Recreation Master Plan Report
Town of Lynnfield, MA
Volume III

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TOWN OF LYNNFIELD, MA
RECREATION MASTER PLAN REPORT

Volume 3

Section 1.0 – Introduction, Background and Purpose

Gale Associates, Inc. (Gale) was engaged by the Town of Lynnfield (the Town) to assist the Fields Committee (the Committee) with the development of a Recreation Facilities Needs Assessment and Master Plan. The goals of the study are:

1. To complete a facilities inventory and assessment to identify adequacy of existing facilities.

2. To complete a Recreation Facility Needs Assessment through sensing sessions and community surveys to determine the adequacy, effectiveness and appropriateness of current recreational offerings and make recommendations based on perceptions of constituents.

3. To develop a Planning Program for the Town to better meet the recreational needs of the Community.

4. To complete a feasibility study for development of the Lynnfield Water District (LWD) properties as a recreational complex.

5. To prepare a Master Plan of Facility and Program Enhancements to better meet the recreational needs of Town stakeholders.

6. To prepare phasing plans and capital improvement budgets consistent with the Master Plan recommendations.

7. To review current maintenance resources and offer recommendations regarding the maintenance for an enhanced population of facilities.

In the initial stages of the planning effort, Gale completed an inventory and evaluation of the Towns' recreational assets. Subsequently, Gale completed a community recreational needs survey, which resulted in over 430 responses, followed by a series of community sensing sessions and planning charrettes. Full details of the facilities' assessments and needs survey, along with results and conclusions have been provided to the Town under separate cover and form Volumes 1 and 2 of this report.

As part of the Master Plan, Gale was engaged by the Town to complete a feasibility study for the development of a group of parcels owned by the LWD. The objective of the study was to determine the feasibility of developing a recreational complex on the group of undeveloped parcels, located off Main Street in Lynnfield. Gale completed this study and said results have been provided to the Town under separate cover.

The intent of this report (Volume 3) is to initially define the Planning Program. The Planning Program is an articulation of the Town's recreation facility functional requirements, needs and priorities as determined from the facilities evaluation, needs survey, demand matrix and sensing sessions, as described above. Secondly, this report will offer recommendations regarding a series of program and facilities enhancements intended to accomplish the Planning Program. Finally, this report will provide recommendations regarding a possible phasing of the proposed enhancements, along with a capital improvements budget associated with their implementation. These recommended program and facility enhancements form the basis of the Lynnfield Recreational Master Plan going forward.

Section 2.0 - Synopsis of Recreation Facility Evaluations and Demand Conclusions

As an initial step in the recreation master planning effort, Gale completed an evaluation of the eight (8) existing recreation sites, described in detail in Volume 1. Additionally, Gale completed a demand assessment to quantify the use of the existing facilities and to assess their serviceability, compliance with applicable standards and most importantly, their adequacy.

This initial deliverable, published under separate cover as Volume 1, addressed the following questions:

- What is the general condition of the recreational and athletic field sites' population included as part of this project?
- What record information or base plans are available for each?
- What are some of the immediate repair or renovation needs for each site (as opposed to redevelopment)?
- How many scheduled uses, by type, does each field sustain in a given year?
- What is the resultant impact on the quality of turf associated with this demand?

The assessment was performed using accepted industry standards and guidelines where available, such as The National Federation of State High School Associations (NFHS) and the Massachusetts Interscholastic Athletic Association (MIAA) Guidelines. Similarly, the Massachusetts Architectural Access Board Guidelines (MA AAB) and Americans with Disabilities Act (ADA) were used to assess accessibility compliance.

The fields were also evaluated for serviceability (i.e. are systems and equipment in good repair and meeting the intended purpose?) and safety. The findings are documented as they relate to the safety, serviceability and accessibility of the components. The findings of the assessment led to recommendations for each individual site.

2.1. Base Plan Development

An essential task of the master planning effort is the creation of a suitable base plan for each field in AutoCADD to serve as the basis for the schematic planning effort to follow. Gale obtained record information and GIS data (assessor's maps, utility maps, topographic maps, and wetland maps), as available. Additionally, we consulted FEMA maps and aerial mapping available on the MASSGIS web site. Gale produced a suitable base plan for each facility. The base plans are provided in Volume 1 of the Master Plan.

These base plans reflect Assessors' parcels, wetlands, floodplain and topographic data, as available, and are sufficient for the master planning effort. However, these plans are not suitable for the detailed design, and any projects completed as a result of this Master Plan in the future will require a full property line and topographic survey. The results of the more detailed updated surveys may require modifications to the master planning assumptions.

2.2. Facility Condition Summary

The individual field assessment reports, provided within Volume 1, detail the general condition of each athletic facility component. Gale identified a listing of short-term maintenance and repair items required at each of the subject sites to address immediate needs. These repairs are recommended to provide safe, serviceable and accessible facilities, and are not related to the long-term renovation strategies to be presented in this report. While the complete short-term maintenance needs are included in Volume 1 of the Master Plan, Gale identified the priority short-term and maintenance recommendations for each facility. A summary of aforementioned maintenance recommendations are included below. Please reference Volume 1 for the complete results of the evaluation.

Lynnfield Regional High School

Practice Football Field

- Turf conditions on the field area are poor. There are significant bare areas, scarce turf growth, heaves and ruts and mud throughout the center of the field and end zones.

- The field is chronically over-compacted and is experiencing a failing root zone necessary for adequate turf growth.

Lower Multi-Purpose Field (Northeast Athletic Campus)

- The field requires aeration to relieve compaction, top-dressing, fertilizer, reseeding and re-growth to eliminate bare spots.

- The field area is infested with weed growth and contains heaves and ruts throughout. There is no formal grading and drainage pattern, and runoff sheet flows over the field to the low lying woodlands to the east.

60' Softball Diamond & Multi-Purpose Field in Outfield

- Significant weed removal should be performed within the infield of the softball field. The outfield is infested with weeds and clover and is highly compacted.

- The outfield needs to be aerated to relieve compaction, top-dressed, fertilized, reseeded and re-grown to eliminate bare spots.

90' Baseball Diamond & Multi-Purpose Rectangular (MPR) in Outfield

- The outfield is infested with weed growth and needs to be aerated to relieve compaction, top-dressed, fertilized, reseeded and re-grown.

- No formal grading patterns result in a low point in the right field where standing water is present. Runoff is intended to sheet flow overland toward an existing catch basin in the far southern point.

- The infield is in poor condition and should be supplemented with a free draining infield mix. Infield maintenance is required (e.g. re-grading, weed removal, base path repair, raking and lip removal).

- The outfield should be aerated to relieve compaction. Consider installation of flat panel drainage system to improve drainage conditions currently prohibiting use of the field after rain events.

Upper MPR Field

- Turf conditions are fair to poor due to weed infestation, bare areas and lack of formal grading and drainage patterns.

- Existing playing field area needs to be re-graded to remove ruts and heaves, top-dressed, fertilized and re-seeded to promote root growth.

- Fencing should be provided around the perimeter of the field for ball containment, as the field is adjacent to an access route and the lower baseball field.

Four (4) Standard Tennis Courts

- A surfacing top coat should be applied and courts re-striped.

- Continued use of crack repair will only postpone appearance of cracks through surface. Within five (5) years, the courts will be pulverized and need reconstructing in place to correct limited cracking that is currently occurring.

One (1) Full Basketball Court

- Basketball courts are in good condition. There does not appear to be any structural base mat issues or cracks in the asphalt.

- There is ten foot (10') high perimeter fencing for ball containment and safety purposes. The fence is in "like new" condition.

Lynnfield Middle School

90' Baseball Diamond & Multi-Purpose Field

- Base paths and pitchers' mounds require weeding, raking, re-grading and lip removal. The infield drains poorly and is not formally graded to promote drainage. Several low spots should be re-graded to promote drainage.

60' Softball Diamond

- The softball diamond measures sixty foot (60') baselines and has a distance to center field of 270', to left field of 154', and to right field of 210'. The right field dimension is significantly shorter and does not meet requirements for MIAA level play. The feasibility of tree removal should be inspected to determine if removal will allow for an expanded left field. It should be noted that any work in this area will require permitting through the Conservation Commission due to the adjacent wetland.

- A four foot (4') vinyl coated baseline fence is provided and is in good condition.

- Significant weed removal should be performed within the infield of the softball field and the pitcher's "mound" and batters box should be reconstructed. The outfield is infested with weeds and requires aeration and complete reconstruction. Several dips and heaves in the playing areas should be removed by re-grading. A padded manhole cover should be installed on the existing drain manhole in the outfield.

- The outfield needs to be aerated to relieve compaction, top-dressed, fertilized, reseeded and re-grown to eliminate bare spots.

Stadium Field & Track

- There is a four foot (4') vinyl coated chain link fence around the perimeter of the track along its southeast side. In some areas, the distance between the fence and track does not meet the recommended one (1) meter minimum, which could be a potential safety issue. There is no other spectator control fencing at either the track or field. The fence should be relocated to provide the adequate safety distance between the edge of track and fence.

- Spectator seating and pressbox do not appear to meet building codes, life safety codes, or accessibility requirements. While there is a pedestrian route from the parking lot which appears to be accessible (without performing topographic survey), there is no accessibility provided to the spectator seating. We recommend replacing the spectator seating completely.

- The turf condition is generally fair to poor. The field is infested with weed growth and is over compacted. We recommend re-grading, installation of a trench drain between the track and field and panel drains to promote field drainage.

- The field requires aeration to relieve compaction, top-dressing, fertilizer, reseeding and re-growth to eliminate bare spots and promote root zone development.

- The track surface is in poor condition, is cracking and delaminating at the surface. There does not appear to be significant structural deficiencies. However, improvement to the inadequate track radius would require complete reconstruction.

Four (4) Standard Tennis Courts

- There are no immediate short-term maintenance recommendations for the tennis courts.

One (1) Full Basketball Court

- There are no immediate short term recommendations for the basketball court.

Summer Street School

One (1) 60' Baseball Diamond (Front)

- The field conditions are poor. The field requires complete reconstruction to become a serviceable field.

One (1) 60' Baseball Diamond & Multi-Purpose Field (Back)

- The backstop (10' x 20') is in good condition. We recommend an extension of fencing along baselines.

- The infield is in poor condition with weed infestation, improper infield mix and standing water in some areas. The outfield turf is in fair to good condition with some weed growth, but a healthy stand of turf. Planarity is poor, with a significant low point in the left field and several heaves and dips.

Huckleberry Hill School

One (1) MPR Field

- The turf condition is poor with signs of overuse, areas void of turf, weak growth density, weeds and areas of mud/gravel. The planarity is poor and there are several ruts and heaves.

St. Maria Goretti Parish

60' Softball Diamond & MPR in Outfield

- The infield appears to be lacking maintenance and is in very poor condition, due to weed infestation, poor drainage and poor grading. The outfield is infested with weeds and clover, is highly compacted, has significant rutting, is non-planar and has no formal drainage or grading patterns.

- The outfield needs to be aerated to relieve compaction, top-dressed, fertilized, reseeded and re-grown to eliminate bare spots.

- We recommend complete reconstruction and/or re-programming of the space for the most effective use of space.

Jordan Park

Field 1 – MPR Field East (170' x 300') and

Field 2 – MPR Field West (170' x 300')

- A parking facility is provided and has a capacity of approximately 48 spaces. Additional parking is recommended for a facility of this size. There are substantial traffic and pedestrian access issues reported at Jordan Park. Handicap parking is provided, however, the sidewalk to the field from the parking lot does not meet slope requirements for ADA accessibility.

- We recommend aerating to relieve compaction and localized maintenance, including topdressing, fertilizing and re-seeding.

- Resting of the field for thirty (30) days in the spring or fall seasons is highly recommended due to overuse of the facilities.

Glen Meadow Park

One (1) 60' Baseball Diamond

- The baseline fencing of three feet (3') is in poor condition and should be replaced. The backstop of twenty feet (20') is in fair condition.

- The five foot (5') outfield fence is beginning to rest / lean and should be replaced in the future.

- Parking is provided through a paved, unstriped area. Accessibility is not provided.

One (1) Standard Tennis Court

- The tennis court is in fair to good condition. While there does not appear to be significant structural issues, there are some surface cracks that need repair if reconstruction is not feasible. Surfacing appears to be, generally, in good condition.

- Adjacent overhanging vegetation should be pruned/weeded and/or removed.

One (1) Full Basketball Court and One (1) Half -Court

- It is recommended that the basketball hoop at the half-court facility be replaced.

- Asphalt mat appears to be in fair structural condition. However, there are surface cracks that should be repaired. The asphalt should be checked for age and may need to be fully replaced at the end of its life expectancy which is twenty-five to thirty (25 to 30) years.

Newhall Park

One (1) 60' Baseball Diamond (Main Field)

- The fenced dugouts are generally in good condition, with some minor fence repair required.

- Player seating is provided but is in poor condition and needs to be replaced.

One (1) 60' Baseball Diamond (Small Field)

- The infield is partially skinned, which is preferred for Little League baseball, but is over-compacted and needs repair and maintenance. It also appears to drain very slowly in wet conditions. The infield mix should be replaced with a well draining sand/clay mix.

Two (2) Standard Tennis Courts

- The tennis court is in poor condition due to age of pavement, poor fence condition, condition of nets and standards and surface repairs required. The facility requires complete reconstruction to become serviceable and safe.

Overall, the sites are generally in fair condition. As is typical with municipal athletic facilities, a majority of the fields throughout the sites have deficiencies in similar areas. The primary deficiencies and concerns associated with the Town's facilities are dimensional constraints, grading and drainage concerns, parking facilities, spectator seating, ADA accessibility and supporting equipment. The fields that experience dimensional constraints and drainage issues specifically result in a compromise on the serviceability and availability of the fields. Additionally, the majority of the MPR fields are in declining condition due to overuse, in addition to the geometric constraints already limiting use.

2.3. Field Demand Conclusions

2.3.1. Rest Period. All heavily used athletic fields require a thirty to forty (30 to 40) day rest period during an active growth period in the fall or spring. This allows the predominately blue grass to repair itself by rhizome propagation and "re-knit" the rootzone. This process does not take place during the summer when cool weather grasses like Kentucky blue grass are dormant. This rest period should occur during the spring and/or fall seasons. This is a significant challenge for virtually all public school and municipal organizations.

Based on the field schedule data provided by field users, it is apparent that none of the fields have an adequate rest period in the spring or fall. It should be noted, however, that certain fields such as those at St. Maria Goretti and Summer Street School have such limited uses throughout the year that a rest period alone may not necessarily improve field conditions.

2.3.2. Inclement Weather Policy. It should be noted that it only takes playing once on a very wet field to destroy the turf root zone for that season. An effort must be made not to play games or even practice on fields that are excessively wet. Based on the conclusion that the Town's fields sustain heavy use, an Inclement Weather Policy is strongly recommended as a management tool for preventing damage to fields in the event of inclement weather.

The enforcement of a restrictive inclement weather policy by field managers is the single best management practice available. A typical policy addresses the importance of not playing on fields during wet conditions, as it protects the safety of players, condition of fields, and serviceability of facilities and is fiscally responsible to taxpayers. The policy should outline condition assessment procedures and the responsibility of the Recreation Commission, DPW, athletic team staff and players, as it relates to inclement weather and field use. A complete inclement weather policy should include information on its purpose, implementation procedures, field closure guidelines, communication processes, enforcement and penalty procedures. The inclement weather policy should be provided to all permitted field users, as well as posted at all facilities to inform unscheduled users of the importance of prohibiting use during inclement weather. A sample Inclement Weather Policy has been included as Enclosure 1.

In addition to the incorporation of an Inclement Weather Policy, Gale recommends that a procedure be adopted to manage use of the athletic facilities. Currently, there is no permitting process for use of the Town's fields. While this is often typical for Town sponsored events, school programs, or Youth level organizations, there are additional uses that are not regulated under current management practices. This system does not provide field schedulers and/or the Department of Public Works (DPW) the benefit of anticipating level of use and preparing the facilities or required maintenance procedures adequately. In addition, the Town may find that assigning fees for organized use of facilities and their associated amenities may help offset the ever-rising costs of maintenance, striping, trash removal, etc.

2.3.3. Demand. An aggressively maintained, irrigated field that is rested for up to a third (1/3) of the fall or spring growing season can theoretically sustain up to 200 - 250 team uses per year. That depends on how well built and how well maintained it is, and can still maintain a high quality and safe athletic turf. A scheduled team use is a two (2) hour game or practice involving fifteen to twenty (15 to 20) athletes.

Based on user questionnaires, Town records, and interviews with program leadership, Gale and the Committee identified all formal uses at each field facility. As reflected in the User Demand Matrix, attached as Enclosure 2, many of the Towns' fields currently experience more than 250 scheduled team uses per year. These fields cannot sustain an acceptable stand of turf even if properly well maintained and rested. Clearly, the most heavily scheduled fields in the Town are the High School fields, Jordan Park and the Middle School fields, with uses reaching over 400, 500,and even 600 uses per year. The largest contributor to the use of the playing fields in the Town is clearly the youth sport users, with Little League, Youth Soccer and Youth Lacrosse utilizing the majority of the field space on an annual use basis.

As mentioned in Volume 1, of all the sites analyzed, there are eleven (11) fields of the seventeen (17) total athletic fields in the Town which are over scheduled (i.e. see an average of over 250 scheduled team uses per year). Another four (4) fields experience over 200 uses and must be aggressively maintained and rested to maintain an acceptable safe stand of turf. As a result, fifteen (15) out of seventeen (17) athletic fields maintained by the Town are either broken down, heavily distressed, or require a significantly aggressive maintenance plan.

Significantly, there are nearly 5,700 scheduled team events occurring on the Town's athletic fields every year. This number is based on scheduled events only and it does not include informal or undocumented uses. The average number of scheduled team uses experienced by each field in the Town, assuming that all uses were pro-rated over the existing population of fields uniformly over the Town's inventory of seventeen (17) fields, is 334 events per year. However, this method is inaccurate in determining the amount of field space required due to varying field dimensions, uses and accounting for those fields that are not useable for the majority of organized sporting events. It is apparent that there is a deficit in field space if the current recreation and school programs are to be sustained and/or expanded.

With a population of seventeen (17) fields, the Town can logically sustain 4,250 demands with current resting and maintenance policies, resulting in a field deficit of some 1,400 uses, or four to five (4 to 5) field equivalents. This is admittedly a gross estimate and does not take into consideration the type of fields (ball fields or rectangular) most required, or does it distinguish between youth sports and school sports. However, it is a valuable data point as we begin to formalize the Planning Program below.

2.3.4. Field Demand Impact – Equivalent Team Uses. While the number of scheduled uses is important to gain an understanding of field space adequacy and turf quality, it can be misleading, as scheduled uses do not always correlate to damage to the turf condition. Obviously, high school football is more deleterious to turf condition than softball, as larger, more competitive athletes cause higher stress loads on the playing surface. Also, different sports cause damage to turf in different areas. For example, football causes turf to wear between the hash marks, while soccer and lacrosse cause wear at the goals, at center field and along the sidelines. As a result, we must account not only for the number of uses, but for the type of use and age of the participants, by applying an impact factor to the raw scheduled use data.

We have assigned an impact factor of 1.0 to women's soccer as the average activity in terms of field impact and deterioration. We assume that high school football is twice as damaging to the turf and assign it a 2.0 impact factor accordingly. Other impact factors for various sports were assigned based on assumed turf impact and multiplied by the number of scheduled uses for each type activity to yield the equivalent team uses in terms of turf damage and impact. Refer to Enclosure 3 for the matrix of the equivalent demands.

While this approach is somewhat of an estimate, it is a definite improvement over the consideration of raw scheduled use data alone, as it accounts for differences in the impact on turf condition of the various uses of the athletic fields (see Enclosure 3). The equivalent scheduled team use data for fields which routinely sustain use for sports such as men's lacrosse or football obviously tend to be higher than actual scheduled uses, while those for fields which are routinely used for Little League baseball tend to be less.

Section 3.0 – Synopsis of Needs Survey

One of the keys to the development of a comprehensive recreation needs assessment for the Town is to assess the perceptions of community stakeholders relative to recreation services, programs and facilities available to them. In order to complete such assessment, Gale prepared, fielded and analyzed a recreation needs survey and conducted two (2) sensing sessions with various recreation stake holders.

In a web-based survey, residents of the Town were asked to complete a Lynnfield Recreation Master Plan Questionnaire. A total of over 430 survey responses were received. This response rate is somewhat low in comparison with similar studies conducted in Massachusetts towns. A complete copy of this survey, the raw survey results and Gale's analysis of those results were provided, in detail under separate cover, as Volume 2 of this Master Plan study. The findings and conclusions have been summarized below.

3.1. Conclusions and Recommendations

With over 430 responses, the Lynnfield Athletic Field and Recreation Facilities Survey provides valuable insight into the perceptions of the various recreational constituencies and stakeholders. These conclusions may be somewhat skewed, however, given the narrow demographics of the participants, with over 93% being adults and only token participation by school age children, teenagers, young adults or elders.

The survey assessed attitudes, opinions and priorities in a number of different ways, and from question to question, the trends and conclusions were fairly consistent. As a result, we believe there is strong consensus, at least within the sampled age group, in the following conclusions:

1. The largest perceived recreational need throughout the Town is for additional multi-purpose trails for walking, biking, running, hiking and fitness. In response to several questions concerning current unmet recreation needs and potential priorities for development, consensus reveals that trails and paths for multi-purpose use is an unmet need. It is recommended that a multi-purpose trail/path network be considered as part of any new recreational park development. Additionally, the Town should look into renovation and possible expansion of existing trail facilities. We understand that the Town is currently developing a Rail Trail network that should address much of this concern.

2. The second highest perceived recreational need throughout the Town is for additional lighted playing fields, specifically for multi-purpose use. The existing population of fields is inadequate to effectively meet current demands. It is recognized by an overwhelming majority of survey respondents that lights, allowing for extended use of existing fields, may mitigate the shortage. However, natural turf quality will suffer as increased play is accommodated on lighted, already overtaxed fields. In response to the field shortage, based on survey results, there is a widely held opinion that additional fields may be appropriate and supported at the existing high school game field. While additional fields and lighted fields were indicated as a priority for development, synthetic turf was responded to moderately well (over 70% in support). Based on the results indicating an overall support for synthetic turf, we feel that incorporation of synthetic turf should be considered in the event that field demands require the all-weather synthetic surface in order to meet field demand and allow the Town to maintain the rest of the field inventory.

3. While not as strong as the consensus related to multi-purpose trails, lighted fields and additional field space, there is a strong demand in the community for the development of a public ice-skating facility. As a response to all questions related to unmet demand or priority needs, development of an ice skating rink was a popular response. While this type of facility may not be in the immediate planning program, the Town should consider this input and possibly research the need to obtain more feedback and reach a larger population of the Town to justify the apparent demand.

5. It is apparent through both survey responses and results of the sensing sessions, that maintenance and upkeep of athletic fields and parks is often not sufficient and appears to be affecting serviceability of the Town's field inventory. In response to the open ended responses, there is an apparent perception that maintenance is required, rather than new or improved facilities. Based on the demand placed on the field inventory, it is nearly impossible to provide maintenance that will sustain the level of use currently placed on the fields. A more sufficient quantity of fields, as well as a consistent maintenance regimen, will allow for more adequate and available playing fields.

5. Throughout the survey, the need for an indoor recreation facility received a significant number of responses in support thereof. The comments related to the development noted that a teen center, community building, or indoor recreation space would be well-supported. While this may not be in the immediate planning program, this need should be further researched to reach a larger population of the Town to justify the apparent demand.

6. It appears that there would be moderate support for the development of a dog park. Because it is a fairly inexpensive facility that requires minimal maintenance efforts, we recommend that the incorporation of a dog park should be considered in the development of a new recreation facility.

The Athletic Field and Recreational Facilities Survey allows Gale to validate our conclusions in terms of recreational needs by assessing the perceptions of recreation users as compared to what the demand quantification results tell us. The final step in the Recreational Master Plan process is to determine the extent of the unmet needs and provide schematic solutions in the way of repair and redevelopment strategies, redistribution of demand and recreational program enhancements to better meet the needs of the recreation users in the Town. Refer to Volume 2 of the Master Plan for additional information related to results of the Needs Assessment.

Section 4.0 – Athletic Field Planning Program Requirements

Based upon Gale's evaluation of the Town's athletic fields, the quantification of demands for athletic fields, the expressed need for additional athletic fields voiced at sensing sessions and the high priority given to additional athletic fields reflected in the town-wide survey results, it is readily apparent that additional athletic field space is one of the most compelling recreational facilities needs within the Town. Currently, in order to limit the amount of play on each field to approximately 250 scheduled team uses per year, and in order to afford spring or fall rest periods to most key fields, it appears that the Town requires an additional five to six (5 to 6) athletic fields. The following is a summary of the planning program:

4.1 Field Demand

- Lynnfield Athletic Field Inventory: 17 Fields at 8 Facilities

- Lynnfield Athletic and Recreational Program: 5,681 Annual Events

- Lynnfield Athletic and Recreational Programs: Approximately 3,300 Athletes

LYNNFIELD ATHLETIC AND RECREATIONAL PROGRAMS		
Category	*Quantity*	*Comments*
# Athletic Fields	17	60' Diamonds: 8, 90' Diamonds: 2 , Multi-Purpose: **9.5***
Events per Year	5,681	2-hour event, teams of 20±
Athletes	3,300	High School, Rec Program, Youth, etc.

4.2 Planning Program

- Current Capabilities = 17 fields * 250 Events per Year = 4,250 Events per Year
- Current Events per Year = 5,681
- Event Space Shortage = 5,681 – 4,250 Events per year = 1,431 Events
- Field Shortage = 1,431 Events / 250 Events per year = 5 - 6 Fields

4.3 Analysis by Type

LYNNFIELD PLANNING PROGRAM ANALYSIS				
Field Type	Quantity (Q)	No. of Events (E)	Fields Required (R = E / 250)	Deficiency (D = R-Q)
60' Diamond	8	1,423	6	None (+2)
90' Diamond	2	230	1	None (+1)
Multi-Purpose Fields	9.5 *	4,028	16**	**7 fields (5-6 more reasonable)**

Refer to Enclosure 2 in Volume 1 for existing field locations.

Notes

*** Includes shared baseball / softball outfield spaces**

**** Assumes full use of undersized/inadequate facilities**

The planning program assumes that all existing facilities can be maintained and have the ability to withstand 250 annual uses. However, undersized or generally inadequate facilities such as the Huckleberry Hill School, Summer Street School and St. Maria Goretti's Parish do not necessarily have the adequate geometry or turf condition to withstand this demand. Therefore, unless these facilities can be improved to withstand 250 annual uses, an additional two to three (2 to 3) multi-purpose fields may be required beyond the proposed planning program.

With improvements to the durability of existing fields, maintenance of an effective inclement weather policy, implementation of rest periods and re-distribution of demand to less utilized fields, the creation of five to six (5 to 6) new fields will enable the Town to support its current and projected sports programs without chronic detriment to facilities, and the serviceability and safety deficiencies that result.

Section 5.0 – Proposed Athletic Facilities Improvements

Beyond the immediate field maintenance recommendations summarized in Volume 1 of the master plan study and Section 2.1 of this report, Gale evaluated each location for its potential for redevelopment and/or expansion to better meet the needs of the community. Gale assessed each existing recreational parcel and undeveloped town-owned parcels to determine the potential for expanded or new recreational facilities considering available topography, wetlands and other environmental constraints, flood plain, zoning constraints, etc.

5.1 Proposed Facility Redevelopments

In addition to the short-term maintenance recommendations outlined in Volume 1 of the Master Plan and Section 2.2 of this report, an important task in the master planning process is to define a series of redevelopment projects to achieve the goals of the Planning Program. After discussions with the Committee and results of the Needs Assessment, three (3) facilities have been determined to be most desirable for redevelopment. These facilities include the High School, Middle School and the undeveloped Main Street Parcel, which will be discussed in later sections of this report. In determining the most viable facilities or undeveloped parcels for redevelopment, the following objectives were taken into consideration:

- School sports, to the extent possible, should be played at the respective school to avoid students traveling offsite for games and practices.

- A complex-type development is preferred over multiple, single-field recreational parks.

- Use of synthetic turf, if warranted by demand, is desirable for its maintenance benefits and all-weather use, and according to the results of the needs assessment survey, would be supported by the majority of Town respondents.

- Diverse passive and active recreational needs, as warranted through results of the needs assessment, should be included in the development of a recreational complex.

The first piece of the conceptual redevelopment strategy is to determine which of the existing facilities should be considered for potential redevelopment or expansion. Gale and the Committee considered the advantages and disadvantages of each existing facility and have summarized them below.

Lynnfield High School

	ADVANTAGES		DISADVANTAGES
1)	Wide variety of users (school, youth, etc.) and types - No busing of students	1)	Limited unprogrammed space / area for expansion
2)	Adequate parking facilities	2)	Environmental resource areas - wetland/floodplain along east property
3)	Centrally located in the Town	3)	Use: High School would likely have priority
4)	Minimal abutter impacts		
5)	Currently town-owned property		
6)	Adequate space for redevelopment/reorganization		

Lynnfield Middle School

	ADVANTAGES		DISADVANTAGES
1)	Adequate parking facilities	1)	Wetland resource areas limit expansion areas
2)	Wide variety of users (school, youth, etc.) and types	2)	Significant abutter presence / impacts
3)	Centrally located	3)	Limited unprogrammed space or expansion area
4)	Currently town-owned property	4)	Use: Schools would likely have priority
5)	Adequate space for redevelopment/reorganization		

Summer Street School

	ADVANTAGES		DISADVANTAGES
1)	Parking provided at school	1)	Significant abutter presence / impacts
2)	No environmental resource areas	2)	Small area, limited expansion potential
3)	Currently town-owned property	3)	Elementary school - no variety in current uses
4)		4)	Existing fields already geometrically constrained

Huckleberry Hill School

	ADVANTAGES		DISADVANTAGES
1)	No environmental resource areas	1)	Significant abutter presence
2)	Currently town-owned property	2)	Small area, limited expansion potential
3)		3)	Elementary school - no variety of uses
4)		4)	Existing field already geometrically constrained
5)		5)	Limited parking available

Glen Meadow Park

	ADVANTAGES		DISADVANTAGES
1)	Small, undeveloped areas available	1)	Significant abutter presence
2)	Currently town-owned property	2)	Poor access/circulation/parking
3)		3)	Wetland resource areas in the middle of undeveloped areas
4)		4)	Limited variety in existing use

Jordan Park

	ADVANTAGES		DISADVANTAGES
1	Large field area available (existing fields)	1)	Significant abutter presence / impacts
2	No environmental resource areas	2)	Poor parking / access from road / circulation
3	Somewhat centrally located	3)	Limited expansion potential
4	Currently used for multi-purpose fields, which aligns with planning program	4)	Would require significant parking expansion

Newhall Park

	ADVANTAGES		DISADVANTAGES
1)	Potential waterfront access (Suntaug Lake)	1)	Significant environmental resource areas
2)		2)	Significant abutter presence / impacts
3)		3)	Constrained parking / circulation /access
4)		4)	No unprogrammed space for potential development
5)		5)	Limited variety in existing use (baseball / tennis), not aligned with planning program

St. Maria Goretti's Parish

	ADVANTAGES		DISADVANTAGES
1)	Large, open area (existing fields)	1)	Not town-owned / no guarantee of usage
2)	Parking available (although not town-owned)	2)	Topography constraints within undeveloped portion of parcel
3)	Large undeveloped area at west section of parcel	3)	Environmental resource areas within undeveloped portion of parcel - limited expansion potential

Based on the above analysis, as well as the objectives of the planning program, it was determined that the High School and Middle School facilities would be most feasible for potential redevelopment or expansion. Additionally, Gale was tasked with the schematic design of a recreation complex at the LWD parcel on Main Street. The following section provides a summary of the redevelopment concepts for the High School, Middle School and LWD Main Street parcels.

It should be noted that a series of development concepts were vetted through the Committee, and the conceptual layouts described below are to be considered the final schematics used in the Master Plan. Additionally, the Main Street Complex was included as part of a detailed Feasibility Study, for which the results are reported under separate cover. This report will provide a summary of the redevelopment, but readers should refer to the Main Street Recreation Complex Feasibility Report for more detailed information.

5.1.1 Existing Facility Redevelopment - Lynnfield Middle School

The Middle School currently contains the only track and field venue in the Town. The main game field at the Middle School is located on the inside of the track, and is the primary game field for a majority of High School and Middle School sports. Due to the small size of the track, radius at 104', the width of the playable infield is constrained. At approximately 180' in playable width, the natural turf infield is generally suitable only for football and field hockey. Other multi-purpose uses such as soccer and lacrosse prefer a width of 200' – 210' for MIAA level play, which cannot be achieved on the inside of the track in its current geometry.

The grandstand at the Middle School game field does not meet current building, life safety, or accessibility codes and requires complete reconstruction. Depending on the capacity of the reconstructed bleachers, a new grandstand could potentially trigger the State requirement for additional onsite restroom facilities.

OPTION 1 – Lynnfield Middle School

Option 1 of the Middle School redevelopment proposes to reconstruct the track and natural turf infield. The following is a summary of the components of the redevelopment. Refer to Enclosure 4 for the conceptual schematics.

- *Track and Field Reconstruction.* Concept Option #1 proposes to reconstruct the existing track, resulting in a new 120' radius track with six (6) lanes on the oval, and eight (8) lanes on the straightaway. The track is proposed to be surfaced with one half inch (1/2") acrylic latex surface, ideal for high school track competition. The high jump, pole vault and long/triple jump venues are also proposed to be reconstructed, with pole vault and high jump contained within the "D-Areas" of the track, allowing for better met management. The track includes a four foot (4') high vinyl-coated chain link perimeter fence for crowd control purposes.

- *Field Reconstruction.* The conceptual layout includes complete reconstruction of the multi-purpose game field within the expanded track at the Middle School. To provide a high quality playing surface, the construction should include subsurface drainage, an engineered sand based root zone, athletic field seed mix and proper grading of the crown to the sidelines. Redevelopment of the field will provide adequate geometry for MIAA soccer, lacrosse, field hockey and football, with a 210' wide multi-purpose game field.

- **ADDITIONAL OPTION: *Synthetic Turf Field.*** An option has been priced in the cost estimate for installation of a synthetic turf field inside the existing track, as opposed to a natural turf field. The synthetic playing surface will allow for an additional 500-600 uses, and even more uses with installation of athletic lighting.

- **ADDITIONAL OPTION: *Athletic Field Lighting.*** An option has been priced in the cost estimate for the Middle School renovation to include athletic field lighting. The lighting would be proposed as a 4-pole system allowing for 50-footcandles of light (MIAA standard) throughout the playing areas.

- *Grandstand.* Because the existing track and field facility at the Middle School is used as one of the primary game fields for the schools, the grandstand has a capacity of approximately 1,000 persons and is accompanied by a pressbox and adjacent amenities building with concessions and restrooms. Option 1 of the Middle School renovation is proposed to be "piggy-backed" with Option 1 of the High School renovation. In such case, the High School facilities will become the primary game fields for the school. In this scenario, the Middle School game field will become a secondary field and will not require a significant amount of permanent grandstand seating. Concept Option #1 proposes to provide a 300 seat capacity portable seating system, without the need for a new pressbox or restroom facility. The existing visitors' bleachers would be removed to provide space for the expanded track facility. In this proposed concept, there would be no distinction between home and visitors' sides, as all seating would be provided on the home side.

The estimated cost of redevelopment, including track reconstruction, natural turf field, and seating at the Lynnfield Middle School under Option 1 is **$1,109,400.**

ADDITIONAL OPTIONS:

Synthetic Turf

The estimated cost of redevelopment including track, synthetic turf field construction, and seating at the Lynnfield Middle School under Option 1 is **$1,515,000.**

Athletic Field Lighting

The estimated *additional* cost of athletic field lighting, regardless of turf system, at the Lynnfield Middle School is **$280,000**

Refer to Enclosure 4 for the proposed conceptual layouts. Cost estimates are provided under Enclosure 5.

OPTION 2 – Lynnfield Middle School

Option 2 of the Middle School redevelopment proposes to demolish the track and reconstruct a natural turf field with adequate geometry for multi-purpose use for soccer, lacrosse, football and field hockey. The intent of Option #2 is to determine if a track facility would be feasible at the High School, therefore eliminating the track at the Middle School and providing additional field space in its place. The following is a summary of the redevelopment:

- *Track Facility.* Concept Option #2 proposes to remove the existing track from the Middle School and relocate it to the High School. Refer to High School Concept Option #2 for details of the track reconstruction at the High School.

- *Field Reconstruction.* Concept Option #2 proposes to construct a new, full-size, synthetic turf field at the location of the existing track at the Middle School. The field is proposed at 225' x 360', ideal for all MIAA level sports including lacrosse, soccer, field hockey and football. Construction of the field would include a significant base system comprised of a concrete anchor curb, base stone and subsurface drainage. The redevelopment also proposes a four foot (4') vinyl coated chain link fence around the perimeter of the field, which would be installed within the concrete turf anchor curb. A synthetic turf field, as opposed to a natural turf field, is proposed at this location due to the

loss of field's incumbent in the construction of the track at the High School, as proposed in Option 2.

- *Grandstand.* A series of portable bleachers are proposed in place of the existing grandstand. The facility is not intended to be a premier game facility due to the relocation of the track and stadium field to the High School in Option #2. Therefore, a significant grandstand structure is not required. Providing a permanent grandstand structure would also require compliance with the State Plumbing Code, as it relates to quantity of restroom facilities onsite and would likely result in construction of an expanded or new restroom facility at the field.

  The estimated cost of redevelopment at the Lynnfield Middle School under Option 2 is approximately $1,077,000.

  Refer to Enclosure 4 for the proposed conceptual layouts. Cost estimates are provided under Enclosure 5.

5.1.2 Existing Facility Redevelopment - Lynnfield High School

OPTION 1 – Lynnfield High School
(Refer to Enclosure 4 for conceptual schematics)

- *Multi-Purpose Stadium Field Construction with Pressbox, Lighting, and Amenities Building.* The conceptual layout includes installation of an all-weather, 210' x 360' multi-purpose infilled synthetic turf field located south of the existing parking lot. The field is sized to accommodate all multi-purpose uses, including football, men's and women's soccer, men's and women's lacrosse and field hockey. Construction of the field would include a significant base system comprised of a concrete anchor curb, base stone and subsurface drainage. The redevelopment also proposes a four foot (4') vinyl coated chain link fence around the perimeter of the field, which would be installed within the concrete turf anchor curb. Athletic field lighting for the stadium field is proposed as the first phase of an athletic lighting project. This first phase is proposed to include four (4) poles with adequate lighting fixtures to provide fifty (50) foot candles of light at the stadium field, sufficient for game or practice play of both football and small ball sports. Use of synthetic turf combined with a lighting system will allow the multi-purpose field to more than double its current uses, thus allowing for adequate demand and rest on the remainder of the campus fields. A 1,000 seat grandstand is proposed to be constructed within the existing slope between the parking lot and proposed field location, which would provide at-grade access to the rear of the grandstand from the parking lot. A 12' x 30' pressbox is proposed to provide viewing opportunities and a filming platform. Due to the increase in seating capacity resulting from the proposed grandstand, an amenities building will be required to provide restroom facilities to meet Massachusetts plumbing code. A bleacher system with 1,000 seats would likely require four (4) men's toilet fixtures and eight (8) women's toilet fixtures, assuming the State will grant a 50% variance in the quantity of structures required, as is typical with this type of project.

- *Two (2) Multi-Purpose Synthetic Turf Fields.* The conceptual layout in Option 1 includes installation of two (2) all-weather, multi-purpose infilled synthetic turf fields located south of the proposed stadium field. The fields are proposed in a north-south orientation and would provide a 200' x 330' field and a 200' x 300' field, both adequate for MIAA level sports including men's and women's soccer, lacrosse and field hockey. Because the synthetic field surface would be contiguous, the field space can accommodate a significant quantity and variety of youth sport layouts that could be seasonally painted. The fields are proposed to be used for both practice and games, with portable seating to allow for mobility of seating arrangements. Construction of the field would include a significant base system comprised of a concrete anchor curb, base stone and subsurface drainage. The redevelopment also proposes a four foot (4') vinyl coated chain link fence around the perimeter of the field, which would be installed within the concrete turf anchor curb. Athletic field lighting for the fields would be provided by installing supplemental fixtures on the poles installed for the stadium field, and installing two (2) new poles with fixtures at the southeast and southwest corners of the combined field area. Installation of a synthetic turf field of this size allows for flexibility of use as well as a substantial increase in demand for High School, youth level and recreational sport users.

- **ADDITIONAL OPTION: *Mens' Softball Backstop.*** An option has been priced in the cost estimate and sketched in Enclosure 4 for the construction of a backstop and additional synthetic turf to provide an area to be used for the Mens Softball League. The "bumput" for the backstop and batters area would require additional synthetic turf installation and a backstop. The option provides for a left field dimension of 300', right field dimension of 280', and a centerfield dimension of greater than 400'. Refer to Enclosure 4 for the schematic layout.

- *Reconstruction of the 90' Baseball Diamond.* The existing baseball facility at the High School is in fair to good condition, but is overused by multi-purpose use of the outfield, exceeding its sustainable demand load and contributing to the lack of root zone development and compacted condition of the turf subgrade. Concept Option #1 proposes to reconstruct the baseball field and re-orient it

to achieve a north / northeast layout, which is the optimal solar orientation. To provide a fully compliant baseball facility, the reconstruction should include installation of subsurface drainage, re-grading to promote drainage, installation of an engineered sand-based root zone, temporary outfield fencing, 330' foul pole distances, 30' hooded backstops, dugouts and spectator seating. Full reconstruction of the facility will address the current grading and drainage issues, poor solar orientation and poor root zone development. The baseball diamond reconstruction will also provide for construction of a 190' x 300' multi-purpose field in the outfield, proposed to include subsurface drainage, an engineered sand based root zone and athletic field seed mix. The field geometry can adequately accommodate soccer, lacrosse and field hockey uses. The baseball field and multi-purpose outfield do not include athletic field lighting.

- **ADDITIONAL OPTION:** ***Athletic Field Lighting.*** An option has been priced in the cost estimate for the High School renovation to include athletic field lighting at the baseball field. The lighting would be proposed as a 6-pole system allowing for 50-footcandles of light (MIAA standard) throughout the playing areas.

- *Reconstruction of the 60' Baseball Diamond.* Concept Option #1 proposes to reconstruct the existing softball facility to the western portion of the campus where the upper multi-purpose facility exists today. The reconstructed facility will provide optimal solar orientation (north-northeast) as opposed to the current westerly facing orientation. The facility, in its reconstructed state, is proposed to be a premier softball facility, with uses limited to High School, youth level and adult softball and restricted outfield use. The reconstruction should include subsurface drainage, re-grading to promote drainage, installation of an engineered sand-based root zone, permanent outfield fencing, 210' foul pole distances, 30' hooded backstop, dugouts and spectator seating. Access from the rear parking lot will be provided, as well as a pedestrian route to the campus athletic facilities.

- **ADDITIONAL OPTION:** ***Athletic Field Lighting.*** An option has been priced in the cost estimate for the High School renovation to include athletic field lighting at the softball field. The lighting would be proposed as a 5-pole

system allowing for 50-footcandles of light (MIAA standard) throughout the playing areas.

- *Pedestrian Circulation and Safety.* In its current condition, the athletic campus at Lynnfield Regional High School does not provide for adequate spectator seating, pedestrian circulation, or accessibility to its facilities. The redevelopment proposes to construct five to eight foot (5' to 8') walkways throughout the facility to provide an accessible pedestrian route to the proposed spectator seating provisions. Additionally, the synthetic turf fields should include a four foot (4') perimeter fence for athlete safety, crowd control and vehicular access restrictions.

The estimated cost of redevelopment at the Lynnfield High School under Option 1 is **$5,143,400.**

ADDITIONAL OPTIONS:

Athletic Field Lighting at Baseball Field
The estimated *additional* cost of athletic field lighting at the Lynnfield High School baseball field is **$420,000.**

Athletic Field Lighting at Softball Field
The estimated *additional* cost of athletic field lighting at the Lynnfield High School softball field is **$350,000.**

Mens' Softball Backstop
The estimated additional cost of a softball "bumpout" and installation of additional synthetic turf and a backstop for Mens' Softball is **$72,000.**

Refer to Enclosure 4 for the proposed conceptual layouts. Cost estimates are provided under Enclosure 5.

OPTION 2 – Lynnfield High School

- *Track and Field Reconstruction.* Concept Option #2 at Lynnfield High School is intended to be paired with Option #2 at the Middle School, which includes removal of the track at the Middle School and reconstruction of the track and field facility at the High School. The proposed track and field at the High School includes a 120' radius track with a synthetic turf field on the interior, sized at 210' x 360' to accommodate football, lacrosse, soccer and field hockey. The intent of Option #2 is to contain all High School athletic programs, including track and field, within the High School campus. However, the size and geometry of the athletic campus does not provide an ideal location for a full-size track and field facility without jeopardizing field space outside of the track. The result of relocating the track and field to the High School is the loss of several multi-purpose athletic fields, which limits the contribution of the redevelopment to the overall objective of additional field space to accommodate rising demands.

- *Reconstruction of the 90' Baseball Diamond.* The existing baseball facility at the High School is in fair to good condition, but is overused by multi-purpose use of the outfield, exceeding its sustainable demand load and contributing to the lack of root zone development and compacted condition of the turf subgrade. Concept Option #1 proposes to reconstruct the baseball field and re-orient it to achieve a north / northeast layout, which is the optimal solar orientation. To provide a fully compliant baseball facility, the reconstruction should include installation of subsurface drainage, re-grading to promote drainage, installation of an engineered sand-based root zone, temporary outfield fencing, 330' foul pole distances, 30' hooded backstops, dugouts and spectator seating. Full reconstruction of the facility will address the current grading and drainage issues, poor solar orientation and poor root zone development. The baseball diamond reconstruction will also provide for construction of a 190' x 300' multi-purpose field in the outfield, proposed to include subsurface drainage, an engineered sand based root zone and athletic field seed mix. The field geometry can adequately accommodate soccer, lacrosse and field hockey uses. The baseball field and multi-purpose outfield do not include athletic field lighting.

- *Reconstruction of the 60' Baseball Diamond.* Concept Option #2 proposes to reconstruct the existing softball facility to the western portion of the campus where the upper multi-purpose facility exists today. The reconstructed facility will provide optimal solar orientation (north-northeast) as opposed to the current westerly facing orientation. The facility, in its reconstructed state, is proposed to be a premier softball facility, with uses limited to High School, youth level and adult softball and restricted outfield use. The reconstruction should include subsurface drainage, re-grading to promote drainage, installation of an engineered sand-based root zone, permanent outfield fencing, 210' foul pole distances, 30' hooded backstop, dugouts and spectator seating. Access from the rear parking lot will be provided, as well as a pedestrian route to the campus athletic facilities.

  The estimated cost of redevelopment at the Lynnfield High School under Option 2 is $3,800,000.

  Refer to Enclosure 4 for the proposed conceptual layouts. Cost estimates are provided under Enclosure 5.

5.1.3 Assessment of Undeveloped Parcels – Main Street

As previously discussed, in addition to looking for redevelopment opportunities within currently developed facilities, part of the Master Planning effort is to evaluate currently undeveloped parcels for potential procurement and/or redevelopment. As part of the Lynnfield Master Plan, the Committee had requested that Gale perform a feasibility study on one (1) parcel in particular. The currently undeveloped Main Street parcel is owned by the LWD and can be accessed through property owned by Bostik Findley, Inc. off of Main Street. Gale performed a feasibility study on the parcel, including wetland delineation, survey, geotechnical investigation, and schematic design. The completed feasibility study contains the reported results and has been delivered to the Town under separate cover. Please refer to that study for a more complete analysis of the development potential. A summary of the components of the Main Street Parcel development is included below, and is intended to convey the components of the planning program, for both active and passive recreation, that could be achieved through development of the parcel.

OPTION 1 – Main Street Parcel (Active Recreation Components)

The active recreation complex is proposed at the northern portion of the parcel and accessible from the proposed roadway off Main Street. The complex is proposed to include multi-purpose rectangular athletic fields, tennis and basketball courts, an ice-skating rink, a central amenities building, playground areas, multi-use paths and parking areas. The following is a discussion of each of the components. The passive recreation activities are the same in Options 1 and 2 and will be discussed separately from the active recreation components. Option 1 of the Main Street Parcel redevelopment is intended to be paired with Option 1 for the High School and Middle School redevelopment. Therefore, the needs of the planning program will determine the build-out for each strategy. Option 1 of the Main Street complex, assuming redevelopment of the High School and Middle School Option 1 strategies requires that an additional two to three (2 to 3) fields be provided to meet the planning program. Therefore, Option 1 of the Main Street complex proposes one (1) synthetic turf field and two (2) natural turf fields. Refer to Enclosure 4 for the conceptual schematics.

Multi-Purpose Fields. The proposed layout provides for three (3) multi-purpose athletic fields, sized to accommodate MIAA events including soccer, lacrosse and football, as well as a variety of youth level recreation programs. The layout provides for a minimum of ten foot (10') safety zones surrounding the perimeter of each field. Under Option 1, one of the multi-purpose fields is proposed as synthetic turf with lights, while the other two (2) fields are proposed as a natural turf fields. While the decision of natural versus synthetic turf can be determined at a later date, the schematic design and results of the Master Plan for Option 1 assumes two (2) of the three (3) fields will be natural turf. Option 1 of the Main Street development is intended to be paired with Option 1 of the High School and Middle School developments. With this assumption, only one (1) synthetic turf field is required to be developed at the Main Street complex. A synthetic turf field can accommodate greater than 500 uses per year, while a well-maintained natural turf field can accommodate a maximum of 250 users per year while still maintaining an adequate playing surface.

The dimensions of the multi-purpose fields are as follows:

MPR Field 1 – Synthetic Turf:	210' x 360'
MPR Field 2 – Natural Turf:	210' x 345'
MPR Field 3 – Natural Turf:	210' x 330'

Hard Courts. A tennis court and basketball court are proposed to be developed within the Recreation Complex to provide a variety of active recreation options to community users. While tennis and basketball were not the leading results of the recreational needs survey, they are inexpensive and provide a recreational use that meets needs of a wide range of recreation users. Additionally, there are few tennis and basketball facilities in the Town, and the majority is reaching the end of their useful lives, including the tennis court facility at Newhall Park.

The courts are proposed in a north-south orientation, which is optimal for tennis and basketball use. A path is provided to the courts for pedestrian access from the parking lots and multi-use trails. Both courts are proposed with a ten foot (10') vinyl-coated chain link fence and acrylic surfacing. Lights are not proposed at the tennis/basketball complex.

Ice Skating Rink. Based on results of the Master Plan Needs Assessment, an ice-skating or roller-hockey rink is desired within the Town. A Town owned and operated ice-skating facility within Lynnfield does not currently exist. The Recreation Complex includes a seasonal, outdoor skating/roller hockey rink sized adequately for public use, at 85' x 175'. The rink is proposed to be constructed as a seasonal sheet of ice, without mechanical equipment or zamboni equipment included.

Parking. The schematic includes parking to accommodate 289 parking stalls. Gale uses the following calculation to determine parking needs for athletic field and recreational facilities:

- Calculating Parking for 1 Field:
  40 players (2 teams) * 2 * 1.5 spectators * 60% = 72 spaces

The Main Street Recreational Complex proposes three (3) multi-purpose fields, which require approximately 216 spaces based on the above calculation. Additionally, an extra 73 spaces are proposed to accommodate users of the basketball, tennis, skating rink and trails. We feel that the proposed parking is adequate to accommodate users of the active recreation portion of the parcel. Also refer to the traffic study included as Enclosure 8 of the Main Street Feasibility Study Report.

Spectator Seating. The schematic provides a quantity of 186 seats at each of the synthetic turf fields, plus an additional 93 seats at the natural turf athletic field. The spectator seating is proposed as a four foot (40') long, five (5) row, aluminum seating system intended to be installed on a concrete pad. Two (2) units are proposed at the synthetic turf field, and one (1) unit at the natural turf fields.

Amenities Building. An amenities building is proposed in a location central to the athletic fields, hard court spaces, playground, and trails and is intended to provide a concessions, storage, and restrooms. The building, as proposed, is 1,800 square feet and includes an overhead garage door and open storage area, six (6) female restroom facilities, three (3) male restroom facilities, and a concessions facility appropriate for packaged goods and use of small appliances only. The area surrounding the amenities building is proposed to include picnic tables, benches, and queuing areas for spectators.

Playgrounds. This schematic provides for two (2) age-appropriate play areas, one designated for two to five (2 to 5) year olds, the other for six to twelve (6 to 12) year olds. The playground is proposed to include pre-fabricated playground structures based on National Playground Safety Institute standards and includes four foot (4') vinyl-coated chain link fence, gates, and seating areas for playground users.

Pedestrian Circulation. Bituminous concrete walkways are proposed to provide access to the facilities from each of the parking lots. Additionally, an eight foot (8') wide walking path is proposed to loop around the facility and provide circulation to each facility, as well as connections to some of the existing paths and the abandoned railroad easement path. The walkways and trails within this portion of the recreation complex total approximately 6,000 linear feet, or 1.1 miles.

The estimated cost of the recreation complex development at the LWD Parcel under Option 1 is $6,186,000, including the access roadway, parking lots, amenities building, utilities, and the passive recreation components described in a later section. The cost estimate is based on schematic level design and is subject to change through design development.

Refer to Enclosure 4 for the proposed conceptual layouts. Cost estimates are provided under Enclosure 5.

OPTION 2 – Main Street Parcel (Active Recreation Components)

Because of the geometrical constraints of the property and the significant amount of wetlands minimizing the developable area, there were a limited number of development alternatives possible which would meet the build out needs of the parcel.

Option 2 of the Main Street complex is intended to be paired with Option 2 for the High School and Middle School, and will require an additional five (5) fields be provided through development of the Main Street parcel, due to the loss of field space in development of the track and field at the High School. Therefore, under Option 2, two (2) of the multi-purpose fields are proposed to be synthetic turf and one (1) of the multi-purpose fields should be natural turf.

The Option 2 layout proposes identical program elements to Option 1, including three (3) multi-purpose fields, a tennis court, basketball court, skating rink, amenities building, playgrounds and pathways. The main difference in Option 2, outside of the synthetic versus natural turf, is a central parking area and a relocated tennis and basketball complex. A central parking area is often preferred to provide easy access to each of the recreation components. On the other hand, the parking lot breaks up the field development so that the recreation components are not in one central area. In terms of capacity, both solutions are generally comparable.

Based on the redevelopment alternatives chosen for the High School and Middle School, the planning program will determine what capacity of development will be required of an undeveloped parcel such as the Main Street parcel. Options 1 and 2 of the Main Street Recreation Complex provide alternatives that could accomplish the goals of the planning program at the Main Street parcel and make up the deficit outlined in Volume 1. The Main

Street Recreation Complex also addresses important needs which resulted from the Needs Assessment Survey described in Volume 2.

The estimated cost of the recreation complex development at the LWD Parcel under Option 2 is $6,700,000, including passive recreation components as described below.

Main Street Parcel - Passive Recreation Components

In addition to meeting the needs of the planning program as it relates to active recreation, results of the Needs Assessment indicate that there are current unmet passive recreation needs. Because the existing recreation facilities are limited in expansion potential for passive recreation, Gale proposes that a passive recreation area be included in the development of an undeveloped parcel. The following is a summary of the passive recreation opportunities that could be afforded through development of the Main Street Recreation complex, as shown in Enclosure 4.

Along the southern property line of the LWD parcels lie an upland area of which approximately seven (7) acres exists outside of all wetland and buffer zones. Because of the significant amount of existing trails along this portion of the property today, and because this area of the parcel is narrow and not ideal for the development of multi-purpose fields, passive recreation opportunities are proposed here.

The passive recreation area is accessed via a driveway that intersects the main recreation complex driveway. The driveway leads to a parking area sized to accommodate fifty (50) patrons. From the parking area, visitors have access to the corridor parkway, dog parks, gardening plots, and trail network, all of which are discussed further below.

Multi-Use Trails. The most compelling need resulting from the community wide Needs Assessment Survey is for additional walking, biking, running, jogging and multi-purpose trails. Based on this need, the passive recreation area is proposed to include a series of trails, including a one (1) mile long cross country loop, marked walking paths and cross country biking trails.

The main multi-use trail is proposed to begin in the open space of the corridor parkway adjacent to the proposed parking lot. After a short distance, the trail will tie into an existing gravel path, which is proposed to be paved, and follows the path for approximately 800'. The trail continues along the western portion of the parcel, looping around an existing hill of approximately fifteen feet (15') in elevation change. The trail is proposed to be twelve feet (12') wide to accommodate running, walking and biking in each direction and is intended to provide marked trail distances as well as seating areas along the path. The trail is primarily flat with a few areas of mild slopes. The path loops back around the passive recreation area and totals one (1) mile upon returning to the corridor parkway at the parking lot.

In addition to the multi-use trail in the southern portion of the parcel, a connector trail is proposed to be constructed across the wetlands to connect the southern and northern areas of the parcel. The trail is proposed as an eight foot (8') wide gravel path for cross country running, walking, and biking and as an access point between the active and passive recreation areas. The trail would require permitting to construct through the wetlands, for a length of approximately 530'.

Dog Park. A dog park of just under one (1) acre in size is proposed within the Passive Recreation area. The park is divided into two (2) areas, one (1) for large dogs and one (1) for small dogs. The park is enclosed with six foot (6') perimeter fencing and includes landscaping trees, rocks and shrubs, and is proposed to be surfaced with three-quarter foot (3/4') crushed stone. The park is accessible via the driveway and parking lot in the passive recreation area and also by the trail system connecting the active and passive recreation areas.

Gardening Plots. In an effort to provide recreational opportunities for all age groups and recreational interests, a community gardening plot is proposed. The proposed area is approximately 7,300 square feet and contains 48 plots of approximately 120 square feet each, as well as walking paths between them. The gardening area is enclosed with four foot (4') chain link fencing.

Open Space / Picnic Areas. Through the center of the passive recreation area, a corridor parkway is proposed to provide some open space areas ideal for walking, sitting or having picnics. The treeline would be opened up to provide open space where benches, paved walkways and landscaping are proposed. The area of the park is just over an acre and is situated between the multi-use trail loop, providing access to the trail at several points in the park.

The passive recreation area is intended to provide a variety of recreation opportunities outside of the active recreation programming proposed in the northern portion of the complex. With adequate parking, lighting, multi-purpose trails, and open space, the southern portion of the facility will accommodate those passive recreation needs resulting from the community wide survey.

The following is a summary of the two (2) Master Plan alternatives proposed to meet the requirements of the planning program.

Redevelopment Strategy - Option # 1

Location	Redevelopment Strategy	Net Field Change	Cost (Total)
Lynnfield High School	• Synthetic Turf Field at Game Field	+3 Fields	$5,143,400
	• Synthetic Turf Game/Practice Fields		
	• Baseball Field Reconstruction *(Optional lights)*		*$420,000 (optional)*
	• Softball Field Reconstruction *(Optional lights)*		*$350,000 (optional)*
	• *Mens' Softball Bumpout (optional)*		*$72,000 (optional)*
Lynnfield Middle School	• Game Field Renovation *(Optional synthetic)*	0	$1,109,400 *$350,000 (optional)*
	• Track & Field Reconstruction		
	•		
Main Street Parcel	• Synthetic Turf Game Field (required)	+ 2-4 Fields	$6,186,000 (including 3 fields, roadway, and passive recreation)*
	• Two (2) Natural Turf multi-purpose fields (if needed)*		
	• Passive recreation opportunities		

*Dependent on improved usage and condition of the Huckleberry Hill and St. Maria Goretti Parish facilities. Refer to Section 10 for more detail.

TOTALS: + 5-7 MPR Fields.....$ 12,438,800
Total excluding Main Street.....$ 6,252,800 (Base)
Options.....$ 1,192,000

Redevelopment Strategy - Option # 2

Location	Redevelopment Strategy	Net Field Change	Cost
Lynnfield High School	• New Stadium field • New Track • Baseball Field Reconstruction • Softball Field Reconstruction	- 1 Field	$3,795,420
Lynnfield Middle School	• New synthetic turf field • Remove existing track	+1 Field	$1,077,000
Main Street Parcel	• Two (2) Synthetic Turf multi-purpose fields • One (1) Natural Turf Field • Passive Recreation opportunities	+ 5 Fields	$6,458,500*

TOTALS: +5 MPR Fields $ 11,330,920
Total excluding Main Street.....$ 4,872,420

***Note: The Main Street Parcel development has been determined by the Fields Committee to not be feasible due to excessive costs of construction related to the access roadway, utilities and earthwork. This cost estimate is inclusive of all of these items. Construction of the required athletic facilities is likely to be significantly reduced in the event that the Town procures land that is more feasible to develop.**

Refer to the cost estimates included as Enclosure 5 for a breakdown of the detailed costs.

Section 6.0 – Athletic Field Demand Following Master Plan Implementation

An objective of the Master Plan is to reconstruct existing fields and/or develop sufficient new fields to better meet the demands placed on them by the existing athletic programs in the Town. The goal is to outline a planning program which will provide sufficient fields by type such that the demand on any individual field does not exceed 200 to 250 scheduled team uses. Through the master planning process, the Committee and Gale prepared two (2) strategies in an effort to best meet the following previously discussed objectives:

- School sports, to the extent possible, should be played at the respective school sites to avoid students traveling offsite for games and practices.

- A complex-type development is preferred over multiple, single-field recreational parks.

- Use of synthetic turf, if warranted by demand, is desirable for its maintenance benefits and all-weather use, and according to the results of the needs assessment survey, would be supported by the majority of Town respondents.

- Diverse passive and active recreational needs, as warranted through results of the needs assessment, should be included in the potential development of a new recreational complex.

While both alternatives, Option 1 and Option 2 previously described, successfully meet the goals of the planning program, there are inherent advantages and disadvantages of each. Option 1 of the High School and Middle School redevelopments alone provides 60% of the planning program, and focuses the majority of the development at the High School. While this achieves several of the goals, such as containing school programs at school facilities and providing synthetic turf, it does not afford a lot of opportunities for passive recreation development. Additionally, it does not provide for a central, non-school related facility, which means a usage policy may be required to meet the Town's recreational needs and appropriate of the facility. However, when combining development of an undeveloped parcel, such as the Main Street parcel, with Options 1 and 2 of the High School and Middle School redevelopments, all strategy goals are met.

Option 2 of the High School and Middle School redevelopments is an effort to provide a track and field facility at the High School to improve provisions for on-campus athletic programs. However, in doing this, valuable field space is lost at the High School, defeating the overall purpose of the Master Plan. Additionally, the Middle School facility would become a premier facility for programs due to the loss of High School fields, and could potentially trigger additional requirements such as grandstands and restrooms. Also, athletic lighting at the Middle School is not preferred due to abutter impacts, and therefore reduces the amount of use allocated to a potential synthetic turf field at the Middle School.

Based on the analysis of existing facility redevelopment and the proposed redevelopment strategies, Gale recommends pursuing Option 1 of the High School and Middle School redevelopments, combined with development of an undeveloped parcel to accommodate program elements similar to the proposed Main Street Recreation Complex.

Upon implementation of the Master Plan, existing natural turf fields will see a significant reduction in uses to approximately 250 uses per year and allow enough rest between seasons for re-growth and maintenance of the turf. This reduction is based on our assumption that the synthetic turf field uses increase

to approximately 500 uses per year. In addition, it is apparent that the new synthetic turf fields will see heavy use throughout the year and become an important component of the Master Plan. Furthermore, given that the Master Plan is calling for the renovation of several existing fields, we feel that the uses they can sustain will improve to between 200 and 250.

For the proposed redistribution of demand, Options 1 and 2 of the High School and Middle School, and development of the Main Street Complex have been used for analysis. As shown in Table 1, the implementation of the proposed strategy allows for a redistribution of demand with an overall reduction of demand on all natural turf fields. Refer to Enclosure 6 for the proposed redistribution of demand. It should be noted, however, that the multi-purpose facilities at the Huckleberry Hill School and St. Maria's Goretti Parish are assumed to have a limited number of proposed uses due to their inadequate geometry, planarity and general condition. In this case, the loss of demand at these facilities is proposed to be achieved through development of the Main Street Complex, or other complex proposed at an undeveloped parcel. In any case, the 500 combined uses at these facilities will either need to be placed on the existing facilities at Huckleberry Hill School and St. Maria's Goretti Parish or on other existing or proposed facilities.

Table 1A – Field Use Summary (INCLUDES MAIN STREET DEVELOPMENT)

FIELD USE ANNUAL SUMMARY - ACTUAL TEAM USES v PROPOSED					
			EXISTING USES	ROPOSED USE	
Field Location	Field	Field Type	Total Annual Uses	Total Proposed Uses	Comments
Lynnfield Regional High School	Practice Football	MPR	320	removed	
	MP Soccer Field	MPR	313	removed	
	60' Diamond and MP Outfield	Diamond Use	597	265	HS SOFTBALL / GIRLS SOFTBALL
		MP Outfield Use		no outfield use	
	90' Diamond and MP Outfield	Diamond Use	356	250	BOYS BASEBALL, YOUTH SOCCER
		MP Outfield Use			
	Upper Field	MPR	324	removed	
	NEW MP GAME FIELD	MPR (stadium)		540	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
	NEW MP FIELD	MPR (210X360)		550	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
	NEW MP FIELD	MPR (190X300)		585	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
Lynnfield Middle School	90' Diamond & MP	90' Diamond Use	530	250	HS BASEBALL, JR LEAGUE, TBALL
		MP Outfield Use			
	MP Game Field	MPR	510	250	HS SOCCER, PE, YOUTH SOCCER
	60' Diamond & MP Outfield	60' Diamond Use	240	280	GIRLS SOFTBALL, PE
		MP Outfield Use			
Summer Street School	60' Diamond (front)	60' B	16	16	PE
	60' Diamond & MP	60' Diamond Use	341	245	PE, LITTLE LEAGUE, GIRLS SOFTBALL
		MP Outfield Use			
St. Maria Goretti	60' Diamond & MPR	60' Diamond Use	104	30	MENS SOFTBALL
		MP Outfield Use			
Jordan Park	MP Field 1	MPR	464	250	YOUTH SOCCER
	MP Field 2	MPR	464	250	YOUTH SOCCER
Glen Meadow	60' Diamond	60' B	224	244	REMAINS THE SAME + TBALL + JR. LEAGUE
Newhall	Front Field	60' B	224	244	REMAINS THE SAME + TBALL + JR. LEAGUE
	Back Field	60' B	224	224	REMAINS THE SAME
Huckleberry Hill	MPR	MPR	300	150	PE
Main Street Rec Complex	New Natural Turf Field	MPR		250	YOUTH SOCCER, YOUTH LAX
	New Natural Turf Field	MPR		250	YOUTH SOCCCER, YOUTH LAX, YOUTH FB
	MP Synthetic Field	MPR		500	YOUTH SOCCER, YOUTH LAX, YOUTH FB
		Total	5,681	5,681	

Due to the low likelihood of development of the Main Street Parcel for recreational purposes, a redistribution of demand has also been provided to exclude the Main Street parcel from the redistribution. To get the most uses of the existing fields, we have assumed that the Option for Synthetic Turf at the Middle School game field will be included. The result of the modified use summary is as follows:

Table 1B – Field Use Summary (EXCLUDES MAIN STREET DEVELOPMENT)

FIELD USE ANNUAL SUMMARY - ACTUAL TEAM USES v PROPOSED					
			EXISTING USES		PROPOSED USES
Field Location	Field	Field Type	Use By Type	Total Annual Uses	Total Proposed Uses
Lynnfield Regional High School	Practice Football	MPR		320	removed
	MP Soccer Field	MPR		313	removed
	60' Diamond and MP Outfield	Diamond Use	175	597	265
		MP Outfield Use	422		no outfield use
	90' Diamond and MP Outfield	Diamond Use	40	396	250
		MP Outfield Use	356		
	Upper Field	MPR		324	removed
	NEW MP GAME FIELD	**MPR (stadium)**			630
	NEW MP FIELD	**MPR (210X360)**			600
	NEW MP FIELD	**MPR (190X300)**			616
Lynnfield Middle School	90' Diamond & MP	90' Diamond Use	310	530	250
		MP Outfield Use	220		
	MP SYNTHETIC FIELD	**MPR**	--	510	540
	60' Diamond & MP Outfield	60' Diamond Use	215	240	280
		MP Outfield Use	25		
Summer Street School	60' Diamond (front)	60' B	--	16	16
	60' Diamond & MP	60' Diamond Use	185	341	245
		MP Outfield Use	156		
St. Maria Goretti	60' Diamond & MPR	60' Diamond Use	40	104	90
		MP Outfield Use	64		
Jordan Park	MP Field 1	MPR		464	300
	MP Field 2	MPR		464	300
Glen Meadow	60' Diamond	60' B		224	244
Newhall	Front Field	60' B		224	244
	Back Field	60' B		224	224
Huckleberry Hill	MPR	MPR		390	190
				5681	5681

In order to place all of the demand on the existing and new facilities, without inclusion of the Main Street parcel, the uses at some of the lower quality existing fields will have to increase. As shown above, the Jordan Park fields will now see 300 uses per year, as compared to 250 with the redevelopment of the Main Street

Parcel. Additionally, the St. Maria Goretti fields (which were intended to be used minimally upon implementation of the Master Plan) will receive an additional 60 uses without redevelopment of the Main Street Parcel. Most of the remaining multipurpose uses have been distributed over the synthetic turf fields, each of which are seeing between 540 and 630 uses per year without development of the Main Street Parcel. While the synthetic turf fields can certainly handle this use, the difficulty comes in scheduling. Some municipalities are successful in scheduling this amount of use, while others are limited due to scheduling constraints. It can be concluded that while excluding the Main Street complex may make scheduling more difficult and require higher use of the existing lower-quality facilities, it does not result in a significant deficit of fields. The one significant impact is the loss of passive recreation opportunities, which was indicated as one of the most important aspects of the Master Plan by survey respondents.

Section 7.0 – Athletic Field Enhancements Phasing

It is apparent that the implementation of the entire Master Plan may not feasible in a single project due to the Town's fiscal constraints and the impacts on users, who must have field space during the redevelopment process. The Master Plan is, therefore, broken into discrete projects based on reasonable annual budget expenditures, priority of need, and minimization of user impacts. In general, the principles behind the formulation of the Master Plan phasing are to:

- Accomplish the projects, which result in the biggest impact first, to set the conditions for the project;
- Accomplish the remaining Master Plan elements in order of relative importance based on projected use;
- Attempt to accomplish all elements of the Master Plan in ten (10) years, including the current year;
- Attempt to balance the Town's expenditure on field renovation throughout the Master Plan implementation period; and
- Schedule Master Plan elements that only provide for the renovation of an existing field in place, with no change in layout or use, late in the phasing plan.

It should be stated that if the Town of Lynnfield has the funding to provide larger projects rather than smaller portions of larger projects at a time, there is a savings on contractor mobilization and potentially an economy of scale savings with projects such as the Lynnfield High School development. If funding is available, we recommend completing as much as possible in one project.

Additionally, because some of the fields are proposed as synthetic turf, there are no grow-in requirements and therefore the fields are ready for use as soon as construction is complete. This is another benefit to completing the project all at once.

Phasing Plan Summary

Phase 1, Fiscal Year 2014. Phase 1 should include the development of the stadium field and relocated softball facility at Lynnfield High School, including the synthetic turf field, grandstands, athletic field lighting, and pedestrian circulation routes. Because the athletic field lighting is proposed to be shared with the future practice/game field development at the High School, the poles should be installed with adequate light fixtures for the stadium field. Upon development of the second and third synthetic turf fields, additional poles and fixtures will be constructed. The results of these improvements will provide for a field allowing the total annual uses of the game field to increase to over 500, fulfilling a significant portion of the current unmet athletic field needs. The softball field relocation should include converting the existing softball infield to natural turf. This will provide additional multi-purpose field space to accommodate additional multi-purpose use misplaced from the installation of the stadium field in the location where two (2) fields currently exist. This construction will help to prepare for Phase 3, which includes two (2) additional synthetic turf fields at the High School. The cost of these improvements in Phase I totals approximately $2,684,000.

Phase 2, Fiscal Year 2016. Phase 2 consists of the second phase of the Lynnfield High School improvements, including two (2) synthetic turf multi-purpose fields. Construction of the fields will include a shared concrete turf anchor curb, a combined drainage system, and shared use of athletic field lighting, for which a significant portion of the infrastructure will have been installed in Phase 1. The cost of these improvements in Phase 2 totals approximately$2,459,400.

Phase 3, Fiscal Year 2018. Phase 3 should include the redevelopment of the track and field at the Middle School, to include a new track and field facility, reconstructed natural turf field, mobile spectator seating, and related improvements. The construction of the complex will allow for full capacity of use at the reconstructed natural turf field and a premier track and field facility. The cost of the redevelopment of the track and field facility is estimated at $1,109,400.

Phase 4, Fiscal Year 2020. Phase 4 consists of the first phase of the athletic complex development at the Main Street parcel, or other undeveloped parcel to be procured and/or developed by the Town. This phase of the recreation complex should focus on installation of the

synthetic turf field, athletic field lighting, utilities, access roadway, parking lot, and pedestrian circulation routes. Based on the results of the feasibility study of the Main Street Parcel, development of a recreation complex at the Main Street location may be unlikely. However, based on the planning program, a similar recreation complex should be developed to provide the proposed recreation program described in the previous section. While improvements of this capacity would typically be proposed within Phase 1 to provide the demand capacity, the Town will need to determine where such a complex could be developed, since the Main Street Parcel development is not cost effective and is assumed to be infeasible. The cost of the improvements in Phase 4 of the Master Plan, proposed at the Main Street parcel, is estimated at $3,900,000. This estimate includes the access roadway and associated earthwork, as well as a parking lot, utilities and amenities building. Approximately 30% of the estimate is related to the synthetic turf field construction. It is likely that development of this athletic field would be significantly less expensive at an alternative location.

Phase 5, Fiscal Year 2022. Phase 5 includes the remainder of the development of the undeveloped parcel, including natural turf fields, tennis and basketball courts, passive recreation opportunities, and the remainder of the parking lots, pedestrian routes, and utilities. Because the planning program for Option 1 assumes that use of the undersized or inadequate Huckleberry Hill School and St. Maria Goretti Parish facilities will be limited, an additional two (2) natural turf fields are required to be developed at the undeveloped parcel. After implementation of Phases 1 – 4, the Town will determine to what extent these additional facilities are required. In the event that the improvements implemented in Phases 1 -4 are sustaining the active recreation demand, construction of the two (2) natural turf fields may not be required and the passive recreation opportunities will be the only improvements proposed under Phase 5. The estimated cost for the complete Phase 5 improvements is approximately $2,286,000.

Phases 1 – 5 are summarized in Table 2.

Table 2 – Phasing Schedule

LOCATION	FY 2014	FY 2016	FY 2018	FY 2020	FY 2022
PHASE I					
Lynnfield High School (Stadium Field & Softball)	$2,684,000				
PHASE II					
Lynnfield High School (Fields 2&3 and Baseball Field)		$2,459,400			
PHASE III					
Lynnfield Middle School Field			$1,109,400		
PHASE IV					
Main Street Parcel (Phase A)				$3,900,000	
PHASE V					
Main Street Parcel (Phase B)					$2,286,000
Total Costs	$2,684,000	$2,459,400	$1,109,400	$3,900,000	$2,286,000

Section 8.0 – Facilities Management and Maintenance

The implementation of a Master Plan to expand/enhance recreation facilities is only effective if the work completed is properly maintained. This section of the report summarizes those activities that are routinely accomplished in the maintenance of high quality athletic fields, and provides recommendations in regards to maintenance activities, resources, and budget for proper maintenance of the athletic fields in the Town.

Specific turfgrass management practices vary throughout an athletic complex according to the type of play that is occurring in each locale and according to the stage of development of the athletic fields. Soccer, softball and baseball each dictate a different set of conditions that require unique management approaches. Additionally, specific areas within soccer fields in particular are subject to different stresses (e.g., goal mouths versus midfield and side line areas). Athletic complexes cycle through various stages of development including construction, grow-in, and maturity, each requiring a different approach to management.

A general description of a typical (mature) athletic complex turfgrass maintenance program has been summarized below. A more detailed recommended maintenance regimen has been included under Enclosure 7.

Mowing

Turfgrass in areas of play is mowed at least weekly to provide a suitable playing surface. Regular mowing practices enhance turf density, color, texture, root development, wear tolerance and other key aspects of turf quality. Mowing heights are adjusted from 2.5 inches from the growing season until mid-July, 3.5 inches from mid-July to mid-September, and then gradually brought back down to 2.5 inches. Clippings are either mulched and left or collected and disposed depending on the height of cut and thatch density.

Aeration

Aeration alleviates compaction and develops deep-rooted turf. It is accomplished by creating spaces in the turf, which allow moisture, nutrients and oxygen to penetrate to the root zone. Aeration also breaks up thatch, which helps contribute to the organic content of the soil and breaks the mat on the soil surface. High use fields should be aerated two to three (2 to 3) times per year.

Irrigation

The irrigation season typically runs from June through August. During that period, each field footprint should receive one-half (1/2) inch of irrigation per week and be adjusted in accordance with weather patterns. For a typical 90,000 square foot (SF) soccer field, this equates to 400,000 – 500,000 gallons per year.

Topdressing

Topdressing is applied periodically as a soil amendment, to maintain a smooth playing surface, and to vary the root zone particle size distribution. Top dressing adds soil, sand or other beneficial organic material and soil amendments (as determined by turf needs based on agronomic testing) to the surface of the turf. It should always follow core aerating.

Fertilizing

Fertilizing is done in order to provide micronutrients to the soil and acts as a "food" for the turfgrass plant. Fertilization should generally be done in the early spring and summer, and supplemented on selected fields in the early fall, as needed. This ensures that sufficient nutrients are available to develop healthy root zones during the peak growth period of May and June. Fertilization should be directly related to soil tests performed on an individual field. Once soil sample data has been obtained, fertilizer with the proper nitrogen/phosphorus/potassium ratio should be obtained and applied at recommended rates. Low solubility fertilizers applied only at rates which ensure uptake should be used to minimize groundwater or surface water impacts.

Lime Application

Lime application is generally performed in late November as it typically takes up to six (6) months to breakdown. Lime should be applied to soil based on the results of the annual soil testing.

Over-seeding

Over-seeding is recommended for athletic fields that are used in both the fall and spring seasons. Over-seeding is the spreading of seed over bare areas, or areas that are stressed, in order to enhance (fill-in) stressed or bare areas, to establish new turf, or to improve the conditions of the turf.

Pesticide Application

Pesticides should be used sparingly and by licensed applicators. Chemicals used must be of recent manufacture, and have quick and effective results. Chemicals that may present health hazards should not be used. Approved pesticides can be found on the state university system website, and change periodically. Pesticides should not be applied as a prophylactic, but rather in response to an observed pest or disease, and tailored accordingly.

The resources needed to carry out the recommended maintenance regimen have been calculated on a per field basis as required for implementation of the typical maintenance regime. This calculation provides an estimate of the resources, manpower, equipment and materials to perform each activity on a typical 90,000 SF natural turf playing field. In addition to material costs, this calculation accounts for labor and overhead costs as well as equipment utilization rates and capitalization/depreciation. See Table 3 for a summary of this calculation.

Table 3 – Maintenance Activity Costs

Maintenance Activity	Operational Costs	Annual Quantity (all field types)	Quantity (rect. fields)	Quantity (diamonds)	Total Cost (per field)	Field Specific Costs - Rect	Field Specific Costs - Diamonds
Equipment Maint, Services, Inventories, Training	$3,560.00	1			$3,560.00		
Fertilizer	$1,254.00	1			$1,254.00		
Soil Sampling, Spring Inspection, Work Order	$50.00	1			$50.00		
Irrigation (well supply)	$0.00	13			$0.00		
Lime Spreading	$574.00	1			$574.00		
Aeration	$288.00	2			$576.00		
Topdressing	$1,504.00	1			$1,504.00		
Overseeding	$963.00	1			$963.00		
Spring Cleanup, Servicing, Inspection, Sampling	$1,316.00	1			$1,316.00		
Inspection	$1,368.00	1			$1,368.00		
Cut grass, Empty Trash, Re-stripe, Rake out infield	$444.00			24	$0.00		$10,656.00
Cut grass, Empty Trash, Re-stripe, Rake out infield	$407.00		24		$0.00	$9,768.00	
Weed and Pest Control	$363.00	1			$363.00		
Misc Repairs	$655.00	1			$655.00		
				subtotal	$12,183.00		
				General Subtotal		$12,153.00	$12,153.00
				Field Specific Cost		$9,768.00	$10,656.00
				TOTALS		**$21,921.00**	**$22,809.00**
						(Per Rect. Field)	(Per Diamond)
**Maintenance activities based on typical recommended maintenance regimen							
**Operational costs include resources, manpower, equipment, and materials							

Using these unit costs, the implementation of a typical maintenance program has been calculated for the inventory of fields in the Town and is tabulated in Table 4.

Table 4A - Typical Field Maintenance Costs

Field Type	Annual Per Field Maintenance Cost	Lynnfield Field Inventory (prior to Master Plan)	Lynnfield Field Inventory (after Master Plan)
Multi-Purpose Natural Turf Rectangular Field	$21,921.00	7	9
Baseball/Softball Diamond	$22,809.00	10	10
Synthetic Turf Field	$5,000.00	0	5
Total Maintenance Cost		**$381,537.00**	**$445,379.00**

At the request of the Committee, we have also included a summary of the maintenance costs for the field inventory with the following assumptions:

1) Middle School Game Field becomes Synthetic Turf
2) Main Street Complex does *not* get developed

The following is the result:

Table 4B - Typical Field Maintenance Costs

Field Type	Annual Per Field Maintenance Cost	Lynnfield Field Inventory (prior to Master Plan)	Lynnfield Field Inventory (after Master Plan)
Multi-Purpose Natural Turf Rectangular Field	$21,921.00	7	7*
Baseball/Softball Diamond	$22,809.00	10	10
Synthetic Turf Field	$5,000.00	0	5*
Total Maintenance Cost		**$381,537.00**	**$406,537**

*Excludes Main Street and assumes the Middle School to be synthetic turf

Currently, athletic fields within the Town are maintained by the Department of Public Works (DPW). As part of our Fields Assessment, Gale met with and interviewed the Lynnfield DPW Director. DPW services, beyond the scope of athletic facility maintenance, include repair of streets, sidewalks, and storm drains; maintenance and repair of all DPW vehicles and equipment; maintenance of playgrounds, cemeteries, and public buildings, disposal and recycling, snow plowing, engineering, transportation, and construction contract administration, to name a few. The DPW is divided into five (5) divisions, including Administration, Municipal Building Maintenance, School Building Maintenance, Rubbish/Recycling Collection and Disposal, and Highway / Cemeteries / Parks & Trees. The DPW employs forty-seven (47) full-time permanent staff, two (2) part-time staff, sixteen to twenty (16 to 20) seasonal employees, and has an annual operating budget of $5.2 million.

In 2011, the Parks & Playgrounds divisions was responsible for maintaining over 60 acres of public open space, comprising of six (6) playgrounds, four (4) parks, five (5) municipal building grounds, four (4) basketball courts, eleven (11) tennis courts, one (1) outdoor running track, two (2) football fields, twelve (12) baseball/softball diamonds, and five (5) multi-purpose fields, including irrigation wells and systems for each field.

Currently, the DPW employs six (6) Cemetery, Parks & Trees (CP&T) workers, including a general working foreman, also in charge of three (3) other DPW Divisions. In the summer months, when athletic field maintenance is high in demand, several employees are pulled from other divisions to assist the CP&T Division in maintenance of the fields.

For fiscal year 2013, the DPW budget appropriations for maintenance and repair of parks, including employee wages, is approximated at $227,000. The calculation of labor wages for those employees sharing responsibilities for cemetery, parks and trees, is that 70% of wages are used for parks and athletic facility maintenance. The calculation of materials, repair, and equipment expenses is based on an expenditures report for FY 2013 indicating appropriations for each item. The calculation does not take into account equipment depreciation. The following is a breakdown of the estimated costs of the FY 2013 expenditures for maintenance of parks and athletic facilities.

Estimated Field Maintenance Appropriations (FY 2013)

Item	Department of Public Works Lynnfield
Materials / Repairs / Equipment	$67,600
Staffing	$160,000
TOTAL	***$227,600***

Estimated Budget Deficit

	Prior to Master Plan	After Master Plan
Industry Standard Estimate	$381,537.00	$445,379.00
Lynnfield Budget*	$227,600.00*	**Unknown**
Estimated Deficit	**$153,937**	**Unknown**

*Estimated Budget based on FY 2013 expenditures

*Estimated budget is based on expenditures provided by the Lynnfield DPW and may not include materials and resources otherwise provided by the Town or stakeholders outside of the Department of Public Works budgets.

In the event of Master Plan implementation, the budget deficit will increase significantly based on the construction of additional field spaces. Under Option 1, there will be an additional two (2) natural turf fields and four (4) synthetic turf fields. This includes the Main Street Complex and assumes a natural turf field at the Middle School. However, if the Main Street parcel does not get developed, and the Middle School field becomes synthetic turf, the deficit will be decreased by approximately $40,000 per year due to less natural turf fields and an additional synthetic turf field.

The Lynnfield DPW has an extremely low budget in comparison with the recommended budget for maintaining the quantity of fields under the responsibility of the Town. While this budget is limited due to the constraints felt by the overall operations of the DPW, their resources are used in the most effective way possible. The majority of the budget is concentrated on staffing, while $67,600 is appropriated for materials and equipment. To provide a level of maintenance of an acceptable standard over the Town's seventeen (17) athletic fields, a more appropriate materials budget is estimated at $115,000 - $140,000.

The Lynnfield DPW manages to provide a fair to good quality of turf, well beyond the expectations given the amount of use placed on the facilities and the lack of a rest period for every single field in the Town. Without the level of quality maintenance currently provided, the extremely high demand on the Town's athletic fields would be evident through extremely poor quality playing fields. Field usage hardly ever decreases to meet the allowable resources of the maintenance program. Instead, field usage is ever increasing and it is the expectation of users that the quality of the turf can sustain these increasing demands. While the Maintenance Department has limited staffing and equipment resources, the current maintenance regimen is producing fair results. However, their limited resources will certainly become more exacerbated upon implementation of the Master Plan, which will result in more fields to maintain. The existing CP&T division of the DPW is estimated to be under budget by over $150,000. This deficit will increase to an estimated $220,000 if additional budget allocations are not provided after implementation of the Master Plan.

Through discussion of athletic field maintenance with both field users and the DPW, it is apparent that there are several areas of disconnect which will need to be improved to provide the level of maintenance that both the DPW and field users desire. As stated previously, one of the most important turf management strategies is implementation of an Inclement Weather Policy. Under current procedures, there is no policy in effect that prohibits use of fields under wet conditions. The single, most damaging impact on natural turf is use of a field in wet conditions. While the DPW should be expected to maintain an adequate level of turf quality, these expectations cannot be met without the use of an Inclement Weather Policy.

It should be noted that some youth sport organizations have begun to subcontract additional maintenance practices beyond the level of maintenance that can be provided by the DPW. These maintenance procedures have not been incorporated into the estimated budget of field maintenance. While athletic organizations and the DPW appear to successfully schedule and provide maintenance as a partnership, we recommend that a usage policy or agreement be incorporated into the organizations to distinguish the responsibilities of each organization and the use and maintenance of each facility and associated amenities provided by the Town. For example, concessions stands are often used to generate profit by athletic organizations. However, there appears to be a

disconnection in the level of care, communications of policies and/or procedures, and usage of such facilities. The DPW is inherently responsible for maintenance of the facilities regardless of level of use, profits, or consideration of use regulations. As such, an agreement would help to distinguish the level of responsibility of each organization and the expectations for use. Similar to the recommendations for a Field Permitting process and implementation of an Inclement Weather Policy, Gale recommends that the Town incorporate a facility usage agreement for the various field users.

Section 9.0 – Non-Traditional Funding Sources

As municipal budgets, and hence services, have declined, communities have found unconventional means of sustaining programs, and maintaining and even expanding facilities. Several of these are discussed below.

9.1 User Fees, Sport Organizations and Booster Clubs

Pay-as-you-go fee based programs have been the norm for nearly a decade. Semi-autonomous youth sport programs now fund or perform much of the routine facility maintenance and contribute to the enhancement or development of new facilities. Booster clubs and youth sport organizations, under an agreement with the Town, now commonly develop facilities on public land under a private procurement (outside public bid laws) and gift the resultant facility back to the Town.

9.2 Public Private Partnerships

Public Private Partnerships have also become commonplace as a means to get things done in a climate of reduced municipal funding. In many instances, commercial recreation developments have taken place on public land with expedited permitting by "for profit" companies in return for granting favorable fee and/or scheduling rights to the Town under the terms of a contractual agreement. These developments require a public RFP solicitation of potential developers and typically involve a "design, build, operate and maintain" lease of fifty (50) years or more.

Public Private Partnerships can also include non-profit private partners such as small colleges, YMCAs or Boys and Girls Clubs. For example, Salve Regina College of Newport, RI is landlocked but has growing athletic programs, while Middletown, RI Middle School has large land holdings but poor facilities and lacks funding. In a Public Private Partnership, a private company develops state of the art facilities on public land and enters into a use agreement with the school district.

9.3 Advertising and Naming Rights

Although traditionally frowned upon by most communities, it has become more acceptable in the current economic climate to consider corporate advertising and issuing of facility naming rights. We are aware of significant municipal projects with major corporate donors such as Roche Brothers, Boch Toyota and Citizens Bank. The resultant facilities often bear the name of the major donor, e.g. Citizens Bank Field. This often requires a change in Town policy or regulation.

When a significant donation is provided, it often makes sense to have the donor pay directly for some well-defined, stand-alone aspect of the project such as the athletic lighting. In this way it can be procured as a private solicitation precluding the requirement to pay the contractor prevailing Massachusetts public wage rates and allowing for the procurement of a specific proprietary product (e.g. MUSCO Lights).

9.4 Developer Impact Mitigation

Development or funding of recreation facilities can also be mandated of private developers by Town permitting boards (Zoning or Planning). The rationale for these "off site impact mitigation" conditions is that the developer, by increasing the housing stock in the community, is increasing the demands made of already severely constrained municipal recreation facilities. Communities have found this as an effective means of increasing the recreation facilities consistent with the growth of the community.

We recommend that the Town meet with the permitting boards and request consideration of recreation related permitting conditions for future development.

9.5 Local Fund Raising

Community fund raising can have a large impact on athletic field project funding. The sale of donor recognition unit pavers, or centrally located stadium seating can result in substantial funds. The recent renovation of high school athletic facilities in Cohasset, MA was funded in large part from community fund raising with brick paver donor recognition.

9.6 In-Kind Services

Community fund raising groups should identify those contractors within their community that provide goods and services inherent in a field development project. Contractors or suppliers who specialize in landscape construction, site development, tree clearing, asphalt paving, aggregates, loam, or site furnishings can often be called upon to donate goods or services to community projects. Gale designed and permitted municipal athletic complexes in Kingston, MA and Wrentham, MA built largely with "in-kind" labor and materials. Such projects usually progress slowly and are a challenge to manage, however the ends often justify the process. Gale recommends involving Town Council in this process since State laws and Prevailing Wage Requirements can play a roll in how in-kind labor is performed.

9.7 Public and Private Grants

There are many grant opportunities available for the development of primarily new or expanded athletic facilities. US Soccer is perhaps the best example of an organization looking to foster the growth of its sport and willing to invest in new or expanded facilities. The Mass Youth Soccer complex in Lancaster, MA was built largely based on grants from US Soccer Association. Similarly, the USTA is providing funding for new and expanded tennis facilities, particularly those incorporating the new reduced size "Quickstart" courts intended to foster interest in tennis in young children. Usually grant applications for these and similar organizations require mature feasibility studies and schematic level plans and cost estimates.

Section 10.0 – Overall Master Plan Conclusions

- Out of all of the sites analyzed, there are eleven (11) fields out of the seventeen (17) total athletic fields in the Town which are over scheduled (i.e. see an average of over 250 scheduled team uses per year). Another four (4) fields experience over 200 uses and must be aggressively maintained and rested to maintain an acceptable safe stand of turf. As a result, fifteen (15) out of seventeen (17) athletic fields maintained by the Town are either broken down or heavily distressed.

- There are select athletic fields in the community with over 500 formal scheduled uses per year, which is more than double the demand that a well-maintained natural turf field can withstand

- Gale strongly recommends that the Town implement an Inclement Weather Policy to regulate use of fields during wet weather when use of fields can cause detrimental damage. It is also recommended that the Town formalize a field permitting procedure so that uses of the fields are better regulated and athletic groups are using the fields under documented Town regulations and scheduling policies. In addition to field permitting policies, users should be under agreement with the Town for the use of fields and a series of use regulations and procedures should be documented to ensure that athletic field users are using the fields and amenities appropriately, with the intent to improve the ability for the Town to provide adequate maintenance and upkeep of facilities.

- The largest perceived recreational need throughout the Town is for additional multi-purpose trails for walking, biking, running, hiking and fitness. In response to several questions concerning current unmet recreation needs and potential priorities for development, consensus reveals that trails and paths for multi-purpose use is an unmet need. The proposed recreation complex at the Main Street Parcel included an extensive trail network, which should be included in any new recreation complex, whether or not the Main Street Recreation Complex project is undertaken.

- The second largest recreational need throughout the Town is for additional lighted playing fields, specifically for multi-purpose use. The existing population of fields is inadequate to effectively meet current demands. It is recognized by an overwhelming majority of survey respondents that lights, allowing for extended use of existing fields may mitigate the shortage, however turf quality will suffer as increased play is accommodated on lighted, already overtaxed fields. In response to the field shortage, based on survey results, there is a widely held opinion that additional fields may be appropriate and supported at the existing high school game field. Based on the results indicating an overall support for synthetic turf, we feel that incorporation of synthetic turf should be considered in the event that field demands require the all-weather synthetic surface in order to meet field demand and allow the Town to maintain the rest of the field inventory. Upon completion of a deliberate analysis of advantages and disadvantages of redevelopment at each existing facility, it can be concluded that the High School and Middle School facilities are most appropriate for development of synthetic turf fields. Due to the significant abutter presence and objection to field lighting at the Middle School, the High School property becomes the most advantageous location for proposing lighted, synthetic turf fields.

- It is apparent that the need for athletic fields, as it relates to demand, is primarily concentrated on multi-purpose fields. Upon analysis of the need for baseball and softball fields, it can be concluded that the Town has an adequate quantity of facilities to meet the quantified demands. However, several of the 60' and 90' baseball diamonds are overused. In most cases, this overuse is contributed to use of the outfield as multi-purpose space. Upon implementation of the Master Plan, the development of additional multi-purpose field space will greatly enhance the condition of 60' and 90' softball and baseball diamonds due to the redistribution of multi-purpose use onto multi-purpose fields rather than baseball or softball outfields. The demand redistribution (provided under Enclosure 6), where possible, proposes to limit the combined (baseball/softball/multi-purpose) uses of baseball and softball fields to under 250 per year where possible. This will provide adequate rest periods for baseball and softball diamonds and will improve turf condition due to constrained use of the outfields. While users agree that there may not be a requirement for additional 60'/90' diamond field space, there are a significant amount of short-term improvements that are required to provide adequate conditions to sustain demand. Refer to Volume 1 of the Master Plan, as well as Section 2.2 of this report for a list of the short-term recommendations.

- The following is an outline of the current capabilities of the Lynnfield athletic field inventory and the proposed planning program:

    - Current Capabilities = 17 fields * 250 Events per Year = **4,250 Events** per Year

    - Current Events per Year = **5,681**

    - Event Space Shortage = 5,681 – 4,250 Events per year = **1,431 Events**

    - Field Shortage = 1,431 Events / 250 Events per year = **5 - 6 Fields**

- Based on the analysis of existing facility redevelopment and the proposed redevelopment strategies, Gale recommends pursuing Option 1 of the High School and Middle School redevelopments, combined with development of an undeveloped parcel to accommodate program elements similar to the proposed Main Street Recreation Complex.

- The redevelopment alternatives provided herein are based on the assumption that the Town can procure and/or develop a parcel that will be able to provide the planning program elements proposed for the Main Street Recreation Complex. The redistribution of demand assumes limited uses of the multi-purpose facilities at Huckleberry Hill School and St. Maria Goretti Parish, due to their constraints in providing the level of use required. This demand is redistributed to a proposed athletic complex, such as the Main Street Parcel. If this program cannot be achieved at an undeveloped parcel, the facilities at Huckleberry Hill School and St. Maria Goretti Parish will require improvements to allow them to sustain this demand.

- There is perception in the community that maintenance and upkeep of athletic fields and parks is often not sufficient and appears to be affecting serviceability of the Town's field inventory. Based on the demand placed on the field inventory, it is nearly impossible to provide maintenance that will sustain the level of use currently placed on the fields. A more sufficient quantity of fields, as well as a consistent maintenance regimen, will allow for more adequate and available playing fields, but will also require additional maintenance resources. The current Town's athletic field inventory requires a maintenance budget of approximately $382,000 to provide the level of maintenance that is needed to withstand the amount of use on the Town's fields. Upon implementation of the Master Plan, more fields will be provided with adequate rest periods as well as a reasonable level of use between 200 and 250 annual uses. With the proposed inventory of fields, the required maintenance budget will be approximately $446,000, an increase of $64,000. Based on the estimated current budget of $227,600, the DPW will be even more constrained upon implementation of the Master Plan, unless additional budget appropriations are provided. As compared to additional natural turf fields, installation of several synthetic turf fields will provide a significant savings in labor and material cost for maintenance of multi-purpose fields.

- A recreation complex has been proposed at the Main Street parcel, currently owned by the LWD. Upon completion of the feasibility study for this parcel, the Fields Committee has concluded that due to prohibitive costs and limited developable upland area, the parcel may not be feasible for development of a new recreation complex. The Master Plan and associated proposed improvements rely on a recreation complex to provide multi-purpose fields and a diverse variety of passive recreation opportunities. Gale recommends that the Town look into other undeveloped areas for procurement and/or development to provide the programming proposed at the Main Street

Parcel. While the active recreation facilities (multi-purpose fields) can nearly be achieved through development at the High School and Middle School, there is limited opportunity for development of a trail network and other passive recreation opportunities at these locations. Locations for potential development of passive recreation opportunities should be considered a priority upon implementation of the Master Plan.

Enclosure 1

Sample Inclement Weather Policy

SAMPLE INCLEMENT WEATHER POLICY

PURPOSE

Town athletic fields are designed and maintained for the enjoyment and use of all residents. The purpose of this policy is to inform the public of certain rules and restrictions for fields to (1) prevent damage to the playing surface and (2) injuries to field users caused by inclement weather or unsafe playing conditions. An effective field maintenance program and inclement weather closure policy is essential for safety, upkeep, and enjoyment for all residents and visitors.

Field users are asked to help us by adhering to the following rules and procedures. Groups who use Town athletic facilities are expected to assist in protecting their participants and the fields during periods of rain and other inclement weather. **With respect to field quality, it only takes one practice or game to destroy a field that is not ready for play.**

POLICY

The Department of Recreation reserves the right to cancel or suspend outdoor facility and field use, including uses subject to an issued permit, for games, practices and other uses whenever field conditions might result in damage to the fields or injury to players.

Permits may also be cancelled when the health or safety of participants is threatened due to existing or predicted conditions, including but not limited to heavy rains, thunderstorms, and air quality alerts.

It is the field user's responsibility to visit the Recreation Department homepage at or call the Recreation Weather Hotline at (XXX) XXX-XXXX after 2:30 p.m. Monday-Friday or after 7:30 a.m. Saturday and Sunday to verify field closures. Closed fields may not be used.

The Recreation Department enforces field closure notices, and if groups are found using closed fields, the permit holder may be charged for the cost to repair the field. Additionally, if the Department determines that a permit holder has violated the field closure notice on multiple occasions, the entirety of their permit may be revoked and that organization's or group's ability to acquire future permits shall be under review.

PROCESS

The Department of Recreation uses various resources to get the most accurate conditions report at a particular site. These resources include coaches, Town employees, referees, and umpires. Information may be collected from one or more of these sources prior to a decision to close a field. Once the decision is made, the hotline and Recreation Department homepage are updated.

Weather is very difficult to predict. To assist with closure decisions, the Department utilizes weather forecasts from various sources. However, the Department reserves the right to close a field when a determination is made that use might cause damage or injury.

Please use the breakdown below as a general guide for which fields are closed

Rain

Artificial Turf – Open until conditions become unsafe for play

Natural Turf – Closed

- Note: Fields may be offline for multiple days in order for the field to completely dry-out and return to a playable condition.

Thunderstorm

Artificial Turf – Closed until storm passes (unless field becomes saturated)

- On-site umpires or referees allowed to make reopening call

Natural Turf – Closed (may reopen)

- Reopening dependant on amount of rainfall, the Recreation Department will make determination.

Snow or Ice

Artificial Turf – Please refer to the Recreation Department website or weather hotline to determine the status of artificial fields after snowfall.

Natural Turf – Closed

Enclosure 2

User Demand Matrix

FIELD USE ANNUAL SUMMARY - ACTUAL TEAM USES

								EXISTING USES		
Field Location	**Field**	**Field Type**	**Field Rested (Y/N)**	**Spring Uses**	**Summer Uses**	**Fall Uses**	**Winter Uses**	**Use By Type**	**Total Annual Uses**	**Comments**
Lynnfield Regional High School	Practice Football	MPR	N	140	45	135	0		320	
	MP Soccer Field	MPR	N	133	50	130	6		313	
	60' Diamond and MP Outfield	Diamond Use	N	216	45	161	0	175	597	
		MP Outfield Use		139	45	169	6	422		
	90' Diamond and MP Outfield	Diamond Use	N	40	0	0	0	40	396	
		MP Outfield Use		142	45	169	6	356		
	Upper Field	MPR	N	112		192	20		324	
Lynnfield Middle School	90' Diamond & MP	90' Diamond Use	N	297	0	7	6	310	530	
		MP Outfield Use		54	15	99	52	220		
	MP Game Field	MPR	N	364	43	71	32	--	510	
	60' Diamond & MP Outfield	60' Diamond Use	N	90	125	0	0	215	240	
		MP Outfield Use		0	0	25	0	25		
Summer Street School	60' Diamond (front)	60' B	N	6	0	6	4	--	16	
	60' Diamond & MP	60' Diamond Use	N	144	14	21	6	185	341	
		MP Outfield Use		68	20	48	20	156		
St. Maria Goretti	60' Diamond & MPR	60' Diamond Use	N	25	15	0	0	40	104	
		MP Outfield Use		32	0	32	0	64		
Jordan Park	MP Field 1	MPR	N	232	46	186	0		464	
	MP Field 2	MPR	N	232	46	186	0		464	
Glen Meadow	60' Diamond	60' B	N	190	12	22	0		224	
Newhall	Front Field	60' B	N	63	12	63	0		224	
	Back Field	60' B	N	190	12	22	0		224	
Huckleberry Hill	MPR	MPR	N	164	0	164	62		390	
										5681

Lynnfield Athletic Fields Study	Field Use Evaluation - Actual Demand (Scheduled Team Uses)												
	Town of Lynnfield User Demand Statistics						Lynnfield Fields						
User Organization	Number Teams	Number Participants	% Growth Last 5 Yrs	% Growth Next 5 Yrs	Season Start	Season End	LHS	LHS 90' Baseball Diamond & MP		LHS 60' Softball Diamond & MP		LHS	LHS
							Upper MP Field	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	Practice Football Field	MP Field 1 (N-S)
LHS Football	2	60			August	November						120	
LHS Soccer	2	50			August	November		117		117		20	120
LHS Field Hockey	1	25			August	November							
LHS Boys Baseball	2	75			April	June			40			40	
LHS Girls Softball	2	50			April	June				90			
LHS Boys Lax	2	50			April	June						40	
LHS Girls Lax	2	50			April	June						40	
Middle School Field Hockey	2	30	0.0%	0.0%	Sept	Oct							
High School PE	1		0.0% 0.0%	0.0% 0.0%	Sept	June	60	20		20			20
Middle School PE	1		0.0% 0.0%	0.0% 0.0%	Sept	June							
Elementary School PE	1		0.0% 0.0%	0.0% 0.0%	Sept	June							
Youth Football		150			Sept April June	November May July		10 10		10 10		30 20 10	
Youth Soccer	56 58	672 754	0.0% 0.0%	0.0% 0.0%	August April May	November May June	92 37 55	56 34 22		56 34 22			
Little League	45 6 2	450 60 24	0.0% 0.0% 0.0%	5.0% 5.0% 5.0%	April June Sept	June August October							
Jr. League	see above	- -	- -	- -	April -	June -							
T-Ball	see above	- -	- -	- -	April -	June -							
Girls Softball	10 6	140 90	0.0% 0.0%	0.0% 0.0%	March June	June August					75		
Youth Lacrosse	2 10	30 200	15.0% 15.0%	20.0% 20.0%	March May Sept	May July Oct	80	33 30		33 30			63 62
Mens Over 40 Soccer	1 1	23 23	0.0% 0.0%	0.0% 0.0%	Sept April	Nov June							12 12
Mens Over 50 Soccer	4 4	80 80	0.0% 0.0%	0.0% 0.0%	August April	Nov June		24					12 12
Mens Over 40 Softball	6 -	108 -	0.0% -	0.0% -	April June	May August					50 50		
		3274	Total Annual Team Uses per Field				324	356	40	422	175		
								396		597		320	313

Lynnfield Athletic Fields Stu

User Organization	LMS 90' Diamond & MP		LMS 60' Diamond & MP		LMS	Summer St	Summer St		St. Maria		Jordan Park	Jordan Park	Glen Meadow
	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	MP Game Field	60' (Front)	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	MP Field 1	MP Field 2	60' D
LHS Football					10								
LHS Soccer													
LHS Field Hockey	60												
LHS Boys Baseball		20											
LHS Girls Softball				90									
LHS Boys Lax					120								
LHS Girls Lax					120								
Middle School Field Hockey			25										
High School PE													
Middle School PE	160	20			100								
Elementary School PE						16	60	20					
Youth Football					30 30 60								
Youth Soccer							48 29 19		32 19 13		232 139 93	232 139 93	
Little League								98 28 14					157 45 22
Jr. League		150											
T-Ball		120											
Girls Softball				125				25		10			
Youth Lacrosse					20 20								
Mens Over 40 Soccer													
Mens Over 50 Soccer													
Mens Over 40 Softball										15 15			
	220	310	25	215			156	185	64	40			
	530		**240**		**510**	**16**	**341**		**104**		**464**	**464**	**224**

Lynnfield Athletic Fields Stu

User Organization	Newhall 60' D (front)	Newhall 60' D (back)	Huckleberry Hill MP Field				
LHS Football							
LHS Soccer							
LHS Field Hockey							
LHS Boys Baseball							
LHS Girls Softball							
LHS Boys Lax							
LHS Girls Lax							
Middle School Field Hockey							
High School PE							
Middle School PE							
Elementary School PE			190				
Youth Football							
Youth Soccer			100 60 40				
Little League	157 45 22	157 45 22					
Jr. League							
T-Ball							
Girls Softball							
Youth Lacrosse							
Mens Over 40 Soccer							
Mens Over 50 Soccer							
Mens Over 40 Softball							
				0	0	0	0
	224	**224**	**390**				

Enclosure 3

Equivalent Use Demand Matrix

Lynnfield Athletic Fields Study — Field Use Evaluation - Equivalent Demand (Scheduled Team Uses)

	Town of Lynnfield User Demand Statistics							Lynnfield Fields						
User Organization	**Number Teams**	**Number Participants**	**% Growth Last 5 Yrs**	**% Growth Next 5 Yrs**	**Season Start**	**Season End**	**Use Multiplier**	LHS	LHS 90' Baseball Diamond & MP		LHS 60' Softball Diamond & MP		LHS	LHS
								Upper MP Field	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	Practice Football Field	MP Field 1 (N-S)
LHS Football	2	60			August	November	2						240	
LHS Soccer	2	50			August	November	1.75		205		205		35	210
LHS Field Hockey	1	25			August	November	1							
LHS Boys Baseball	2	75			April	June	0.9			36			36	
LHS Girls Softball	2	50			April	June	0.9				81			
LHS Boys Lax	2	50			April	June	1.75						70	
LHS Girls Lax	2	50			April	June	1.25						50	
Middle School Field Hockey	2	30	0.0%	0.0%	Sept	Oct	1							
High School PE	1		0.0%	0.0%	Sept	June	0.9	54	18		18			18
			0.0%	0.0%										
Middle School PE	1		0.0%	0.0%	Sept	June	0.9							
			0.0%	0.0%										
Elementary School PE	1		0.0%	0.0%	Sept	June	0.9							
			0.0%	0.0%										
Youth Football		150			Sept	November	1		10		10		30	
					April	May			10		10		20	
					June	July							10	
Youth Soccer	56	672	0.0%	0.0%	August	November	1	92	56		56			
					April	May		37	34		34			
	58	754	0.0%	0.0%	May	June		55	22		22			
Little League	45	450	0.0%	5.0%	April	June	0.9							
	6	60	0.0%	5.0%	June	August								
	2	24	0.0%	5.0%	Sept	October								
Jr. League	see above	-	-	-	April	June	0.9							
		-	-	-	-	-								
T-Ball	see above	-	-	-	April	June	0.5							
		-	-	-	-	-								
Girls Softball	10	140	0.0%	0.0%	March	June	0.9							
	6	90	0.0%	0.0%	June	August						68		
Youth Lacrosse	2	30	15.0%	20.0%	March	May	1.25		41		41			78
					May	July			41		38			78
	10	200	15.0%	20.0%	Sept	Oct		100						
Mens Over 40 Soccer	1	23	0.0%	0.0%	Sept	Nov	1.75							21
	1	23	0.0%	0.0%	April	June								21
Mens Over 50 Soccer	4	80	0.0%	0.0%	August	Nov	1.75		30					21
	4	80	0.0%	0.0%	April	June								21
Mens Over 40 Softball	6	108	0.0%	0.0%	April	May	0.9					45		
	-	-	-	-	June	August						45		
		3274							467	36	515	158		
			Total Annual Team Uses per Field					**338**	**503**		**673**		**491**	**468**

Lynnfield Athletic Fields Stu

User Organization	LMS 90' Diamond & MP		LMS 60' Diamond & MP		LMS	Summer St	Summer St		St. Maria		Jordan Park	Jordan Park	Glen Meadow	Newhall	Newhall
	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	MP Game Field	60' (Front)	Multipurpose Use	Diamond Use	Multipurpose Use	Diamond Use	MP Field 1	MP Field 2	60' D	60' D (front)	60' D (back)
LHS Football					20										
LHS Soccer															
LHS Field Hockey	60														
LHS Boys Baseball		18													
LHS Girls Softball				81											
LHS Boys Lax					150										
LHS Girls Lax					150										
Middle School Field Hockey			25												
High School PE															
Middle School PE	144	18			90										
Elementary School PE						14	54	18							
Youth Football					30 30 60										
Youth Soccer							48 29 19		32 19 13		232 139 93	232 139 93			
Little League								88 25 13					141 41 20	141 41 20	141 41 20
Jr. League		135													
T-Ball		60													
Girls Softball				113				23		9					
Youth Lacrosse					25 25										
Mens Over 40 Soccer															
Mens Over 50 Soccer															
Mens Over 40 Softball										14 14					
	204	231	25	194			150	167	64	37					
	435		**219**		**580**	**14**	**317**		**101**		**464**	**464**	**202**	**202**	**202**

Lynnfield Athletic Fields Stu	
User Organization	Huckleberry Hill MP Field
LHS Football	
LHS Soccer	
LHS Field Hockey	
LHS Boys Baseball	
LHS Girls Softball	
LHS Boys Lax	
LHS Girls Lax	
Middle School Field Hockey	
High School PE	
Middle School PE	
Elementary School PE	171
Youth Football	
Youth Soccer	100 60 40
Little League	
Jr. League	
T-Ball	
Girls Softball	
Youth Lacrosse	
Mens Over 40 Soccer	
Mens Over 50 Soccer	
Mens Over 40 Softball	
	371

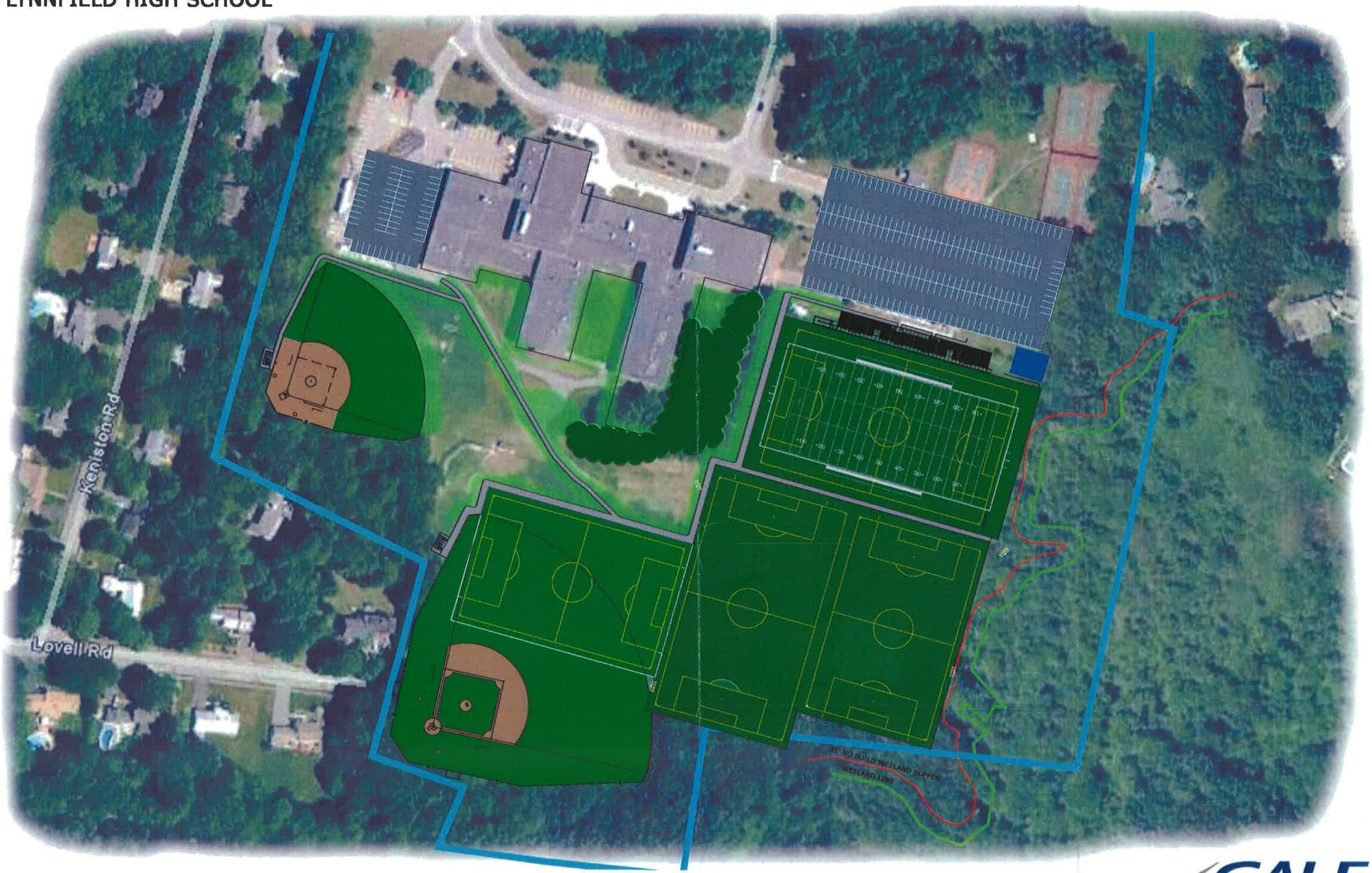
Enclosure 4

Conceptual Redevelopment Schematics

Lynnfield High School

Option 1

LYNNFIELD HIGH SCHOOL



GALE

GALE

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Engineers and Planners

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Boston Baltimore Orlando San Francisco

PROJECT
LYNNFIELD RECREATION FEASIBILITY STUDY
LYNNFIELD, MASSACHUSETTS

OWNER
TOWN OF LYNNFIELD
55 SUMMER ST
LYNNFIELD, MASSACHUSETTS 01940

REVISIONS		
NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	
DRAWN BY	WAH
CHECKED BY	
DATE	11/8/12
DRAWING SCALE	1"=60'-0"

GRAPHIC SCALE
0 60' 120'

SHEET TITLE

OPTIONAL MEN'S SOFTBALL ADDITION

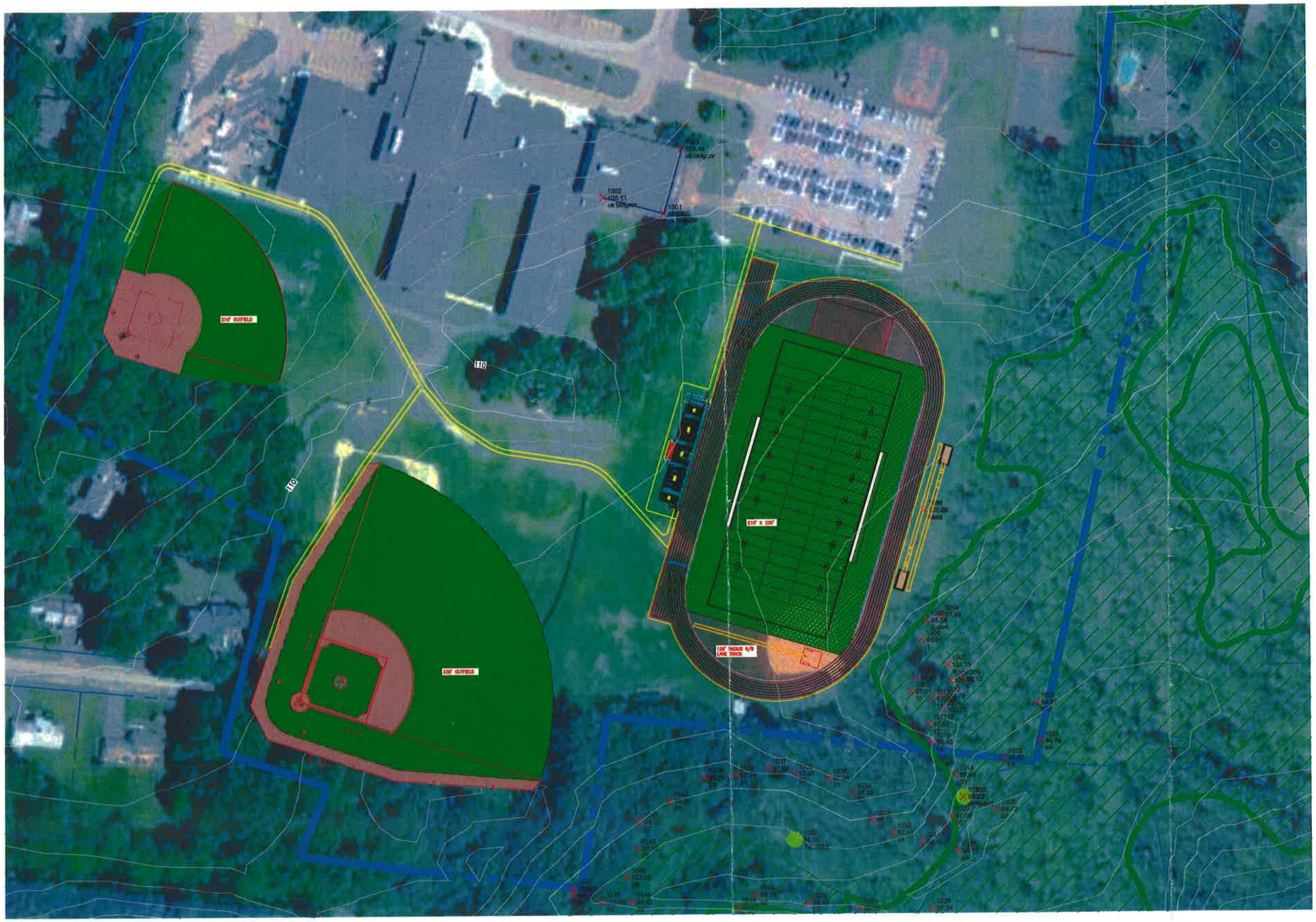
DRAWING NO.
SK-1

PROJECT NO. 715630

F:\715630\PLOTS\Schematic\715630_FTF_SOFTBALL.dwg, 3/13/2013 2:26:26 PM

Lynnfield High School

Option 2



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Boston Baltimore Orlando San Francisco

PROJECT
LYNNFIELD RECREATION FEASIBILITY STUDY
LYNNFIELD, MASSACHUSETTS

OWNER
TOWN OF LYNNFIELD
55 SUMMER ST
LYNNFIELD, MASSACHUSETTS 01940

REVISIONS		
NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	
DRAWN BY	WAH
CHECKED BY	
DATE	11/8/12
DRAWING SCALE	1"=60'-0"

GRAPHIC SCALE
0 60' 120'

SHEET TITLE

PROPOSED LAYOUT PLAN OPTION 2

DRAWING NO.
SK-5

PROJECT NO. 715830

Lynnfield Middle School

Option 1

LYNNFIELD MIDDLE SCHOOL

GALE

Lynnfield Middle School

Option 2

GALE

Gale Associates, Inc.
Engineers and Planners

163 LIBBEY PARKWAY | WEYMOUTH, MA 02189
P 781.335.6465 F 781.335.6467
www.galeinc.com

Boston Baltimore Orlando San Francisco

PROJECT
LYNNFIELD RECREATION
FEASIBILITY STUDY
LYNNFIELD, MASSACHUSETTS

OWNER
TOWN OF LYNNFIELD
55 SUMMER ST
LYNNFIELD, MASSACHUSETTS 01940

REVISIONS		
NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	
DRAWN BY	WAH
CHECKED BY	
DATE	11/8/12
DRAWING SCALE	1"=60'-0"

GRAPHIC SCALE
0 60' 120'

SHEET TITLE
PROPOSED
LAYOUT
PLAN
OPTION 2

DRAWING NO.
SK-4

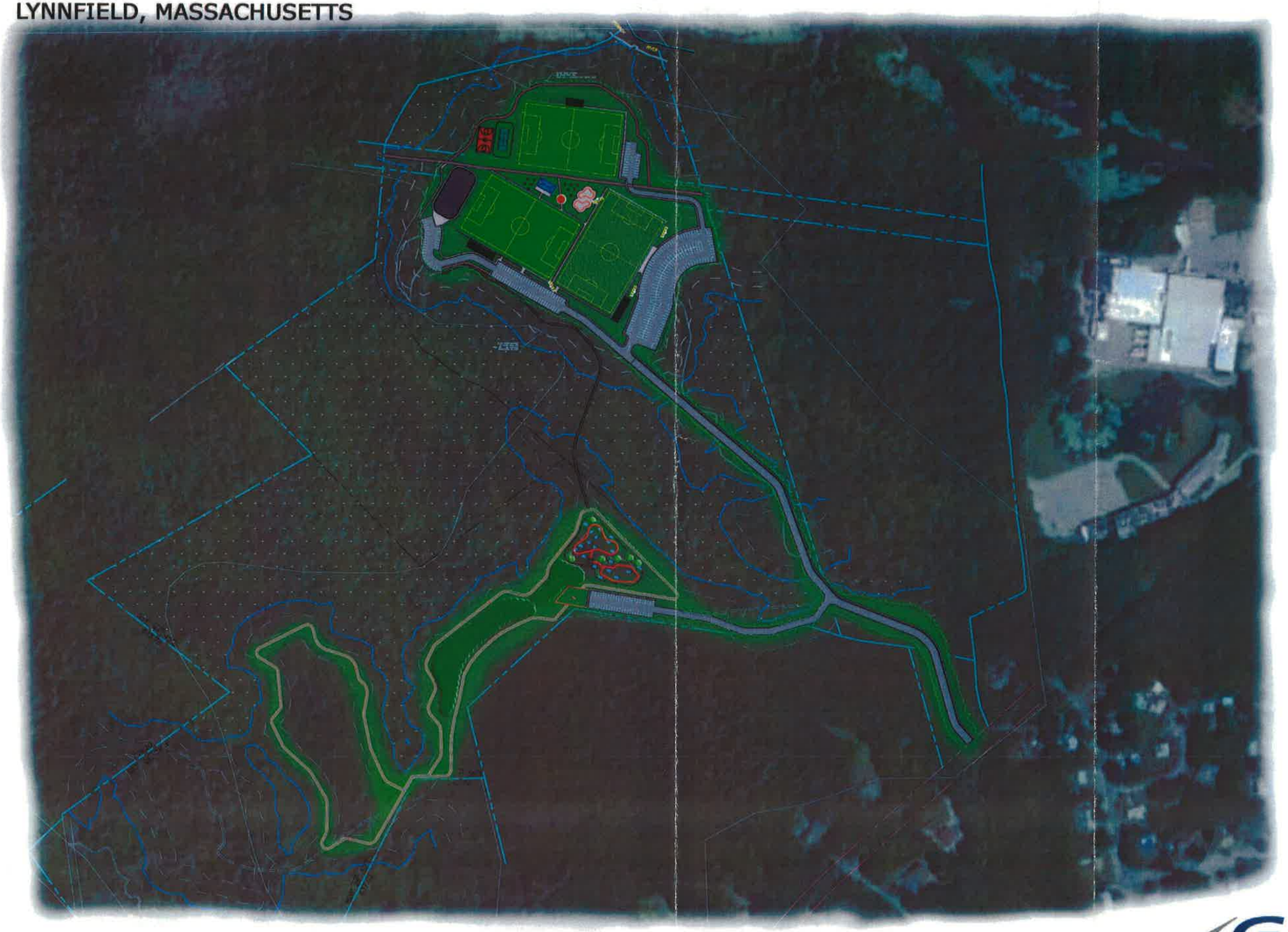
PROJECT NO. 715630

Lynnfield Water District Main Street Parcel

Option 1

LYNNFIELD RECREATION PROJECT OPTION 1

LYNNFIELD, MASSACHUSETTS



GALE

Lynnfield Water District Main Street Parcel

Option 2

LYNNFIELD RECREATION PROJECT OPTION 2

LYNNFIELD, MASSACHUSETTS

GALE

Enclosure 5

Concept Cost Estimates

SCHEMATIC COST ESTIMATE - LYNNFIELD HIGH SCHOOL - OPTION 1 - 2/8/2013 Revised 3/13/13

This cost estimate reflects the improvements proposed under Option 1 for Lynnfield High School. The estimate includes construction of the synthetic turf stadium field (Field 1), construction of the combined synthetic turf game/practice fields (Fields 2 & 3), reconstruction of the baseball field including multipurpose outfield, construction of the softball field in its proposed location, grandstand and amenities buidling at the stadium field, and pedestrian circulation routes.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
1	**General Conditions**					$ 105,804.61	
a	Bonds and Insurance (2%)	LS	1	$ 85,804.61	$ 85,804.61		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
2	**Erosion Control**					$ 9,900.00	
a	Haybales and Silt Fence	LF	1100	$ 9.00	$ 9,900.00		
3	**Demolition**					$ 31,400.00	
a	Misc. Demolition	LS	1	$30,000.00	$ 30,000.00		
b	Clearcutting	AC	0.2	$7,000.00	$ 1,400.00		
4	**Synthetic Turf Field Construction - Field 1**					$ 1,151,187.50	
a	Strip and haul topsoil / organics (assume 12")	CY	3500	$ 12.00	$ 42,000.00		
b	Prepare sub-base, shape and compact	SY	10,530	$ 2.25	$ 23,692.50		
c	Drainage						
d	Geotextile Separation Layer	SY	10,530	$ 2.00	$ 21,060.00		
e	10" Perf. HDPE	LF	990	$ 25.00	$ 24,750.00		
f	Flat panel drains	LF	2800	$ 4.00	$ 11,200.00		
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2400	$ 36.00	$ 86,400.00		
k	Crushed Stone Base under Field (2")	CY	600	$ 37.00	$ 22,200.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1260	$ 32.00	$ 40,320.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1260	$ 40.00	$ 50,400.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	400	$ 22.00	$ 8,800.00		
v	Field Surfacing						
w	Filled-Turf installed	SF	94,700	$ 4.25	$ 402,475.00		
x	Turf striping	Sport	3	$ 7,000.00	$ 21,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 15,000.00	$ 15,000.00		
aa	Goals	PR	4	$ 3,400.00	$ 13,600.00		
bb	Site Electrical (connection of system)	LS	1	$20,000.00	$20,000.00		
cc	MUSCO Athletic Field Lighting System	Pole	4	$80,000.00	$320,000.00		
5	**Synthetic Turf Field Construction - Fields 2 & 3**					$ 1,444,563.00	
a	Strip and haul topsoil / organics (assume 12")	CY	5700	$ 12.00	$ 68,400.00		
b	Prepare sub-base, shape and compact	SY	17,000	$ 2.25	$ 38,250.00		
c	Drainage						
d	Geotextile Separation Layer	SY	17,000	$ 2.00	$ 34,000.00		
e	10" Perf. HDPE	LF	1900	$ 25.00	$ 47,500.00		
f	Flat panel drains	LF	5300	$ 4.00	$ 21,200.00		
g	Cleanouts (Nyloplast CB's)	EA	8	$ 1,600.00	$ 12,800.00		
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	3790	$ 36.00	$ 136,440.00		
k	Crushed Stone Base under Field (2")	CY	950	$ 37.00	$ 35,150.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1634	$ 32.00	$ 52,288.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1650	$ 40.00	$ 66,000.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	6	$ 560.00	$ 3,360.00		
r	Water Supply						
s	Water Cannon	EA	0	$ 7,000.00	$ -		
t	Water Cannon Connection	EA	6	$ 1,500.00	$ 9,000.00		
u	Water Line	LF	600	$ 22.00	$ 13,200.00		
v	Field Surfacing						
w	Filled-Turf installed	SF	153,300	$ 4.25	$ 651,525.00		
x	Turf striping	Sport	6	$ 7,000.00	$ 42,000.00		
y	Equipment						
z	Scoreboard	LS	2	$ 15,000.00	$ 30,000.00		
cc	MUSCO Athletic Field Lighting System	Pole	2	$90,000.00	$180,000.00		

5	**Relocate Softball Field**					**$ 176,850.00**
a	Strip and Screen and stockpile topsoil (assume 8")	CY	1440	$ 9.00	$ 12,960.00	
b	Prepare sub-base, shape and compact	SY	5,000	$ 2.25	$ 11,250.00	
c	Demolish/repair existing irrigation	LS	1	$ 2,500.00	$ 2,500.00	
d	Field Base					
e	Place an amend root zone materials (8")	CY	800	$ 27.00	$ 21,600.00	
f	Irrigation					
g	Tap to existing system	LS	1	$ 700.00	$ 700.00	
h	Irrigation System on existing controler	Zone	12	$ 2,500.00	$ 30,000.00	
i	Field Surfacing					
j	Clay Infield mix	Ton	250	$ 45.00	$ 11,250.00	
k	Seed athletic field mix and fine grade	SF	30,000	$ 0.35	$ 10,500.00	
l	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00	
m	Field Fencing					
n	Backstop	LS	1	$ 20,000.00	$ 20,000.00	
o	6' High Perimeter Fence	LF	180	$ 55.00	$ 9,900.00	
p	Temporary Outfield Fencing	LF	340	$ 12.00	$ 4,080.00	
q	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00	
r	Equipment					
s	Foul Poles	SET	1	$ 4,200.00	$ 4,200.00	
t	21' long players bench	EA	2	$ 2,000.00	$ 4,000.00	
u	8x24 stone dust players pad	SF	192	$ 5.00	$ 960.00	
v	Bases Including Anchors	SET	1	$ 1,500.00	$ 1,500.00	
w	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00	
6	**Reconstruct Baseball Field & Multipurpose outfield**					**$ 533,030.00**
a	Strip and Screen and stockpile topsoil (assume 12")	CY	5500	$ 9.00	$ 49,500.00	
b	Prepare sub-base, shape and compact	SY	16,500	$ 2.25	$ 37,125.00	
c	Demo/Repair existing irrigation	LS	1	$ 4,000.00	$ 4,000.00	
d	Drainage					
e	Geotextile Separation Layer	SY	10,000	$ 2.00	$ 20,000.00	
f	12" Perf. HDPE	LF	1200	$ 28.00	$ 33,600.00	
g	Flat panel drains	LF	4500	$ 4.00	$ 18,000.00	
h	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00	
i	Field Base					
j	Crushed Stone Base under Field (4")	CY	1800	$ 36.00	$ 64,800.00	
k	Place and amend root zone materials (8")	CY	3600	$ 27.00	$ 97,200.00	
l	Irrigation					
m	Tap to existing irrigation main	LS	1	$ 6,600.00	$ 6,600.00	
n	Irrigation System and controller	Zone	16	$ 2,500.00	$ 40,000.00	
o	Field Surfacing					
p	Clay Infield mix	Ton	306	$ 45.00	$ 13,770.00	
q	Seed athletic field mix and fine grade	SF	110,000	$ 0.35	$ 38,500.00	
r	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00	
s	Field Fencing					
t	Backstop	LS	1	$ 25,000.00	$ 25,000.00	
u	6' High Perimeter Fence	LF	650	$ 55.00	$ 35,750.00	
v	12' Wide Gate	EA	1	$ 1,725.00	$ 1,725.00	
w	Equipment					
x	Foul Poles	SET	1	$ 4,200.00	$ 4,200.00	
y	21' players benches	EA	2	$ 2,000.00	$ 4,000.00	
z	8x24 stone dust players pad	SF	192	$ 5.00	$ 960.00	
aa	Bases Including Anchors	SET	1	$ 1,500.00	$ 1,500.00	
bb	Temporary Outfield Fencing	LF	600	$ 12.00	$ 7,200.00	
cc	Scoreboard	LS	1	$ 12,000.00	$ 12,000.00	
7	**Amenities Building**					**$ 411,800.00**
a	2,100 SF building (bare concession, storage, restrooms)	SF	2100	$ 175.00	$ 367,500.00	
b	Underground Electrical Service	LF	1500	$ 21.00	$ 31,500.00	
c	Water Service	LF	400	$ 32.00	$ 12,800.00	
10	**Spectator Seating**					**$ 378,000.00**
a	1200-seat bleacher system	SEAT	1200	$ 265.00	$ 318,000.00	
b	Pressbox	LS	30000	$ 1.00	$ 30,000.00	
c	Portable spectator seating systems (100-person)	EA	3	$ 10,000.00	$ 30,000.00	
11	**Walkways**					**$ 82,700.00**
a	Prepare sub-base, shape and compact	SY	1200	$ 2.25	$ 2,700.00	
b	Gravel Base (8" base)	SY	800	$ 8.00	$ 6,400.00	
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	800	$ 22.00	$ 17,600.00	
d	Site Lighting	EA	16	$ 3,500.00	$ 56,000.00	
15	**Landscaping**					**$ 32,000.00**
a	Landscaping Planting Areas (entrances)	LS	1	$ 12,000.00	$ 12,000.00	
b	Loom and Seed Areas	LS	1	$ 20,000.00	$ 20,000.00	
16	**Site Drainage**					**$ 38,800.00**
a	12" HDPE Pipe	LF	600	$ 28.00	$ 16,800.00	
b	Catch Basins / Manholes	EA	5	$ 2,800.00	$ 14,000.00	
c	Nyloplast Drain Structures	EA	5	$ 1,600.00	$ 8,000.00	
				HIGH SCHOOL TOTAL		
				Subtotal:		$ 4,396,035.11
				Soft Costs (7%)		$ 307,722.46
				10% Contingency		$ 439,603.51
				TOTAL		$ 5,143,361.08

OPTION	BASEBALL ATHLETIC FIELD LIGHTING					$ 420,000.00	
a	6-pole Musco athletic field lighting system	POLE	6	$ 70,000.00	$ 420,000.00		
				BASEBALL ATHLETIC FIELD LIGHTING			
				Subtotal:		$ 420,000.00	
				Soft Costs (7%)		$ 29,400.00	
				10% Contingency		$ 42,000.00	
				TOTAL		$ 491,400.00	
OPTION	SOFTBALL ATHLETIC FIELD LIGHTING					$ 350,000.00	
a	5-pole Musco athletic field lighting system	POLE	5	$ 70,000.00	$ 350,000.00		
				SOFTBALL ATHLETIC FIELD LIGHTING			
				Subtotal:		$ -	
				Soft Costs (7%)		$ -	
				10% Contingency		$ -	
				TOTAL		$ -	
OPTION	SYNTHETIC TURF SOFTBALL ADDITION					$ 61,647.50	
a	Strip and haul topsoil / organics (assume 12")	CY	230	$ 12.00	$ 2,760.00		
b	Prepare sub-base, shape and compact	SY	670	$ 2.25	$ 1,507.50		
c	Field Base						
d	Crushed Stone Base under Field (8")	CY	150	$ 36.00	$ 5,400.00		
e	Crushed Stone Base under Field (2")	CY	40	$ 37.00	$ 1,480.00		
f	Filled-Turf installed	SF	6,000	$ 4.25	$ 25,500.00		
g	Field Fencing						
h	Backstop	LS	1	$ 25,000.00	$ 25,000.00		
				MENS SOFTBALL "BUMPUT" WITH BACKSTOP			
				Subtotal:		$ 61,647.50	
				Soft Costs (7%)		$ 4,315.33	
				10% Contingency		$ 6,164.75	
				TOTAL		$ 72,127.58	

SCHEMATIC COST ESTIMATE - LYNNFIELD HIGH SCHOOL - OPTION 2 - 2/11/2013

This cost estimate reflects the improvements proposed under Option 2 for the Lynnfield High School. The estimate includes construction of the synthetic turf stadium field (Field 1), construction of the running track, reconstruction of the baseball field including multipurpose outfield, construction of the softball field in its proposed location, an amenities buidling at the stadium field

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
1	**General Conditions**					$ 83,214.66	
a	Bonds and Insurance (2%)	LS	1	$ 63,214.66	$ 63,214.66		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
2	**Erosion Control**					$ 9,900.00	
a	Haybales and Silt Fence	LF	1100	$ 9.00	$ 9,900.00		
3	**Demolition**					$ 31,400.00	
a	Misc. Demolition	LS	1	$30,000.00	$ 30,000.00		
b	Clearcutting	AC	0.2	$7,000.00	$ 1,400.00		
4	**Track Construction**					$ 353,902.75	
a	Additional Aggregate Base for Track (8")	Ton	1066	$ 34.00	$ 36,244.00		
b	Prepare sub-base, shape, compact and fine grade	SY	4835	$ 2.25	$ 10,878.75		
c	Pavement (1.5" Binder course and 1.5" Wearing course)	SY	4835	$ 28.00	$ 135,380.00		
d	Track Surface (Polyresin latex)	SY	4600	$ 34.00	$ 156,400.00		
d	Track Striping	EA	1	$ 15,000.00	$ 15,000.00		
5	**Discus and Shot Put Venues**					$ 13,985.50	
a	Discuss and Shot Put Pads (Concrete)	CY	2	$ 500.00	$ 1,000.00		
b	Aggregate base beneath pads	Ton	5	$ 30.00	$ 157.50		
c	Prepare sub-base, shape, compact and fine grade	SY	42	$ 4.00	$ 168.00		
d	Shot Put Curb	LF	180	$ 30.00	$ 5,400.00		
e	Shot put Sand/Clay Mix (6")	Ton	42	$ 30.00	$ 1,260.00		
f	Shot Put Toe board	EA	1	$ 500.00	$ 500.00		
g	Discus Cage and Net	EA	1	$ 5,500.00	$ 5,500.00		
6	**Long Jump Venues**					$ 30,000.00	
a	Sand Pit Forms with Sand Catcher	EA	2	$ 15,000.00	$ 30,000.00		
7	**Non-fixed track equipment**					$ 23,217.00	
a	Hurdles	EA	80	$ 161.00	$ 12,880.00		
b	Hurdle Cart	EA	8	$ 387.00	$ 3,096.00		
c	Starting Blocks	EA	8	$ 280.00	$ 2,240.00		
d	High Jump Landing Pad	EA	1	$ 4,352.00	$ 4,352.00		
e	High Jump Pad Cover	EA	1	$ 649.00	$ 649.00		
7	**Synthetic Turf Field Construction - Field 1**					$ 1,151,187.50	
a	Strip and haul topsoil / organics (assume 12")	CY	3500	$ 12.00	$ 42,000.00		
b	Prepare sub-base, shape and compact	SY	10,530	$ 2.25	$ 23,692.50		
c	Drainage						
d	Geotextile Separation Layer	SY	10,530	$ 2.00	$ 21,060.00		
e	10" Perf. HDPE	LF	990	$ 25.00	$ 24,750.00		
f	Flat panel drains	LF	2800	$ 4.00	$ 11,200.00		
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2400	$ 36.00	$ 86,400.00		
k	Crushed Stone Base under Field (2")	CY	600	$ 37.00	$ 22,200.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1260	$ 32.00	$ 40,320.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1260	$ 40.00	$ 50,400.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	400	$ 22.00	$ 8,800.00		
v	Field Surfacing						
w	Filled-Turf installed	SF	94,700	$ 4.25	$ 402,475.00		
x	Turf striping	Sport	3	$ 7,000.00	$ 21,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 15,000.00	$ 15,000.00		
aa	Goals	PR	4	$ 3,400.00	$ 13,600.00		
bb	Site Electrical (connection of system)	LS	1	$20,000.00	$20,000.00		
cc	MUSCO Athletic Field Lighting System	Pole	4	$80,000.00	$320,000.00		
8	**Relocate Softball Field**					$ 176,850.00	
a	Strip and Screen and stockpile topsoil (assume 8")	CY	1440	$ 9.00	$ 12,960.00		
b	Prepare sub-base, shape and compact	SY	5,000	$ 2.25	$ 11,250.00		

c	Demolish/repair existing irrigation	LS	1	$ 2,500.00	$ 2,500.00	
d	Field Base					
e	Place an amend root zone materials (8")	CY	800	$ 27.00	$ 21,600.00	
f	Irrigation					
g	Tap to existing system	LS	1	$ 700.00	$ 700.00	
h	Irrigation System on existing controler	Zone	12	$ 2,500.00	$ 30,000.00	
i	Field Surfacing					
j	Clay Infield mix	Ton	250	$ 45.00	$ 11,250.00	
k	Seed athletic field mix and fine grade	SF	30,000	$ 0.35	$ 10,500.00	
l	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00	
m	Field Fencing					
n	Backstop	LS	1	$ 20,000.00	$ 20,000.00	
o	6' High Perimeter Fence	LF	180	$ 55.00	$ 9,900.00	
p	Temporary Outfield Fencing	LF	340	$ 12.00	$ 4,080.00	
q	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00	
r	Equipment					
s	Foul Poles	SET	1	$ 4,200.00	$ 4,200.00	
t	21' long players bench	EA	2	$ 2,000.00	$ 4,000.00	
u	8x24 stone dust players pad	SF	192	$ 5.00	$ 960.00	
v	Bases Including Anchors	SET	1	$ 1,500.00	$ 1,500.00	
w	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00	
9	**Reconstruct Baseball Field & Multipurpose outfield**					$ 455,887.50
a	Strip and Screen and stockpile topsoil (assume 12")	CY	4025	$ 9.00	$ 36,225.00	
b	Prepare sub-base, shape and compact	SY	12,070	$ 2.25	$ 27,157.50	
c	Demo/Repair existing irrigation	LS	1	$ 4,000.00	$ 4,000.00	
d	Drainage					
e	Geotextile Separation Layer	SY	10,000	$ 2.00	$ 20,000.00	
f	12" Perf. HDPE	LF	1200	$ 28.00	$ 33,600.00	
g	Flat panel drains	LF	4500	$ 4.00	$ 18,000.00	
h	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00	
i	Field Base					
j	Crushed Stone Base under Field (4")	CY	1320	$ 36.00	$ 47,520.00	
k	Place and amend root zone materials (8")	CY	2640	$ 27.00	$ 71,280.00	
l	Irrigation					
m	Tap to existing irrigation main	LS	1	$ 6,600.00	$ 6,600.00	
n	Irrigation System and controller	Zone	12	$ 2,500.00	$ 30,000.00	
o	Field Surfacing					
p	Clay Infield mix	Ton	306	$ 45.00	$ 13,770.00	
q	Seed athletic field mix and fine grade	SF	108,000	$ 0.35	$ 37,800.00	
r	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00	
s	Field Fencing					
t	Backstop	LS	1	$ 25,000.00	$ 25,000.00	
u	6' High Perimeter Fence	LF	650	$ 55.00	$ 35,750.00	
v	12' Wide Gate	EA	1	$ 1,725.00	$ 1,725.00	
w	Equipment					
x	Foul Poles	SET	1	$ 4,200.00	$ 4,200.00	
y	21' players benches	EA	2	$ 2,000.00	$ 4,000.00	
z	8x24 stone dust players pad	SF	192	$ 5.00	$ 960.00	
aa	Bases Including Anchors	SET	1	$ 1,500.00	$ 1,500.00	
bb	Temporary Outfield Fencing	LF	600	$ 12.00	$ 7,200.00	
cc	Scoreboard	LS	1	$ 12,000.00	$ 12,000.00	
10	**Amenities Building**					$ 411,800.00
a	2,100 SF building (bare concession, storage, restrooms)	SF	2100	$ 175.00	$ 367,500.00	
b	Underground Electrical Service	LF	1500	$ 21.00	$ 31,500.00	
c	Water Service	LF	400	$ 32.00	$ 12,800.00	
11	**Spectator Seating**					$ 348,000.00
a	1200-seat bleacher system	SEAT	1200	$ 265.00	$ 318,000.00	
b	Pressbox	LS	30000	$ 1.00	$ 30,000.00	
12	**Walkways**					$ 83,802.50
a	Prepare sub-base, shape and compact	SY	1250	$ 2.25	$ 2,812.50	
b	Gravel Base (8" base)	SY	833	$ 8.00	$ 6,664.00	
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	833	$ 22.00	$ 18,326.00	
d	Site Lighting	EA	16	$ 3,500.00	$ 56,000.00	
13	**Landscaping**					$ 32,000.00
a	Landscaping Planting Areas (entrances)	LS	1	$ 12,000.00	$ 12,000.00	
b	Loom and Seed Areas	LS	1	$ 20,000.00	$ 20,000.00	
14	**Site Drainage**					$ 38,800.00
a	12" HDPE Pipe	LF	600	$ 28.00	$ 16,800.00	
b	Catch Basins / Manholes	EA	5	$ 2,800.00	$ 14,000.00	
c	Nyloplast Drain Structures	EA	5	$ 1,600.00	$ 8,000.00	
				HIGH SCHOOL OF		
				Subtotal:		$ 3,243,947.41
				Soft Costs (7%)		$ 227,076.32
				10% Contingency		$ 324,394.74
				TOTAL		$ 3,795,418.46

SCHEMATIC COST ESTIMATE - LYNNFIELD MIDDLE SCHOOL - OPTION 1 - 2/11/2013; REVISED 3-11-13

This cost estimate reflects the improvements proposed under Option 1 for Lynnfield Middle School. The estimate includes reconstruction of the existing track, including 6 lanes on the oval, 8 lanes the straightaway, and reconstructed field events. The estimate also includes reconstruction of the natural turf field, including subsurface drainage, irrigation, and an engineered, sand-based root zo In this estimate, demolition of the existing grandstands is proposed, and several portable bleacher systems shall be used in its place.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
1	**General Conditions**					$ 38,199.70	
a	Bonds and Insurance (2%)	LS	1	$ 18,199.70	$ 18,199.70		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
2	**Site Preparation**					$ 39,680.00	
a	Stabilized Construction Entrance	CY	40	$ 52.00	$ 2,080.00		
b	Erosion and Sedimentation Control Devices	LF	300	$ 8.00	$ 2,400.00		
c	Strip and Screen and stockpile topsoil (assume 8")	CY	600	$ 12.00	$ 7,200.00		
d	Pulverize in place existing track	SY	4000	$ 7.00	$ 28,000.00		
3	**Demolition**					$ 45,000.00	
a	Remove Existing Bleachers	LS	1	$25,000.00	$ 25,000.00		
b	Misc. Demolition (fencing, drainage, etc.)	LS	1	$20,000.00	$ 20,000.00		
4	**Track Reconstruction**					$ 355,250.00	
a	Additional Aggregate Base for Track (6")	Ton	1000	$ 34.00	$ 34,000.00		
b	Prepare sub-base, shape, compact and fine grade	SY	5000	$ 2.25	$ 11,250.00		
c	Pavement (1.5" Binder course and 1.5" Wearing course)	SY	5000	$ 28.00	$ 140,000.00		
d	Track Surface (Polyresin latex)	SY	5000	$ 34.00	$ 170,000.00		
5	**Natural Turf Field**					$ 289,052.50	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
b	Prepare sub-base, shape and compact	SY	8,950	$ 2.25	$ 20,137.50		
c	Drainage						
d	Geotextile Separation Layer	SY	8,950	$ 2.00	$ 17,900.00		
e	12" Perf. HDPE	LF	930	$ 28.00	$ 26,040.00		
f	Flat panel drains	LF	2000	$ 4.00	$ 8,000.00		
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
i	Crushed Stone Base under Field (4")	CY	1000	$ 36.00	$ 36,000.00		
j	Place and amend root zone materials (8")	CY	2000	$ 27.00	$ 54,000.00		
k	Irrigation						
l	Water line	LF	600	$ 22.00	$ 13,200.00		
m	Irrigation System and controller	LS	1	$ 30,000.00	$ 30,000.00		
n	Field Surfacing						
o	Seed athletic field mix and fine grade	SF	80,500	$ 0.35	$ 28,175.00		
p	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00		
q	Equipment						
r	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00		
6	**Fencing**					$ 67,800.00	
a	4' chain link fence	LF	1530	$ 40.00	$ 61,200.00		
b	4' wide pedestrian gate	EA	1	$ 1,000.00	$ 1,000.00		
c	12' wide sliding maintenance gate	EA	2	$ 2,800.00	$ 5,600.00		
7	**Utilities**					$ 16,000.00	
a	Water line	LF	400	$ 40.00	$ 16,000.00		
8	**Spectator Seating**					$ 30,000.00	
c	Portable spectator seating systems (100-person)	EA	3	$ 10,000.00	$ 30,000.00		
9	**Discus and Shot Put Venues**					$ 13,985.50	
a	Discuss and Shot Put Pads (Concrete)	CY	2	$ 500.00	$ 1,000.00		
b	Aggregate base beneath pads	Ton	5	$ 30.00	$ 157.50		
c	Prepare sub-base, shape, compact and fine grade	SY	42	$ 4.00	$ 168.00		
d	Shot Put Curb	LF	180	$ 30.00	$ 5,400.00		
e	Shot put Sand/Clay Mix (6")	Ton	42	$ 30.00	$ 1,260.00		
f	Shot Put Toe board	EA	1	$ 500.00	$ 500.00		
g	Discus Cage and Net	EA	1	$ 5,500.00	$ 5,500.00		
10	**Long Jump Venues**					$ 30,000.00	
a	Sand Pit Forms with Sand Catcher	EA	2	$ 15,000.00	$ 30,000.00		
11	**Non-fixed track equipment**					$ 23,217.00	
a	Hurdles	EA	80	$ 161.00	$ 12,880.00		
b	Hurdle Cart	EA	8	$ 387.00	$ 3,096.00		
c	Starting Blocks	EA	8	$ 280.00	$ 2,240.00		
d	High Jump Landing Pad	EA	1	$ 4,352.00	$ 4,352.00		
e	High Jump Pad Cover	EA	1	$ 649.00	$ 649.00		
				TRACK AND NATURAL TURF FIELD			
				Subtotal:		$ 948,184.70	
				Soft Costs (7%)		$ 66,372.93	
				10% Contingency		$ 94,818.47	
				TOTAL		$ 1,109,376.10	
OPTION	SYNTHETIC TURF IN LIEU OF NATURAL TURF					$ 346,711.00	(in addition to above price)

b	Credit for natural turf field construction (above)	CY	1	$ 1.00	$ (289,052.00)		***DEDUCTS COST OF NATURAL TURF FIELD
b	Strip and haul topsoil / organics (assume 12")	CY	1500	$ 12.00	$ 18,000.00		
c	Prepare sub-base, shape and compact	SY	8,950	$ 2.25	$ 20,137.50		
d	Drainage						
e	Geotextile Separation Layer	SY	8,950	$ 2.00	$ 17,900.00		
f	10" Perf. HDPE	LF	800	$ 25.00	$ 20,000.00		
g	Flat panel drains	LF	2500	$ 4.00	$ 10,000.00		
h	Cleanouts (Nyloplast CB's)	EA	4	$ 1,600.00	$ 6,400.00		
i	Field Base						
j	Crushed Stone Base under Field (8")	CY	2000	$ 36.00	$ 72,000.00		
k	Crushed Stone Base under Field (2")	CY	500	$ 37.00	$ 18,500.00		
l	Concrete						
m	Cast in place Concrete Curb with Trench Drain	LF	1634	$ 32.00	$ 52,288.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	0	$ 40.00	$ -		
p	12' Wide Gate	EA	0	$ 1,725.00	$ -		
q	4' Pedestrian Gate	EA	0	$ 560.00	$ -		
r	Water Supply						
s	Water Cannon	EA	0	$ 7,000.00	$ -		
t	Water Cannon Connection	EA	6	$ 1,500.00	$ 9,000.00		
u	Water Line	LF	600	$ 22.00	$ 13,200.00		
v	Field Surfacing						
w	Filled-Turf installed	SF	80,550	$ 4.25	$ 342,337.50		
x	Turf striping	Sport	3	$ 7,000.00	$ 21,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 15,000.00	$ 15,000.00		
				TRACK AND SYNTHETIC TURF FIELD			
				Subtotal		$ 1,294,895.70	
				Soft Costs (7%)		$ 90,642.70	
				10% Contingency		$ 129,489.57	
				TOTAL		$ **1,515,027.97**	
OPTION	**ATHLETIC FIELD LIGHTING**					**$ 280,000.00**	
b	4-pole Musco athletic field lighting system	POLE	4	$ 70,000.00	$ 280,000.00		
				TRACK, SYNTHETIC TURF FIELD, & LIGHTS			
				Subtotal		$ 1,574,895.70	
				Soft Costs (7%)		$ 110,242.70	
				10% Contingency		$ 157,489.57	
				TOTAL		$ **1,842,627.97**	
A2	**Amenities Building**					**$ 394,300.00**	
a	2000 SF building (bare concession, storage, restrooms)	SF	2000	$ 175.00	$ 350,000.00		
b	Underground Electrical Service	LF	1500	$ 21.00	$ 31,500.00		
c	Water Service	LF	400	$ 32.00	$ 12,800.00		
A3	**Spectator Seating**					**$ 318,000.00**	
a	1200-seat bleacher system	SEAT	1200	$ 265.00	$ 318,000.00		
A4	**Landscaping**					**$ 23,000.00**	
a	Landscaping Planting Areas (entrances)	LS	1	$ 8,000.00	$ 8,000.00		
b	Loom and Seed Areas	LS	1	$ 15,000.00	$ 15,000.00		
				A2 - A4	TOTAL	$ 735,300.00	

SCHEMATIC COST ESTIMATE Option 2- LYNNFIELD MIDDLE SCHOOL - 2/11/2013

LYNNFIELD, MA MASTER PLAN

This cost estimate reflects the improvements proposed under Option 2 for the Lynnfield Middle School. The estimate includes demolition of the track and field event venues, demolition of the grandstand, and reconstruction of an expanded synthetic turf multipurpose field facility.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
1	**General Conditions**					$ 37,642.90	
a	Bonds and Insurance (2%)	LS	1	$ 17,642.90	$ 17,642.90		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
2	**Site Preparation**					$ 35,680.00	
a	Stabilized Construction Entrance	CY	40	$ 52.00	$ 2,080.00		
b	Erosion and Sedimentation Control Devices	LF	300	$ 8.00	$ 2,400.00		
c	Strip and Screen and stockpile topsoil (assume 8")	CY	600	$ 12.00	$ 7,200.00		
d	Pulverize in place existing track	SY	4000	$ 6.00	$ 24,000.00		
3	**Demolition**					$ 61,000.00	
a	Remove Existing Bleachers	LS	1	$25,000.00	$ 25,000.00		
b	Misc. Demolition (fencing, drainage, etc.)	LS	1	$20,000.00	$ 20,000.00		
c	Remove Pulverized Track	SY	4000	$4.00	$ 16,000.00		
7	**Synthetic Turf Field Construction - Field 1**					$ 703,115.00	
a	Strip and haul topsoil / organics (assume 12")	CY	3200	$ 12.00	$ 38,400.00		
b	Prepare sub-base, shape and compact	SY	10,000	$ 2.25	$ 22,500.00		
c	Drainage						
d	Geotextile Separation Layer	SY	10,000	$ 2.00	$ 20,000.00		
e	10" Perf. HDPE	LF	900	$ 25.00	$ 22,500.00		
f	Flat panel drains	LF	2000	$ 4.00	$ 8,000.00		
g	Cleanouts (Nyloplast CB's)	EA	4	$ 1,600.00	$ 6,400.00		
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2200	$ 36.00	$ 79,200.00		
k	Crushed Stone Base under Field (2")	CY	500	$ 37.00	$ 18,500.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1200	$ 32.00	$ 38,400.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1200	$ 40.00	$ 48,000.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	200	$ 22.00	$ 4,400.00		
v	Field Surfacing						
w	Filled-Turf installed	SF	80,500	$ 4.25	$ 342,125.00		
x	Turf striping	Sport	3	$ 7,000.00	$ 21,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 15,000.00	$ 15,000.00		
A2	**Spectator Seating**					$ 45,000.00	
a	300-seat bleacher system	SEAT	300	$ 150.00	$ 45,000.00		
11	**Walkways**					$ 19,350.00	
a	Prepare sub-base, shape and compact	SY	600	$ 2.25	$ 1,350.00		
b	Gravel Base (8" base)	SY	600	$ 8.00	$ 4,800.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	600	$ 22.00	$ 13,200.00		*quantity estimated at schematic level
A3	**Landscaping**					$ 18,000.00	
a	Landscaping Planting Areas (entrances)	LS	1	$ 8,000.00	$ 8,000.00		
b	Loom and Seed Areas	LS	1	$ 10,000.00	$ 10,000.00		
				MIDDLE SCHOOL FIELD			
				Subtotal:		$ 919,787.90	
				Soft Costs (7%)		$ 64,385.15	
				10% Contingency		$ 91,978.79	
				TOTAL		$ 1,076,151.84	

SCHEMATIC COST ESTIMATE - MAIN STREET RECREATION PARCEL - OPTION 1

LYNNFIELD, MA MASTER PLAN

This cost estimate reflects the improvements proposed at the Main Street Recreation Complex, including one (1) multipurpose synthetic turf game field, two (2) multipurpose natural turf fields, parking lots, access roadway, passive recreation opportunities, pedestrian circulation routes, and related amenities.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
ACTIVE RECREATION AREA (NORTH)							
1	**General Conditions**					$ 87,432.93	
a	Bonds and Insurance (2%)	LS	1	$ 67,432.93	$ 67,432.93		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
2	**Erosion Control**					$ 74,700.00	
a	Haybales and Silt Fence	LF	8300	$ 9.00	$ 74,700.00		*assume length of buffer zone
3	**Demolition**					$ 30,000.00	
a	Misc. Demolition	LS	1	$30,000.00	$ 30,000.00		
4	**Synthetic Turf Field Construction - Field 1 (w / Lights)**					$ 1,087,435.00	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1800	$ 12.00	$ 21,600.00		
b	Prepare sub-base, shape and compact	SY	9,700	$ 2.25	$ 21,825.00		
c	Drainage						
d	Geotextile Separation Layer	SY	9,700	$ 2.00	$ 19,400.00		
e	10" Perf. HDPE	LF	990	$ 25.00	$ 24,750.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2800	$ 4.00	$ 11,200.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		*estimated quantity at schematic level
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2200	$ 36.00	$ 79,200.00		
k	Crushed Stone Base under Field (2")	CY	540	$ 37.00	$ 19,980.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1220	$ 32.00	$ 39,040.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1220	$ 40.00	$ 48,800.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	1150	$ 22.00	$ 25,300.00		*estimated quantity at schematic level
v	Field Surfacing						
w	Filled-Turf installed	SF	87,400	$ 4.25	$ 371,450.00		
x	Turf striping	Sport	4	$ 7,000.00	$ 28,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 25,000.00	$ 25,000.00		
aa	Goals	PR	4	$ 3,400.00	$ 13,600.00		
bb	Site Electrical (connection of system)	LS	1	$30,000.00	$30,000.00		*does not include electric service to parcel
cc	MUSCO Athletic Field Lighting System	Pole	4	$70,000.00	$280,000.00		
6	**Natural Turf Field - Field 2**					$ 341,142.50	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
b	Prepare sub-base, shape and compact	SY	8,950	$ 2.25	$ 20,137.50		
c	Drainage						
d	Geotextile Separation Layer	SY	8,950	$ 2.00	$ 17,900.00		
e	12" Perf. HDPE	LF	930	$ 28.00	$ 26,040.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2000	$ 4.00	$ 8,000.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
i	Crushed Stone Base under Field (4")	CY	1000	$ 36.00	$ 36,000.00		
j	Place and amend root zone materials (8")	CY	2000	$ 27.00	$ 54,000.00		
k	Irrigation						
l	Water line	LF	600	$ 22.00	$ 13,200.00		*estimated quantity at schematic level
m	Irrigation System and controller	LS	1	$ 30,000.00	$ 30,000.00		*irrigation well / pump separate
n	Field Surfacing						
o	Seed athletic field mix and fine grade	SF	80,500	$ 0.35	$ 28,175.00		
p	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00		
q	Field Fencing						
r	4' High Perimeter Fence	LF	1160	$ 40.00	$ 46,400.00		
s	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
t	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
u	Equipment						
v	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00		
6	**Natural Turf Field - Field 3**					$ 341,142.50	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
b	Prepare sub-base, shape and compact	SY	8,950	$ 2.25	$ 20,137.50		
c	Drainage						
d	Geotextile Separation Layer	SY	8,950	$ 2.00	$ 17,900.00		
e	12" Perf. HDPE	LF	930	$ 28.00	$ 26,040.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2000	$ 4.00	$ 8,000.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
i	Crushed Stone Base under Field (4")	CY	1000	$ 36.00	$ 36,000.00		
j	Place and amend root zone materials (8")	CY	2000	$ 27.00	$ 54,000.00		
k	Irrigation						
l	Water line	LF	600	$ 22.00	$ 13,200.00		*estimated quantity at schematic level

m	Irrigation System and controller	LS	1	$ 30,000.00	$ 30,000.00		*irrigation well / pump separate
n	Field Surfacing						
o	Seed athletic field mix and fine grade	SF	80,500	$ 0.35	$ 28,175.00		
p	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00		
q	Field Fencing						
r	4' High Perimeter Fence	LF	1160	$ 40.00	$ 46,400.00		
s	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
t	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
u	Equipment						
v	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00		
7	**Amenities Building**					**$ 396,500.00**	
a	1,800 SF building (bare concession, storage, restrooms)	SF	1800	$ 175.00	$ 315,000.00		
b	Underground Electrical Service	LF	1500	$ 21.00	$ 31,500.00		*estimated quantity at schematic level
c	Water Service	LF	1000	$ 50.00	$ 50,000.00		*estimated quantity at schematic level
8	**Irrigation Well / Pump**					**$ 14,000.00**	
a	Irrigation Well	LF	100	$ 75.00	$ 7,500.00		
b	Pump at Irrigation well	EA	1	$ 6,500.00	$ 6,500.00		
9	**Septic System**					**$ 10,000.00**	
a	Septic Tank w/ D-Box and Leaching Field	EA	LS	$ 10,000.00	$ 10,000.00		
10	**Spectator Seating**					**$ 22,500.00**	
a	100-seat mobile bleachers	EA	3	$ 7,500.00	$ 22,500.00		
11	**Walkways / Access Drives**					**$ 144,378.75**	
a	Prepare sub-base, shape and compact	SY	2535	$ 2.25	$ 5,703.75		
b	Gravel Base (8" base)	SY	2535	$ 8.00	$ 20,280.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	2535	$ 22.00	$ 55,770.00		
d	Site Lighting Bollards	EA	15	$ 4,175.00	$ 62,625.00		*estimated quantity at schematic level
12	**Main Parking Lot**					**$ 334,900.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1050	$ 12.00	$ 12,600.00		
c	Gravel Base (8" base)	SY	6300	$ 8.00	$ 50,400.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	6300	$ 25.00	$ 157,500.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	5	$ 2,800.00	$ 14,000.00		
h	Subsurface Detention System	LS	1	$ 52,000.00	$ 52,000.00		
i	12" RCP	LF	270	$ 50.00	$ 13,500.00		
j	Parking lot Lighting	pole	8	$ 4,175.00	$ 33,400.00		
13	**Northern Parking Lot & Access Drive**					**$ 80,650.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	250	$ 12.00	$ 3,000.00		
c	Gravel Base (8" base)	SY	1500	$ 8.00	$ 12,000.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	1500	$ 25.00	$ 37,500.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	1	$ 2,800.00	$ 2,800.00		
h	Subsurface Detention System	LS	0	$ 52,000.00	$ -		
i	12" RCP	LF	70	$ 50.00	$ 3,500.00		
j	Bioretention Ponds	LS	1	$ 12,000.00	$ 12,000.00		
k	Parking lot Lighting	pole	2	$ 4,175.00	$ 8,350.00		
15	**Southern Parking Lot**					**$ 151,730.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	470	$ 12.00	$ 5,640.00		
b	Gravel Base (8" base)	SY	2780	$ 8.00	$ 22,240.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	2780	$ 25.00	$ 69,500.00		
d	Signage	LS	1	$ 1,500.00	$ 1,500.00		
e	Drainage						
f	Catch Basins / Manholes	EA	3	$ 2,800.00	$ 8,400.00		
g	Subsurface Detention System	LS	0	$ 52,000.00	$ -		
h	12" RCP	LF	45	$ 50.00	$ 2,250.00		
i	10" HDPE Perf. Pipe	LF	220	$ 25.00	$ 5,500.00		
j	Bioretention Ponds	LS	1	$ 20,000.00	$ 20,000.00		
k	Parking lot Lighting	pole	4	$ 4,175.00	$ 16,700.00		
14	**Trails at Recreation Park**					**$ 96,750.00**	
a	Prepare sub-base, shape and compact	SY	3000	$ 2.25	$ 6,750.00		
b	Gravel Base (8" base)	SY	3000	$ 8.00	$ 24,000.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	3000	$ 22.00	$ 66,000.00		
15	**Landscaping**					**$ 36,000.00**	
a	Landscaping Planting Areas (entrances)	EA	2	$ 8,000.00	$ 16,000.00		
b	Loom and Seed Areas (including at demolished bleacher)	LS	1	$ 20,000.00	$ 20,000.00		*quantity estimated at schematic level
16	**Site Drainage**					**$ 47,200.00**	
a	12" HDPE Pipe	LF	600	$ 28.00	$ 16,800.00		*quantity estimated at schematic level
b	Catch Basins / Manholes	EA	8	$ 2,800.00	$ 22,400.00		*quantity estimated at schematic level
c	Nyloplast Drain Structures	EA	5	$ 1,600.00	$ 8,000.00		*quantity estimated at schematic level
17	**Basketball Court**					**$ 41,617.50**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	100	$ 12.00	$ 1,200.00		
b	Prepare sub-base, shape and compact	SY	470	$ 2.25	$ 1,057.50		
c	Gravel Base (8" base)	SY	470	$ 8.00	$ 3,760.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	470	$ 25.00	$ 11,750.00		
e	Court Surfacing	SY	470	$ 10.00	$ 4,700.00		
f	Basketball Hoops	EA	2	$ 800.00	$ 1,600.00		
g	10' chain link fence	LF	270	$ 65.00	$ 17,550.00		

18	**Playgrounds**					**$ 110,000.00**	
a	Small Play Area	LS	1	$ 40,000.00	$ 40,000.00		
b	Large Play Area	LS	1	$ 70,000.00	$ 70,000.00		
19	**Seating Areas**					**$ 11,000.00**	
a	Benches	LF	20	$ 400.00	$ 8,000.00		
b	Picnic Tables	EA	15	$ 200.00	$ 3,000.00		
				ACTIVE RECREATION AREA TOTAL			
				Subtotal:		$ 3,459,079.18	
				Soft Costs (7%)		$ 242,135.54	
				10% Contingency		$ 345,907.92	
				TOTAL		$ 4,047,122.63	
ROADWAY							
1	**Entrance Roadway**					**$ 1,249,700.00**	
a	Clearcutting	AC	13.2	$7,000.00	$ 92,400.00		Clearcut Active Site and Roadway
b	Cut & Fill	CY	37100	$8.00	$ 296,800.00		Excavate/backfill with dozer & haul on site material
c	Net Cut Excavation & haul	CY	900	$4.00	$ 3,600.00		Net cut excavation and haul
d	Strip and haul topsoil / organics (assume 6")	CY	2600	$ 12.00	$ 31,200.00		
e	Gravel Base (12" base)	SY	5300	$ 16.00	$ 84,800.00		
f	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	5300	$ 25.00	$ 132,500.00		
g	Signage	LS	1	$ 3,000.00	$ 3,000.00		
h	Drainage						
i	Catch Basins / Manholes	EA	12	$ 2,800.00	$ 33,600.00		*quantity estimated at schematic level
j	12" RCP	LF	1500	$ 50.00	$ 75,000.00		*quantity estimated at schematic level
k	Stormwater Management	LS	1	$ 80,000.00	$ 80,000.00		
l	Parking lot Lighting	pole	16	$ 4,175.00	$ 66,800.00		
m	Walls / Culverts / Wetland Crossings	LS	1	$ 100,000.00	$ 100,000.00		
n	Electric Service to Site	LS	1	$ 250,000.00	$ 250,000.00		
				ROADWAY TOTAL			
				Subtotal:		$ 1,249,700.00	
				10% Contingency		$ 124,970.00	
				TOTAL		$ 1,374,670.00	
PASSIVE RECREATION AREA							
1	**Parking Area & Access Drive**					**$ 179,980.00**	
a	Clearcutting	AC	1	$7,000.00	$ 7,000.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	540	$ 12.00	$ 6,480.00		
c	Gravel Base (8" base)	SY	3200	$ 8.00	$ 25,600.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	3200	$ 22.00	$ 70,400.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	6	$ 2,800.00	$ 16,800.00		*quantity estimated at schematic level
h	12" RCP	LF	50	$ 50.00	$ 2,500.00		*quantity estimated at schematic level
i	12" HDPE Pipe	LF	300	$ 50.00	$ 15,000.00		*quantity estimated at schematic level
j	Bioretention Ponds	LS	1	$ 18,000.00	$ 18,000.00		
k	Parking lot Lighting	pole	4	$ 4,175.00	$ 16,700.00		
2	**Trail Network**					**$ 237,900.00**	
a	Clearcutting	AC	1.2	$7,000.00	$ 8,400.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
c	Prepare sub-base, shape and compact	SY	6000	$ 2.25	$ 13,500.00		
d	Gravel Base (8" base)	SY	6000	$ 8.00	$ 48,000.00		
e	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	6000	$ 22.00	$ 132,000.00		
f	Gravel Surface	SY	3000	$ 6.00	$ 18,000.00		
3	**Dog Park**					**$ 143,100.00**	
a	Clearcutting	AC	1	$7,000.00	$ 7,000.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	650	$ 12.00	$ 7,800.00		
c	Prepare sub-base, shape and compact	SY	4000	$ 2.25	$ 9,000.00		
d	Gravel Base (8" base)	SY	4000	$ 8.00	$ 32,000.00		
e	Crushed Stone surface	Ton	600	$ 22.00	$ 13,200.00		
f	Walkways	SY	270	$ 30.00	$ 8,100.00		
g	Accessories / stones / benches	LS	1	$ 10,000.00	$ 10,000.00		
h	6' chain link fence	LF	800	$ 45.00	$ 36,000.00		
i	Accessories / stones / benches landscaping	LS	1	$ 20,000.00	$ 20,000.00		
4	**Open Space**					**$ 92,200.00**	
a	Clearcutting & Demolition	AC	1.2	$8,500.00	$ 10,200.00		
b	Prepare sub-base, shape and compact	SY	5500	$ 4.00	$ 22,000.00		
c	Earthwork	LS	1	$ 18,000.00	$ 18,000.00		
d	Loam and Seed	LS	1	$ 22,000.00	$ 22,000.00		
e	Landscaping	LS	1	$ 20,000.00	$ 20,000.00		
f							
				PASSIVE RECREATION AREA TOTAL			
				Subtotal:		$ 653,180.00	
				Soft Costs (7%)		$ 45,722.60	
				10% Contingency		$ 65,318.00	
				TOTAL		$ 764,220.60	

SCHEMATIC COST ESTIMATE - MAIN STREET RECREATION PARCEL - OPTION 2

LYNNFIELD, MA MASTER PLAN

s cost estimate reflects the improvements proposed at the Main Street Recreation Complex under Option 2, including two (2) multipurpose synthetic turf game fields, one (1) multipurpo natural turf field, parking lots, access roadway, passive recreation opportunities, pedestrian circulation routes, and related amenities.

M	DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST	TOTAL COST	REMARKS
TIVE RECREATION AREA (NORTH)							
	General Conditions					**$ 95,631.48**	
a	Bonds and Insurance (2%)	LS	1	$ 75,631.48	$ 75,631.48		
b	Mobilization/Demobilization	LS	1	$ 20,000.00	$ 20,000.00		
	Erosion Control					**$ 74,700.00**	
a	Haybales and Silt Fence	LF	8300	$ 9.00	$ 74,700.00		*assume length of buffer zone
	Demolition					**$ 30,000.00**	
a	Misc. Demolition	LS	1	$30,000.00	$ 30,000.00		
	Synthetic Turf Field Construction - Field 1 (w / Lights)					**$ 1,087,435.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1800	$ 12.00	$ 21,600.00		
b	Prepare sub-base, shape and compact	SY	9,700	$ 2.25	$ 21,825.00		
c	Drainage						
d	Geotextile Separation Layer	SY	9,700	$ 2.00	$ 19,400.00		
e	10" Perf. HDPE	LF	990	$ 25.00	$ 24,750.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2800	$ 4.00	$ 11,200.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		*estimated quantity at schematic level
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2200	$ 36.00	$ 79,200.00		
k	Crushed Stone Base under Field (2")	CY	540	$ 37.00	$ 19,980.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1220	$ 32.00	$ 39,040.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1220	$ 40.00	$ 48,800.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	1150	$ 22.00	$ 25,300.00		*estimated quantity at schematic level
v	Field Surfacing						
w	Filled-Turf installed	SF	87,400	$ 4.25	$ 371,450.00		
x	Turf striping	Sport	4	$ 7,000.00	$ 28,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 25,000.00	$ 25,000.00		
aa	Goals	PR	4	$ 3,400.00	$ 13,600.00		
bb	Site Electrical (connection of system)	LS	1	$30,000.00	$30,000.00		*does not include electric service to parcel
cc	MUSCO Athletic Field Lighting System	Pole	4	$70,000.00	$280,000.00		
	Synthetic Turf Field Construction - Field 2					**$ 751,070.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1600	$ 12.00	$ 19,200.00		
b	Prepare sub-base, shape and compact	SY	9,330	$ 2.25	$ 20,992.50		
c	Drainage						
d	Geotextile Separation Layer	SY	9,330	$ 2.00	$ 18,660.00		
e	10" Perf. HDPE	LF	960	$ 25.00	$ 24,000.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2600	$ 4.00	$ 10,400.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		*estimated quantity at schematic level
h	Field Base						
j	Crushed Stone Base under Field (8")	CY	2100	$ 36.00	$ 75,600.00		
k	Crushed Stone Base under Field (2")	CY	520	$ 37.00	$ 19,240.00		
l	Concrete						
m	Cast in place Concrete Curb without Trench Drain	LF	1200	$ 32.00	$ 38,400.00		
n	Field Fencing						
o	4' High Perimeter Fence	LF	1190	$ 40.00	$ 47,600.00		
p	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
q	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
r	Water Supply						
s	Water Cannon	EA	1	$ 7,000.00	$ 7,000.00		
t	Water Cannon Connection	EA	4	$ 1,500.00	$ 6,000.00		
u	Water Line	LF	1150	$ 22.00	$ 25,300.00		*estimated quantity at schematic level
v	Field Surfacing						
w	Filled-Turf installed	SF	83,950	$ 4.25	$ 356,787.50		
x	Turf striping	Sport	4	$ 7,000.00	$ 28,000.00		
y	Equipment						
z	Scoreboard	LS	1	$ 25,000.00	$ 25,000.00		
aa	Goals	PR	4	$ 3,400.00	$ 13,600.00		

	Natural Turf Field - Field 3					**$ 341,142.50**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
b	Prepare sub-base, shape and compact	SY	8,950	$ 2.25	$ 20,137.50		
c	Drainage						
d	Geotextile Separation Layer	SY	8,950	$ 2.00	$ 17,900.00		
e	12" Perf. HDPE	LF	930	$ 28.00	$ 26,040.00		*estimated quantity at schematic level
f	Flat panel drains	LF	2000	$ 4.00	$ 8,000.00		*estimated quantity at schematic level
g	Cleanouts (Nyloplast CB's)	EA	6	$ 1,600.00	$ 9,600.00		
h	Field Base						
i	Crushed Stone Base under Field (4")	CY	1000	$ 36.00	$ 36,000.00		
j	Place and amend root zone materials (8")	CY	2000	$ 27.00	$ 54,000.00		
k	Irrigation						
l	Water line	LF	600	$ 22.00	$ 13,200.00		*estimated quantity at schematic level
m	Irrigation System and controller	LS	1	$ 30,000.00	$ 30,000.00		*irrigation well / pump separate
n	Field Surfacing						
o	Seed athletic field mix and fine grade	SF	80,500	$ 0.35	$ 28,175.00		
p	Turf Establishment Requirements	LS	1	$ 8,000.00	$ 8,000.00		
q	Field Fencing						
r	4' High Perimeter Fence	LF	1160	$ 40.00	$ 46,400.00		
s	12' Wide Gate	EA	2	$ 1,725.00	$ 3,450.00		
t	4' Pedestrian Gate	EA	4	$ 560.00	$ 2,240.00		
u	Equipment						
v	Scoreboard	LS	1	$ 20,000.00	$ 20,000.00		
	Amenities Building					**$ 396,500.00**	
a	1,800 SF building (bare concession, storage, restrooms)	SF	1800	$ 175.00	$ 315,000.00		
b	Underground Electrical Service	LF	1500	$ 21.00	$ 31,500.00		*estimated quantity at schematic level
c	Water Service	LF	1000	$ 50.00	$ 50,000.00		*estimated quantity at schematic level
	Irrigation Well / Pump					**$ 14,000.00**	
a	Irrigation Well	LF	100	$ 75.00	$ 7,500.00		
b	Pump at Irrigation well	EA	1	$ 6,500.00	$ 6,500.00		
	Septic System					**$ 10,000.00**	
a	Septic Tank w/ D-Box and Leaching Field	EA	LS	$ 10,000.00	$ 10,000.00		
	Spectator Seating					**$ 22,500.00**	
a	100-seat mobile bleachers	EA	3	$ 7,500.00	$ 22,500.00		
	Walkways / Access Drives					**$ 144,378.75**	
a	Prepare sub-base, shape and compact	SY	2535	$ 2.25	$ 5,703.75		
b	Gravel Base (8" base)	SY	2535	$ 8.00	$ 20,280.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	2535	$ 22.00	$ 55,770.00		
d	Site Lighting Bollards	EA	15	$ 4,175.00	$ 62,625.00		*estimated quantity at schematic level
	Main Parking Lot					**$ 334,900.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1050	$ 12.00	$ 12,600.00		
c	Gravel Base (8" base)	SY	6300	$ 8.00	$ 50,400.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	6300	$ 25.00	$ 157,500.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	5	$ 2,800.00	$ 14,000.00		
h	Subsurface Detention System	LS	1	$ 52,000.00	$ 52,000.00		
i	12" RCP	LF	270	$ 50.00	$ 13,500.00		
j	Parking lot Lighting	pole	8	$ 4,175.00	$ 33,400.00		
	Northern Parking Lot & Access Drive					**$ 80,650.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	250	$ 12.00	$ 3,000.00		
c	Gravel Base (8" base)	SY	1500	$ 8.00	$ 12,000.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	1500	$ 25.00	$ 37,500.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	1	$ 2,800.00	$ 2,800.00		
h	Subsurface Detention System	LS	0	$ 52,000.00	$ -		
i	12" RCP	LF	70	$ 50.00	$ 3,500.00		
j	Bioretention Ponds	LS	1	$ 12,000.00	$ 12,000.00		
k	Parking lot Lighting	pole	2	$ 4,175.00	$ 8,350.00		
	Southern Parking Lot					**$ 151,730.00**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	470	$ 12.00	$ 5,640.00		
b	Gravel Base (8" base)	SY	2780	$ 8.00	$ 22,240.00		
c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	2780	$ 25.00	$ 69,500.00		
d	Signage	LS	1	$ 1,500.00	$ 1,500.00		
e	Drainage						
f	Catch Basins / Manholes	EA	3	$ 2,800.00	$ 8,400.00		
g	Subsurface Detention System	LS	0	$ 52,000.00	$ -		
h	12" RCP	LF	45	$ 50.00	$ 2,250.00		
j	10" HDPE Perf. Pipe	LF	220	$ 25.00	$ 5,500.00		
j	Bioretention Ponds	LS	1	$ 20,000.00	$ 20,000.00		
k	Parking lot Lighting	pole	4	$ 4,175.00	$ 16,700.00		
	Trails at Recreation Park					**$ 96,750.00**	
a	Prepare sub-base, shape and compact	SY	3000	$ 2.25	$ 6,750.00		
b	Gravel Base (8" base)	SY	3000	$ 8.00	$ 24,000.00		

c	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	3000	$ 22.00	$ 66,000.00		
	Landscaping					**$ 36,000.00**	
a	Landscaping Planting Areas (entrances)	EA	2	$ 8,000.00	$ 16,000.00		
b	Loom and Seed Areas (including at demolished bleacher)	LS	1	$ 20,000.00	$ 20,000.00		*quantity estimated at schematic level
	Site Drainage					**$ 47,200.00**	
a	12" HDPE Pipe	LF	600	$ 28.00	$ 16,800.00		*quantity estimated at schematic level
b	Catch Basins / Manholes	EA	8	$ 2,800.00	$ 22,400.00		*quantity estimated at schematic level
c	Nyloplast Drain Structures	EA	5	$ 1,600.00	$ 8,000.00		*quantity estimated at schematic level
	Basketball Court					**$ 41,617.50**	
a	Strip and haul topsoil / organics (assume 6" per test pits)	CY	100	$ 12.00	$ 1,200.00		
b	Prepare sub-base, shape and compact	SY	470	$ 2.25	$ 1,057.50		
c	Gravel Base (8" base)	SY	470	$ 8.00	$ 3,760.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	470	$ 25.00	$ 11,750.00		
e	Court Surfacing	SY	470	$ 10.00	$ 4,700.00		
f	Basketball Hoops	EA	2	$ 800.00	$ 1,600.00		
g	10' chain link fence	LF	270	$ 65.00	$ 17,550.00		
	Playgrounds					**$ 110,000.00**	
a	Small Play Area	LS	1	$ 40,000.00	$ 40,000.00		
b	Large Play Area	LS	1	$ 70,000.00	$ 70,000.00		
	Seating Areas					**$ 11,000.00**	
a	Benches	LF	20	$ 400.00	$ 8,000.00		
b	Picnic Tables	EA	15	$ 200.00	$ 3,000.00		
				ACTIVE RECREATION AREA TOTAL			
				Subtotal:		$ 3,877,205.23	
				Soft Costs (7%)		$ 271,404.37	
				10% Contingency		$ 387,720.52	
				TOTAL		$ 4,536,330.11	
ADWAY							
	Entrance Roadway					**$ 1,249,700.00**	
a	Clearcutting	AC	13.2	$7,000.00	$ 92,400.00		Clearcut Active Site and Roadway
b	Cut & Fill	CY	37100	$8.00	$ 296,800.00		Excavate/backfill with dozer & haul on site material
c	Net Cut Excavation & haul	CY	900	$4.00	$ 3,600.00		Net cut excavation and haul
d	Strip and haul topsoil / organics (assume 6")	CY	2600	$ 12.00	$ 31,200.00		
e	Gravel Base (12" base)	SY	5300	$ 16.00	$ 84,800.00		
f	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	5300	$ 25.00	$ 132,500.00		
g	Signage	LS	1	$ 3,000.00	$ 3,000.00		
h	Drainage						
i	Catch Basins / Manholes	EA	12	$ 2,800.00	$ 33,600.00		*quantity estimated at schematic level
j	12" RCP	LF	1500	$ 50.00	$ 75,000.00		*quantity estimated at schematic level
k	Stormwater Management	LS	1	$ 80,000.00	$ 80,000.00		
l	Parking lot Lighting	pole	16	$ 4,175.00	$ 66,800.00		
m	Walls / Culverts / Wetland Crossings	LS	1	$ 100,000.00	$ 100,000.00		
n	Electric Service to Site	LS	1	$ 250,000.00	$ 250,000.00		
				ROADWAY TOTAL			
				Subtotal:		$ 1,249,700.00	
				10% Contingency		$ 124,970.00	
				TOTAL		$ 1,374,670.00	
SSIVE RECREATION AREA							
	Parking Area & Access Drive					**$ 179,980.00**	
a	Clearcutting	AC	1	$7,000.00	$ 7,000.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	540	$ 12.00	$ 6,480.00		
c	Gravel Base (8" base)	SY	3200	$ 8.00	$ 25,600.00		
d	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	3200	$ 22.00	$ 70,400.00		
e	Signage	LS	1	$ 1,500.00	$ 1,500.00		
f	Drainage						
g	Catch Basins / Manholes	EA	6	$ 2,800.00	$ 16,800.00		*quantity estimated at schematic level
h	12" RCP	LF	50	$ 50.00	$ 2,500.00		*quantity estimated at schematic level
i	12" HDPE Pipe	LF	300	$ 50.00	$ 15,000.00		*quantity estimated at schematic level
j	Bioretention Ponds	LS	1	$ 18,000.00	$ 18,000.00		
k	Parking lot Lighting	pole	4	$ 4,175.00	$ 16,700.00		
	Trail Network					**$ 237,900.00**	
a	Clearcutting	AC	1.2	$7,000.00	$ 8,400.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	1500	$ 12.00	$ 18,000.00		
c	Prepare sub-base, shape and compact	SY	6000	$ 2.25	$ 13,500.00		
d	Gravel Base (8" base)	SY	6000	$ 8.00	$ 48,000.00		
e	Pavement (1.5" Binder course and 1.5" Wearing Course)	SY	6000	$ 22.00	$ 132,000.00		
f	Gravel Surface	SY	3000	$ 6.00	$ 18,000.00		
	Dog Park					**$ 143,100.00**	
a	Clearcutting	AC	1	$7,000.00	$ 7,000.00		
b	Strip and haul topsoil / organics (assume 6" per test pits)	CY	650	$ 12.00	$ 7,800.00		
c	Prepare sub-base, shape and compact	SY	4000	$ 2.25	$ 9,000.00		
d	Gravel Base (8" base)	SY	4000	$ 8.00	$ 32,000.00		
e	Crushed Stone surface	Ton	600	$ 22.00	$ 13,200.00		
f	Walkways	SY	270	$ 30.00	$ 8,100.00		
g	Accessories / stones / benches	LS	1	$ 10,000.00	$ 10,000.00		
h	6' chain link fence	LF	800	$ 45.00	$ 36,000.00		
i	Accessories / stones / benches landscaping	LS	1	$ 20,000.00	$ 20,000.00		

	Open Space					**$ 92,200.00**
a	Clearcutting & Demolition	AC	1.2	$8,500.00	$ 10,200.00	
b	Prepare sub-base, shape and compact	SY	5500	$ 4.00	$ 22,000.00	
c	Earthwork	LS	1	$ 18,000.00	$ 18,000.00	
d	Loam and Seed	LS	1	$ 22,000.00	$ 22,000.00	
e	Landscaping	LS	1	$ 20,000.00	$ 20,000.00	
				PASSIVE RECREATION AREA TOTAL		
				Subtotal:		$ 653,180.00
				Soft Costs (7%)		$ 45,722.60
				10% Contingency		$ 65,318.00
				TOTAL		$ 764,220.60

Enclosure 6

Proposed Redistribution of Demand

FIELD USE ANNUAL SUMMARY - ACTUAL TEAM USES v PROPOSED					
			EXISTING USES	PROPOSED USES	
Field Location	Field	Field Type	Total Annual Uses	Total Proposed Uses	Comments
Lynnfield Regional High School	Practice Football	MPR	320	removed	
	MP Soccer Field	MPR	313	removed	
	60' Diamond and MP Outfield	Diamond Use	597	285	HS SOFTBALL / GIRLS SOFTBALL
		MP Outfield Use		no outfield use	
	90' Diamond and MP Outfield	Diamond Use	396	250	
		MP Outfield Use			BOYS BASEBALL, YOUTH SOCCER
	Upper Field	MPR	324	removed	
	NEW MP GAME FIELD	MPR (stadium)		540	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
	NEW MP FIELD	MPR (210X360)		560	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
	NEW MP FIELD	MPR (190X300)		593	HS SPORTS, YOUTH FB, YOUTH SOCCER, PE
Lynnfield Middle School	90' Diamond & MP	90' Diamond Use	530	250	HS BASEBALL, JR LEAGUE, TBALL
		MP Outfield Use			
	MP Game Field	MPR	510	250	HS SOCCER, PE, YOUTH SOCCER
	60' Diamond & MP Outfield	60' Diamond Use	240	280	
		MP Outfield Use			GIRLS SOFTBALL, PE
Summer Street School	60' Diamond (front)	60' B	16	16	PE
	60' Diamond & MP	60' Diamond Use	341	245	PE, LITTLE LEAGUE, GIRLS SOFTBALL
		MP Outfield Use			
St. Maria Goretti	60' Diamond & MPR	60' Diamond Use	104	30	MENS SOFTBALL
		MP Outfield Use			
Jordan Park	MP Field 1	MPR	464	250	YOUTH SOCCER
	MP Field 2	MPR	464	250	YOUTH SOCCER
Glen Meadow	60' Diamond	60' B	224	244	REMAINS THE SAME + TBALL + JR. LEAGUE
Newhall	Front Field	60' B	224	244	REMAINS THE SAME + TBALL + JR. LEAGUE
	Back Field	60' B	224	224	REMAINS THE SAME
Huckleberry Hill	MPR	MPR	390	190	PE
Main Street Rec Complex	New Natural Turf Field	MPR		250	YOUTH SOCCER, YOUTH LAX
	New Natural Turf Field	MPR		250	YOUTH SOCCCER, YOUTH LAX, YOUTH FB
	MP Synthetic Field	MPR		500	YOUTH SOCCER, YOUTH LAX, YOUTH FB
			5681	5681	

Anticipated Natural Turf Field Condition	Based on Uses per Year**	Uses per Year*
Sustainable good field conditions with optimal performance		Less than 150
Fair to good field conditions with some thinning turf and localized wear areas		150- 200
Poor to fair field conditions with significant turf loss and field surface damage		200-250
Field in Failure with potential for athlete injury		Over 250

* In general, a single use consists of field being utilized by 10-20 people for two hours.
** The field condition parameters mentioned above assume that the field begins the year with good coverage and is part of an aggressive maintenance program that includes proper irrigation, fertilization, aerating, top dressing, and resting period.
The field condition parameters mentioned above are educated predictions compiled using various sources from Sports Turf Managers Association (STMA) and Gale's own representative experience in designing athletic facilities.

Enclosure 7

Recommended Maintenance Regimen

LYNNFIELD ATHLETIC FIELD MASTER PLAN

FIELD MAINTENANCE PLAN

1.0 Purpose and Approach

The Town of Lynnfield (hereinafter referred to as "Lynnfield") has prepared a Master Plan for the revitalization and redevelopment of its athletic fields throughout the Town. The Master Plan results in a net increase of five to seven new multipurpose fields and dramatically increases the quality of all the fields throughout the Town. The purpose of this Maintenance Plan is to define a set of maintenance practices, schedules, costs and resources to maintain these fields, once constructed, in a safe and serviceable condition.

Prescriptive approaches to turfgrass management that try to predict and manage every conceivable scenario are ineffective, because they do not provide the Lynnfield maintenance staff with the flexibility needed to react to unpredictable weather patterns, pest infestations, and other local conditions. Specific turfgrass management practices vary throughout different fields according to the type of play that is occurring in each locale and the relative importance of the venue. Soccer, softball, and baseball each require a different set of conditions that require unique management approaches. As a result, we have focused on providing an approach to maintenance that is generally applicable to a wide variety of conditions and fields uses, and affords the maintenance managers with a broad set of guidelines within which to operate.

For purposes of this study, we have generally categorized fields by type (Baseball/Softball versus Multi-purpose Rectangular) and by relative importance (Medium vs. High) dependent upon demand placed on the field and the caliber of play it supports. The relative importance of the field is admittedly somewhat subjective.

2.0 Maintenance Activities

2.1 General. This section of the report defines those activities that are routinely accomplished in the maintenance of high quality athletic fields during the course of a year. Each activity is described, and the resources associated with that activity are quantified. Type field generally notes the frequency with which each activity should be performed. The final two activities described in this section, Irrigation and Lighting, are included to capture the costs of these routine requirements in the maintenance and operation model.

2.2 Soil Testing and Turf Inspection. Soil tests will be taken annually for each field by April 1st. Samples should be submitted to the Agronomy Laboratory at the University of Massachusetts. The testing will establish the insitu pH, and micronutrient deficiencies for each field and prescribe an amendment strategy to result in optimal turfgrass development. Additionally, by establishing the actual

turfgrass requirements, rigorous testing of each field results in "as-needed" applications that are environmentally sensitive and cost effective. Results will be due to Lynnfield by May 1st of that same year.

An individual maintenance worker can accomplish soil testing. A single worker can sample and ship an estimated ten playing fields per day. The cost of analysis is 4 samples per field at a cost of $25 per sample including shipping.

Turf inspection is also critical as the turf is an integral part of the playing experience. Safety concerns and visual aesthetics are primary reasons for turf inspection.

In addition to the formal turf inspection done in conjunction with soil sampling, irrigation and mowing crews observe the conditions of the field they are working on. They are also aware of possible safety issues such as divots, low spots, broken sprinkler heads, and the turf moisture level. Any such issues are then reported to the Athletic Field Maintenance Supervisor.

2.3 Spring Clean Up, and Facilities Inspection and Repairs. The spring cleanup should be a deliberate, planned evaluation and repair program that addresses each field in the Town. It should be begin as early as weather allows equipment to be on the fields without damaging the athletic turf, usually in later March to early April.

There are a number of valuable facility inspection checklists for overall park safety and serviceability, which should be executed for each playing field and its associated facilities (seating, scoring, public toilets, concessions, lighting, irrigation, etc.). The resultant inspection record and the recommendations therein must be compiled into a prioritized listing of maintenance and repair requirements.

One of the most critical early spring maintenance requirements is the inspection and servicing of the irrigation system at each field. The irrigation system servicing should include:

1. Begin by turning the power on to the irrigation controller.
2. Then open the valves to the water source including all system isolated values that were used for the winterization.
3. Visually inspect any pump systems and clean out any dust and debris that has settled on and around the pump.
4. Check the tension on any belts to the pump.
5. Once the pump is inspected, you should activate the pump with the controller and allow the irrigation main to pressurize.
6. Walk the water line route and check for any leaks at the valve locations.
7. Once this is complete, turn on each irrigation zone (one at a time) and again inspect the water coverage and make sure each sprinkler head is operational. It is a good practice to keep a supply of sprinkler heads and electronic valve starters in stock so that defective ones can be replaced without delay.

For purposes of a budget development, it is impossible to predict the overall spring clean up and repair effort required, as it will vary from year to year and from field to field depending on things like winter damage, vandalism, and deferred maintenance. We have made a general assumption that the overall assessment of each field take .25 man-days, that servicing the irrigation system at each field takes .5 man-days, and that the actual clean-up and repairs required at each field take 1.5 man-days.

2.4 Fall Clean up, Leaf Removal, and Late Fall Facilities Inspection and Repair and Irrigation System Winterization

The fall clean-up program should be a deliberate, planned evaluation and repair program that addresses each field in the Town. It should be begun as early as the use of the fields allows and be completed before cold weather threatens the irrigations system, usually by mid-November.

As noted in the Spring Clean-Up section, there are a number of valuable facility inspection checklists for overall park safety and serviceability that should be executed for each playing field and their associated facilities (seating, scoring, public toilets, concessions, lighting, irrigation, etc.). The resultant inspection record and the recommendations therein must be compiled into a prioritized listing of maintenance and repair requirements, and the resultant work orders be completed during the Winter and early Spring.

One of the most critical early fall maintenance requirements is the inspection and winterization of the irrigation system at each field. The winterization of your irrigation system is vital to the longevity of the system and does not require a great deal of time. There are several steps to shutting down and winterizing the system.

1. First, disconnect the electrical supply to both the controller and any pumps within the system.
2. Then, shut off the water supply source (well or public water).
3. Next you must use an air compressor that attaches to the system to "blow-out" the remaining water within the system.
4. As portions of the system are clear of water, close any isolation valves to that part of the system.
5. Once the entire system is purged, the winterization is complete.

Budget two men, 4-6 hours to complete if using own staff. If you hire an irrigation company, budget $250/field for winterization.

The other significant, labor-intensive requirement during the fall clean up is leaf removal. The removal of leaves from athletic turf and planting beds is essential to their long-term health. We have assumed that a system of leaf blowers and sucker truck are used for this purpose.

For purposes of a budget development, it is impossible to predict the fall clean up and repair effort required, as it will vary from year to year and from field to field depending on things like playing season damage, vandalism, and deferred maintenance. We have made a general assumption that the overall assessment of each field take .25 man-days, that servicing the irrigation system at each field takes .5 man-days, and that the actual clean-up and repairs required at each field take 1.5 man-days.

2.5 Fertilizing. Fertilizing is done in order to provide micronutrients to the soil, and acts as a "food" for the turf-grass plant. Fertilization should generally be done in the early Spring and Summer and supplemented on selected fields in the fall as needed on selected fields. This ensures that sufficient nutrients are available to develop healthy rootzones during the peak growth period of May and June. Fertilization should be directly related to soil tests performed on an individual field. Once soil sample data has been obtained, fertilizer with the proper nitrogen/phosphorus/potassium ratio should be obtained and applied at recommended rates.

While actual requirements will be dictated by testing results, for planning purposes, important fields should receive approximately 1 to 2 applications of Fertilizer (3 pounds of Nitrogen per 1000 square feet) per year. The parks foreman should determine the nitrogen weight based on the rating of the actual fertilizer used.

During any one application, not more than 1 pound of nitrogen will be applied per 1000 square feet at any time. The Lynnfield parks foreman should also determine the release time of the Nitrogen based on field conditions, anticipated use, and time of year.

A granular materials spreader generally applies fertilizer. Organic, inorganic and/or synthetic fertilizers can be applied by hand, walk-behind methods or contracted out for large applications. Calibration must be done to equipment according to ground speed, size of material and application rate. Rate is determined by the needs of the turf and type of soil, which affects movement of the fertilizer and availability to the grass plants. Application must be done in a uniform, even pattern to avoid stripping, caused by too much or not enough fertilizer applied. Water turf after application.

Rate needs to be determined by analysis of soil and/or tissue samples. Large applications are based on per acre, per hour. Small applications are based on square footage rate. A typical field takes approximately 3 Man-hours to fertilize and requires a materials spreader, utility truck and trailer.

The fertilizer itself is $3.50 per pound and covers at a rate of 3 lb per 1,000 S.F. Hence, a 100,000 S.F. soccer field requires 300 Lb of fertilizer at a cost of approximately $1,000.

2.6 Lime Application. Lime application will generally be conducted during the last two weeks of November. Lime requires up to six months to break down and have the desired effect on soil pH.

Lime should be applied to soil based on the pH results of the soil testing. Not more than 50 pounds of Lime per 1,000 square feet shall be applied at any time. Lime is typically spread using a granular materials spreader, and a typical field can be completed in approximately two hours with motorized equipment.

2.7 Aeration. Aeration alleviates compaction and develops deep-rooted turf. It is accomplished by creating spaces in the turf, which allows moisture, nutrients and oxygen to penetrate to the root zone. Aeration also breaks up thatch, which helps contribute to the organic content of the soil and breaks the mat on the soil surface.

Currently, Lynnfield does not aerate the fields due to the shallow irrigation system installed in some of the fields. The inability to aerate the fields has resulted in compacted soils, contributing the poor drainage of fields in the wet season. Gale recommends attending to the shallow irrigation system, or performing aeration via slicing as opposed to deep tine aeration, although it is less effective.

Aeration is generally performed as follows:

1) Walk the field to remove rocks and trash.
2) Water the field and let soak for several hours if the moisture level is not adequate to allow penetration.
3) Flag the sprinkler heads and valve boxes on perimeter of fields if necessary.
4) Core-aerate twice, once each in opposite directions to maximize the number of holes per square foot.
5) Allow cores to dry out.
6) Light-drag the area to break up cores on the surface.

Core aerating is usually done in conjunction with top dressing. Core to a depth of 2 ½" to 3" for most parks and turf areas that are under stress from compaction or wear, and 4"-5" penetration for athletic fields with the need to break the compaction zone.

A slicing aerator can be used during the playing season without affecting the field playability.

A machine likewise does deep tine aeration or hollow core aeration. The machine drives spikes into the soil at 90°, pulls out at a 45° angle to the surface so that it literally rips into the soil below and fractures the subsoil relieving deep soil compaction.

Aeration is performed every 14 days to once per year depending on field use, soil structure, field condition and need to achieve field classification playing conditions. Soccer goal mouths are aerated a minimum of 21-30 days. The following break down applies to one person per task:

Core aeration:	70 minutes per field per occurrence
Slicing:	50-60 minutes per field per occurrence
Deeptine aerating:	90-100 minutes per field per occurrence
Goal and wear areas:	30 minutes per field per occurrence

2.8 Top Dressing. Top dressing for Class A baseball fields will be conducted as the Lynnfield parks foreman deems necessary. If possible, top dressing should be done in conjunction with aerating and overseeding.

Top dressing adds soil, sand or other beneficial organic material and soil amendments (as determined by turf needs) to the surface of the turf. It should always follow core aerating. It is a medium for seed and fertilizer as well as a method of changing a soil profile without totally ripping up the soil, amending it and re-sodding. When properly dragged in the top dressing also fill pores made during core aerating and is an effective way to fill low spots as they occur.

Material is dropped spread from a hopper conveyor or top dresser or the process can be done by hand in areas such as soccer goalmouths. It is generally performed as follows:

1) Obtain soil samples, observe soil density, thatch thickness, root structure and soil composition.
2) Evaluate needs of the field and determine appropriate mix to offset problems observed in the sample.
3) Order mix and have delivered to site.
4) Inspect and fill low areas by hand.
5) Fill the topdresser, check conveyer and material drop mechanism.
6) Distribute evenly over the playing surface following a prescribed pattern.
7) Surface can then be light dragged or raked.

Top dressing is generally done once a year, however may be done twice a year and more if a field or soil demand, and the use of the field allows. Soccer goalmouths are top dressed following core aeration. This task usually takes one person 3-4 hours for full field application, while goal mouths take as little as 15-20 minutes per goal area.

2.9 Overseeding. Overseeding is recommended for athletic fields that are used in both the fall and spring seasons. Overseeding is the spreading of seed over bare areas or areas that are stressed in order to develop new turfgrass. Overseeding is recommended for fields that are used for both the fall season and spring seasons. The field must have ample down time to allow for the growing period. It is a process of spreading seed over a stand of turf to enhance (fill in) stressed or bare areas or to establish new turf or to improve the conditions of the turf. Overseeding should be especially concentrated on in the late summer to fall because it allows turfgrass germination and development to occur when moisture conditions are optimum and weed competition is minimal. Overseeding should be conducted after

aeration has been done, and should be spread over stressed or bare turf areas. Fertilizer should be added after overseeding has been conducted.

Overseeding can be done by different methods, which is usually determined by the size of the area to be overseeded. Mechanical seeder – for entire fields or area of comparable size or larger. Broadcast spreader and dragging or raking – use for areas like sidelines or goals mouths. Mix with topdressing for low areas or when repairs are made around irrigation heads or lateral repairs. Mechanical involves a tractor and overseeder. Preparation of the area should involve compaction relief by rototilling or aeration generally performed as follows:

1) Grade, level and crown, if needed.
2) Add soil amendments to reduce compaction.
3) Add fertilizer for seed germination.
4) Determine rate of seed application from size of seed and condition of the area to be overseeded. Bare areas require a higher rate that overseeding an established turf stand.
5) Always insure the seed has contact with the soil after application. Do this by dragging or applying a thin layer of topdressing and a light drag or brooming. Soil contact is critical for germination and sustained growth.
6) Set irrigation operation to maintain satisfactory soil moisture at all times. After germination maintain moisture level, mow at 2 ½" and fertilize every 21 days until plants reach maturity.

Overseeding is done as needed, depending on the amount of wear and the ability to create germination conditions. Overseeding takes 1 person 90-100 minutes per field, depending upon equipment used and the size of area being overseeded.

2.10 Mowing. Mowing is done to avoid having the grass go to seed, to maintain a safe, playable surface and to maintain a healthy vigorous stand of turf. Mowing is also performed to maintain a healthy viable carpet of plants. It encourages root depth, root mass and rizome development. It is done to keep the plants at a height that provides safe footing and a cushion for falls.

Mowing on most fields during seasonal use will be conducted normally once a week. Mowing heights will be adjusted from 2.5 inches from the growing season until mid-July, 3.5 inches from mid-July to mid-September, and then gradually brought back down to 2.5 inches. As a general rule, not more than 1/3 of the blade should be cut at any one time during any mowing activities.

Mowing will not be conducted when frost is present on the ground, the ground is muddy, or during rainfall. Clippings may be discharged on site. The direction of mowing will change each week.

Using hand mowers, rotary mowers and reel mowers can accomplish mowing practices. Again, the guidelines for mowing are:

1) Mower blades should be kept sharp at all times even if this means sharpening every day.
2) Remove no more than 1/3 of the grass plant at any one mowing.
3) The rate of turf growth determines mowing frequency, but no more than 7 days between mowings is to be achieved.
4) Mow in alternate direction to avoid layover of turf blades and compaction.
5) The user groups should agree upon the height of the turf and the maintenance staff and remain the same through the growing season. Two and a half (2 ½) inches for blue grass is recommended.

The equipment used and the amount of the plant being cut off determine optimum square foot per hour. The time needed to perform this task will vary depending on the mower width from six (6) acres per hour to fourteen (14) acres per hour.

2.11 Weed Control and Pesticide Applications. A pre-emergent herbicide should be used in March before germination of weed seeds. For highly infested areas, an additional application may be applied in mid May.

A post emergent herbicide (such as Round-Up®, or Confront®) should be used as deemed necessary by the Town.

Pest control activities at Lynnfield municipal fields should adhere to integrated pest management (IPM) practices. IPM is an approach to pest control, which seeks to anticipate and address the full range of physical, cultural, and biological factors affecting the development of pest populations at a given site. The gathering of information on potential pest populations ensures that as the turf becomes established, the maintenance staff has the knowledge and tools necessary to anticipate and address likely pest problems.

Pesticides should be used sparingly as deemed necessary by the Town of Lynnfield. Currently, the Town is not applying pesticides on the athletic fields. Chemicals used must be of recent manufacture, and have quick and effective results. Chemicals that may present health hazards will not be used. The Town of Lynnfield shall approve any chemical used on a field.

For grub control, a pesticide containing dilox (such as Merit® or Acclaim®) should be used as deemed necessary by the Town.

2.12. Scarify and Drag a Dirt Infield. During in-season play, it is important to periodically scarify and drag the clay-stone dust infields. Scarifying loosens the soil to relieve surface compaction, maintains softness of the infield while cutting down high spots and fills in low spots. The resultant surface is plays truer with more predictable ball performance. The soil is loosened to a depth of ¾" to 1". This procedure can also be done to open and dry out a field after rain or snow.

To scarify, an infield groomer with a scarifying attachment is utilized to drag the infield beginning at the pitcher's mound and circling second base and home plate and ending in a circular pattern around first base and home plate; in the opposite

direction of the subsequent level drag. Apply a light sprinkling of water to the surface to prevent drift and dust when dragging.

To level drag, the Rahn drag is equipped with bars in the front and back to level high spots, fill low spots and break up the soil clods from scarifying. Level dragging is done with a flat surface. When done correctly, ground balls play better and the infield will not "puddle" as much after a rain shower.

1) Start at pitcher's mound and drive a cloverleaf pattern twice to pull dirt back into the holes around the bases.
2) Move to the outside edge of the infield and start the circular pattern.
3) Circle the infield making smaller circles each time around until you are making as tight a circle as possible around the pitcher's mound.
4) Move to the outside edge of the infield, raise the drag and pick up the equipment. Rake out any infield mix left by the drag.
5) Replace the bases if they were removed and mark the playing field to league specifications.

To light drag, groomer is equipped with a broom or a mat on the back. The drag may also be pulled by hand. This can compact the field, so it is done quickly and efficiently as a final game preparation to reduce clumps and expose rocks. Broom or use a smaller drag along grass edges to avoid any infield dirt.

Scarify: Daily. After a rain scarification may be needed twice. This task takes approximately 45 minutes per occurrence per field.

Level Drag: Daily. This task takes approximately 30 to 45 minutes per occurrence per field.

Light Drag: Daily. This task takes approximately 20 minutes per occurrence per field to complete.

2.13 Striping. Installing visual "lines" to delineate the limits of play activity on a baseball/softball field or football / soccer field is a significant maintenance requirement requiring dedicated resources. It is typically done in conjunction with grass cutting and infield raking or dragging to prepare for play.

2.13.1 Baseball line delineation is generally accomplished as:

1. Assemble the following equipments: string line, hammer, 2 nail spikes, calcium carbonate (put ½ bag at a time in the dry spreader), dry liner, batter's box template and a 100' tape measure.
2. Set a nail spike at the back point of home plate. Attach a string line to the spike at home plate and walk down the fair line past the base and 10' into the turf.
3. Set anchor pin on the outside edge of the fair line. Wrap string line around the spike and pull tight.

4. Walk toward home plate and locate the appropriate base anchor. Measure and mark, in the dirt, the appropriate coach's box.
5. Walk to home plate with the template and mark the appropriate batter's boxes.
6. Walk to the area at the end of the dugout nearest home plate and mark on deck circles near the end of the dugout, 3'-4' from the fence.
7. Line the batter's box, fair line, coach's box and on desk circle.
8. Move the string line to the opposite fair line and repeat steps 3-10.Rake out the batter's boxes and pitcher's area inside the lines.

Procedure for **lining batter's boxes (home plate area):**

1. Build or purchase the correct size template for batter's box. Place the template in the correct position on home plate. If measuring with a tape, remember all box measurements are from the center outside point of the plate.
2. Trace your template in the dirt. Remember the template is the outside dimensions of the box so apply the dry marker on the inside of the lines.
3. Remove the template and apply dry marker.

Procedure for **pitcher's circle**, which is required for all fast pitch leagues:

1. Locate the center front of the pitcher's plate.
2. Set a spike or nail with a tape attached.
3. Measure out the correct length on the tape.
4. Trace the circle around the pitcher's plate.
5. Apply dry marker to the outside of the scribed line.
6. Remove the location nail or spike.

During class A tournaments, this activity could occur as often as every game or as seldom as every fourth game. Specific standards may be modified contingent upon requirements of league play or tournament play. Lining an infield normally takes one person 20 minutes.

2.13.2 Installing visual "lines" to delineate the limits of play activity on a multi-purpose rectangular field. Placing of accurate lines decreases confusion among players, officials and fans during critical times of competition and establishes the dimensions of a sanctioned playing field. Multi-purpose rectangular field striping is generally accomplished as follows:

1. Establish the correct measurements according to the age/or ability of the users.
2. Establish a hub or starting point on a corner.
3. Using a 300' tape measure, check the length and width for clearance from all obstacles including curbs, trees, berms, etc. The recommended clearance from the line to any obstacle is ten (10) yards or thirty (30) feet.
4. Once a corner is established set up a transit. There are other methods of layout, but we prefer the use of a surveyors transit. Set the transit over the hub.

5. Measure the end line and set a marker through the transit. Using an additional tape measure, extend to the correct length.
6. Rotate the transit 90° from the end line marker and set the correct length through the transit.
7. Relocate the transit over the opposite end line marker. Site is on your starting marker and use the tape and transit to locate the other side line and corner marker.
8. Using the four corners you can now measure out and mark with stakes, all of the interior lines according to the age or group using the field.
9. Use a string line to connect the stakes and paint in all lines. Follow all painted lines on the cutting unit using care to cut at a depth not to exceed one quarter (1/4) inch.
10. Re-cut all lines biweekly or as needed according to turf growth.
11. Painting is not necessary but may be performed by the user group.

The layout procedure will require two people approximately three (3) to four and one half (4 ½) hours per full size field. Cutting procedure requires one person approximately forty (40) to forty five (45) minutes per full size field.

2.14 Routine Unscheduled Repairs

For Class A baseball fields, the Lynnfield parks foreman should conduct inspections weekly, typically in conjunction with the mowing and striping of the field, or as deemed necessary.

During inspection, a field walkover should be conducted in order to determine the condition of the field. Any defects in the field surface, fencing, bases, plates, dugouts, lights, or other items should be noted and immediately repaired. For purposes of estimating the resources required to maintain the fields properly, we have assumed that each field requires some unscheduled repairs during the season in which it is in use.

2.15 "Off-Season" Maintenance Requirements. There are off-season maintenance activities, which must be accomplished to properly set the stage for the next turf grass season. A partial listing of these activities is as follows:

- Annual Services on all maintenance equipment. This generally includes thorough inspection and repair, a change of all fluids, sharpening, calibration, filter replacement, and tuning.
- Inventory of all hand tools and materials, and ordering replacements as needed.
- Completion of all of the HAZMAT, pesticide, herbicide and fertilizer reporting requirements and logs.
- Staff professional development training on such topics as Integrated Turf management requirements, OSHA safety, etc.

2.16 Irrigation Operations. This Activity was established to capture the cost of just the actual field irrigation. This cost includes both the cost of electricity to operate the pumps and controllers, and the cost of water, if the intended source was

Town water rather than an on site well. To estimate the costs we assumed that the irrigation season was from June through August. Further we assumed that each field footprint received a half inch of irrigation per week, and used this figure to determine the average volume of water used on a typical field. The costs to service, repair, and winterize the irrigation systems were captured in this model separately as they were included in the Spring Clean-Up and Fall-Clean-Up activities described above.

3.0 Conclusions and Recommendations

3.1 Current Field Maintenance Budget. Gale, assisted by information provide by the Lynnfield DPW attempted to determine the annual expenditure for maintenance of the Town's current population of playing fields. This effort was somewhat complicated by the fragmented nature of the maintenance effort with expenditures from combined departments. However, the information provided by the Town was very complete and well documented, allowing for an estimate that is likely quite accurate.

3.2 Recommended Field Maintenance and Operation Budget. With the development and completion of the proposed Master Plan, it becomes critical that the new fields and the improved existing fields be maintained properly to enhance playability and safety. Based on this program of maintenance activities as prescribed, the total operating budget for the maintenance of high quality fields in the Town of Lynnfield should be approximately $445,380 per year.

3.3 Recommended Staffing. The maintenance and operation procedures enabled Gale to estimate the staffing requirements throughout the year. Currently, the DPW employs 6 Cemetery, Parks & Trees (CP&T) workers, including a general working foreman, also in charge of 3 other DPW Divisions. In the summer months, when athletic field maintenance is high in demand, several employees are pulled from other divisions to assist the CP&T Division in maintenance of the fields. Gale feels that the full-time employee level is adequate for the inventory of athletic fields currently in the Town. However, depending on the utilization of employees to other divisions due to shared employees, staffing may be on the low side. The maintenance model suggest that the "In-Season" part-time employees should increase by one (1) full-time and two (2) – three (3) additional employees during the months of April and May.