**

**Equipment To Include:** (4) Pre-cast concrete bases; (4) Galvanized steel poles; (16) Factory-aimed and assembled luminaires; UL Listed remote electrical component enclosure; Pole length wire harnesses

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**Soccer Field 1 – 360’ x 225’**

**Equipment To Include:** (4) Pre-cast concrete bases; (4) Galvanized steel poles; (52) Factory-aimed and assembled luminaires; UL Listed remote electrical component enclosure; Pole length wire harnesses

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<th>Cost</th>
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**Soccer Field 2 – 360’ x 225’**

**Equipment To Include:** (4) Pre-cast concrete bases; (4) Galvanized steel poles; (52) Factory-aimed and assembled luminaires; UL Listed remote electrical component enclosure; Pole length wire harnesses

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<tr>
<th>Product</th>
<th>Cost</th>
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<tr>
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**Tennis Courts**

**Equipment To Include:** (4) Pre-cast concrete bases; (4) Galvanized steel poles; (8) Factory-aimed and assembled luminaires; UL Listed remote electrical component enclosure; Pole length wire harnesses

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Appendix G

Budget Estimate Criteria
- Guaranteed constant light levels as indicated above for each field within +/- 10% per IESNA guidelines.
- Musco Constant 25™ warranty and maintenance program that eliminates 100% of your maintenance costs for 25 years, including labor and materials
- One group re-lamp at the end of the lamps' rated life, 6000 hours
- Control Link® Control & Monitoring System for flexible control and solid management of your lighting system
- Lighting Contactor Cabinets
- Sales tax is not included as part of this budget estimate
- Confirmation of Voltage and Phase prior to shipment
- Structural code and wind speed = IBC 2006, 90 MPH
- Musco is a lighting manufacturer and not an electrical contractor. Installation estimates are based upon projects similar in scope.
- Getting electrical power to the site, coordination with the utility, and any power company fees are responsibility of the owner.
- Standard soil conditions. Rock, bottomless, wet or unsuitable soil may require additional engineering, special installation methods and additional cost.

Thank you for considering Musco for your sports-lighting needs. We look forward to helping you make your project a success. Please contact me with any questions.

Dan Shalloo
Phone: 732/539-4329
E-mail: dan.shalloo@musco.com
Fax: 732/721-9115
H. Field Lighting 25 yr. Life Cycle Cost

25-Year Life Cycle Cost

<table>
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<tr>
<th>Somerset Vo-Tech Athletic Complex</th>
<th>Somerset County, NJ</th>
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<th>Your Savings</th>
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Assumptions

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<th>Energy Cost per kWh</th>
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<th>Avg kW</th>
<th>Light-Structure Green Fixtures</th>
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292 4730 174 272.1

NOTE:
Life cycle costs are based upon the assumptions given by the customer above. Any variation in this data will change the life cycle cost proportionately. Group Relamp calculates using a per lamp replacement cost of $125, including parts, equipment, and labor. Useful lamp life of Prior Technology is 3000 hours. Musco guarantees the average Light-Structure Green system kW and 5000 hours useful life of the lamp.

© 2006, 2006 Musco Lighting W026YA4 - Patent Pending
144594 PV1 Dan Shalut
I. Field Lighting Photometric Diagrams
Appendix I
## J. Order of Magnitude Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Time A</th>
<th>Time B</th>
<th>Time C</th>
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<td><strong>UNIT</strong></td>
<td><strong>UNIT COST</strong></td>
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<td><strong>Central Concession Stand/Kiosk</strong></td>
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<td><strong>C.Y.</strong></td>
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<td><strong>1</strong></td>
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</tbody>
</table>

**Note:** All costs are in U.S. Dollars and are subject to change based on market conditions and negotiations. 

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**Appendix J**

Somerset Vo-Tech Athletic Facilities Master Plan, Regional Center Partnership of Somerset County, New Jersey 67
### ORDER OF MAGNITUDE COMPARISON COSTS

**Somerset Vo-Tech Athletic Facilities Master Plan, Regional Center Partnership of Somerset County, NJ**

April 5, 2010

BRANDSTETTER CARROLL INC.

& THE RBA GROUP INC.

<table>
<thead>
<tr>
<th>CONSTRUCTION COST ITEM</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>QTY.</th>
<th>COST</th>
<th>Subtotals</th>
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<td>Mass Earthwork</td>
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<td>Mobilization</td>
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<td>Stone Construction Entrance &amp; Erosion Control Measures</td>
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<td>Tennis Courts</td>
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<td>Tennis Court Construction</td>
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<td>Earthwork (surface leveling-laser grading)</td>
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<td>$5,000</td>
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<td>4” Concrete Dugout Pads</td>
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<tr>
<td>Dugout &amp; Roof System</td>
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<td>Backstop</td>
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<td>$2,400</td>
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</tr>
<tr>
<td>Conduit</td>
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<td>$2,600</td>
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<tr>
<td>Bleacher</td>
<td>Ea.</td>
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<td>$6,000</td>
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<td>Hydrants</td>
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<td>$3,000</td>
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<tr>
<td>Side Fence - 7’ (dugout surround)</td>
<td>L.F.</td>
<td>$25.00</td>
<td>180</td>
<td>$4,500</td>
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<td>Side Fence - 10’</td>
<td>L.F.</td>
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<td>$3,000</td>
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<tr>
<td>Side Fence - 6’</td>
<td>L.F.</td>
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<td>300</td>
<td>$5,400</td>
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<td>Outfield Fence-6’</td>
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<td>Player Bench</td>
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<tr>
<td>4” Underdrain</td>
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<td>$3,000</td>
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<td>Infield Soil Mix</td>
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<td>Infield Top Surfacing Mix</td>
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<td>$6,325</td>
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<td>Yellow P.V.C. Warning Strip on Fence</td>
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<td>Ballfield Lighting (Musco)</td>
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<td>$116,000</td>
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<td>Water Line (feeds both fields)</td>
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<td>$3,600</td>
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<tr>
<td>Earthwork (Removal of Infield for infield mix)</td>
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<td>$4.00</td>
<td>310</td>
<td>$1,240</td>
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<td>Irrigation</td>
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<td>$22,000</td>
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<tr>
<td>Scoreboard</td>
<td>Ea.</td>
<td>$5,000.00</td>
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<td>$5,000</td>
<td></td>
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<tr>
<td>Sod - 5’ wide rolls</td>
<td>S.Y.</td>
<td>$5.00</td>
<td>4,355</td>
<td>$21,775</td>
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<tr>
<td><strong>Baseball Field (310’-375’ Foul Line)</strong></td>
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<td></td>
<td></td>
<td></td>
<td><strong>$444,385</strong></td>
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<tr>
<td>Earthwork (surface leveling and laser grading)</td>
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<td>$7,000.00</td>
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<td>$7,000</td>
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</tr>
<tr>
<td>4” Concrete Dugout Pads</td>
<td>L.S.</td>
<td>$55.00</td>
<td>80</td>
<td>$4,400</td>
<td></td>
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<tr>
<td>Dugout &amp; Roof System</td>
<td>Ea.</td>
<td>$8,000.00</td>
<td>2</td>
<td>$16,000</td>
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</tr>
<tr>
<td>Backstop</td>
<td>Ea.</td>
<td>$11,000.00</td>
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<td>$11,000</td>
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</tr>
<tr>
<td>Conduit</td>
<td>Ea.</td>
<td>$2,400.00</td>
<td>2</td>
<td>$4,800</td>
<td></td>
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<tr>
<td>Foul Pole</td>
<td>Ea.</td>
<td>$1,200.00</td>
<td>2</td>
<td>$2,400</td>
<td></td>
</tr>
<tr>
<td>Bleacher</td>
<td>Ea.</td>
<td>$3,000.00</td>
<td>2</td>
<td>$6,000</td>
<td></td>
</tr>
<tr>
<td>Hydrants</td>
<td>Ea.</td>
<td>$1,500.00</td>
<td>2</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>Side Fence - 7’ (dugout surround)</td>
<td>L.F.</td>
<td>$25.00</td>
<td>180</td>
<td>$4,500</td>
<td></td>
</tr>
<tr>
<td>Side Fence - 10’</td>
<td>L.F.</td>
<td>$25.00</td>
<td>120</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>Side Fence - 6’</td>
<td>L.F.</td>
<td>$18.00</td>
<td>440</td>
<td>$7,920</td>
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<td>Outfield Fence - 6’</td>
<td>L.F.</td>
<td>$18.00</td>
<td>590</td>
<td>$10,620</td>
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<tr>
<td>Player Bench</td>
<td>Ea.</td>
<td>$650.00</td>
<td>4</td>
<td>$2,600</td>
<td></td>
</tr>
<tr>
<td>4” Underdrain</td>
<td>L.S.</td>
<td>$3,000.00</td>
<td>1</td>
<td>$3,000</td>
<td></td>
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<tr>
<td>Infield Soil Mix</td>
<td>C.Y.</td>
<td>$25.00</td>
<td>300</td>
<td>$7,500</td>
<td></td>
</tr>
</tbody>
</table>
## Master Plan

### Construction Cost Item | Unit | Unit Cost | Qty. | Cost | Subtotals
--- | --- | --- | --- | --- | ---
Infield Top Surfacing Mix | Tns. | $275.00 | 20 | $5,500 |  
Yellow P.V.C. Warning Strip on Fence | L.F. | $1.00 | 1,030 | $1,030 |  
Earthwork (Removal of infield for infield mix) | C.Y. | $4.00 | 300 | $1,200 |  
Ballfield Lighting (Musco) | L.S. | $256,000.00 | 1 | $256,000 |  
Irrigation | L.S. | $25,000.00 | 1 | $25,000 |  
Sod - 5’ wide rolls | S.Y. | $5.00 | 11,383 | $56,915 |  
Scoreboard | Ea. | $5,000.00 | 1 | $5,000 |  
**Trails, Roads & Parking** |  |  |  | **$290,692** |  
Parking Aisles - 24' wide | S.Y. | $24.00 | 1173 | $28,152 |  
Parking Spaces (9’ x 20’=20 S.Y each) | Each | $480.00 | 62 | $29,760 |  
Parking Lot Lighting | Each | $2,500.00 | 4 | $10,000 |  
Curbs | L.F. | $25.00 | 1100 | $27,500 |  
Steps | L.S. | $25,000.00 | 1 | $25,000 |  
Ramp | L.S. | $60,000.00 | 1 | $60,000 |  
Asphalt Trails | S.Y. | $24.00 | 4595 | $110,280 |  
**Trees** | Ea. | $400.00 | 40 | $16,000 |  
**Multi-Purpose Fields** |  |  |  | **$720,000** |  
Bleachers on the Hillside | L.S. | $80,000.00 | 2 | $120,000 |  
Surface Leveling and Laser Grading | Field | $7,000.00 | 2 | $14,000 |  
Sod | S.Y. | $5.00 | 19200 | $96,000 |  
Irrigation | Field | $35,000.00 | 2 | $70,000 |  
Sports Lights | Ea. | $200,000.00 | 2 | $400,000 |  
Scoreboard | Ea. | $10,000.00 | 2 | $20,000 |  
**Utilities** |  |  |  | **$111,080** |  
4" Sanitary line for Concession Bldg. | L.F. | $26.00 | 580 | $15,080 |  
1" Water line for Concession Bldg. | L.F. | $20.00 | 490 | $9,800 |  
15" RCP Storm Sewer for parking expansion | L.F. | $40.00 | 400 | $16,000 |  
Storm Inlets for parking expansion | Ea. | $3,000.00 | 4 | $12,000 |  
Upgrade Exist. Panel in Building ‘C’ to accommodate lights/concession stand requirements | Ea. | $10,000.00 | 1 | $10,000 |  
Site Electrical Cabinet | Ea. | $10,000.00 | 1 | $10,000 |  
Electrical service for Field Lights/Concession Building from existing Building ‘C’ | L.F. | $40.00 | 955 | $38,200 |  
**Subtotal** |  |  |  | **$2,753,959** |  
5% Construction Contingency |  |  |  | **$137,698** |  
6% Contractor’s General Conditions (Bonds, insurance, trailer, temporary utilities, etc.) |  |  |  | **$220,317** |  
**Construction Subtotal** |  |  |  | **$3,111,974** |  
7.5% Design and Engineering |  |  |  | **$233,398** |  
2% Owners Costs – (Testing, Permits, Surveys, Bid Advertising, Printing, etc.) |  |  |  | **$62,239** |  
**TOTAL COST** |  |  |  | **$3,345,372** |  

* For purposes of this cost estimate, the area reserved for the future turf management program is not included.

**Construction Subtotal - Two Multi-Purpose Fields of Artificial Turf.** $4,506,394

**TOTAL COST with Artificial Turf Multi-Purpose Fields** $4,844,373
K. Top Giving Foundations – New Jersey

The following list of top giving foundations in New Jersey is derived from The Grantsmanship Center’s℠ funding databases. All of the foundations listed have been prescreened to ensure that they have a staff, issue RFPs, or otherwise indicate an interest in receiving proposals. This also means that some foundations who give large amounts of money have been omitted because they do not meet these qualifications. A maximum of forty foundations is listed for each state.

More detailed information about these foundations— including their program areas, types of funding, application procedures, and more— can be found on GrantDomain℠, The Grantsmanship Center’s℠ exclusive online database of funding information.

*The top giving foundations in the state of New Jersey:*

<table>
<thead>
<tr>
<th>Foundation Name</th>
<th>Total Annual Giving</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Robert Wood Johnson Foundation</td>
<td>$333,912,727</td>
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<tr>
<td>Verizon Foundation</td>
<td>$59,847,733</td>
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<tr>
<td>Johnson &amp; Johnson Family of Companies Contribution Fund</td>
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<tr>
<td>The Merck Company Foundation</td>
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<tr>
<td>F. M. Kirby Foundation, Inc.</td>
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<td>Hess Foundation, Inc.</td>
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<td>The Corella and Bertram Bonner Foundation, Inc.</td>
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<td>The Prudential Foundation</td>
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<td>The Russell Berrie Foundation</td>
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<td>Geraldine R. Dodge Foundation, Inc.</td>
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<td>The Christopher and Dana Reeve Foundation</td>
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<tr>
<td>Community Foundation of New Jersey</td>
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<td>Victoria Foundation</td>
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<td>Henry H. Kessler Foundation, Inc.</td>
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<td>The Healthcare Foundation of New Jersey</td>
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<td>KPMG Foundation</td>
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<tr>
<td>UBS Foundation USA</td>
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<tr>
<td>The MCJ Foundation</td>
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<tr>
<td>Foundation Name</td>
<td>Contribution</td>
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<td>Turrell Fund</td>
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<td>Toys R Us Children’s Fund, Inc.</td>
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<td>The Kaplen Foundation</td>
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<tr>
<td>The Hyde and Watson Foundation</td>
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<tr>
<td>ADP Foundation</td>
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<td>The Harold B. and Dorothy A. Snyder Foundation</td>
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<tr>
<td>The Schumann Center for Media and Democracy, Inc.</td>
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<td>Unilever United States Foundation</td>
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<td>Schering-Plough Foundation, Inc.</td>
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<td>Public Service Electric &amp; Gas Company Foundation</td>
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<td>The Fund for New Jersey</td>
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<td>The Stern Family Foundation</td>
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<tr>
<td>Blanche and Irving Laurie Foundation, Inc.</td>
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<td>Princeton Area Community Foundation, Inc.</td>
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<td>The Hirair and Anna Hovnanian Foundation, Inc.</td>
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<td>Huber Foundation</td>
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<tr>
<td>The Charlotte W. Newcombe Foundation</td>
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<td>C.R. Bard Foundation</td>
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<td>Alcatel-Lucent Foundation</td>
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<tr>
<td>E.J. Grassmann Trust</td>
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<tr>
<td>The Schumann Fund for New Jersey</td>
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