

Manchester-by-the-Sea Athletic Fields Master Plan 2020



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Acknowledgements

We acknowledge and thank the residents of the Town of Manchester-by-the-Sea (Manchester or MBTS), town staff members, and the many individuals representing a great number of committees whose participation at various meetings helped forge this report. The recommendations and priorities established within this document address the needs of the Manchester community and the needs of various other stakeholders who rely on town recreation facilities for use and enjoyment. Recommendations are intended to be pragmatic and recognize that municipal governments like Manchester must continue to provide a high level of service, even in times of financial uncertainty and increasing athletic participation rates.

Athletic facilities are an important asset to the sports and recreation community. This study intends to strike the right balance by identifying and recommending renovated or new facilities to meet the varying needs of Manchester residents.

When implemented, the improvements identified within the study will provide enhanced opportunities for public use and enjoyment. Sports fields will be more accessible and readily available to the various sports leagues, recreational leagues, and residents of the town.

Thanks in particular to the members of the Parks and Recreation Committee and Cheryl Marshall, Director of Manchester's Parks and Recreation Department, for their assistance in providing key information on individual properties, and in particular, how they are used. In addition, our appreciation extends to the many representatives of other town departments and committees for their critical advice and insight. The recommendations contained in this master plan represent our best professional judgments and expertise, tempered by the unique perspectives of each of the participants in the process.

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Weston & Sampson Design Studio

2020

CHAPTER 1 Executive Summary

The following study represents a unique opportunity for the Town of Manchester-by-the-Sea to assess its athletic facility properties to develop a series of thoughtful and achievable enhancements to these spaces that will provide benefits to all members of the community. It provides a comprehensive inventory and analysis of all existing conditions as well as a series of recommendations for improving facilities throughout town.

A needs assessment has been prepared and is based on an examination of the physical conditions of all fields and courts in addition to information gathered during a series of meetings with key user groups and stakeholders. As work progressed, the following became clear:

- ♦ There are insufficient athletic playing fields to meet the demands of the Manchester community.
- ♦ Due to heavy and often excessive use during all seasons of the year and during all types of weather, turf conditions are stressed at most locations. Converting an existing natural grass field to a synthetic turf athletic field would provide a more dependable high-use venue. As an example, converting the multi-use rectangular field at Sweeney Park to synthetic turf could significantly mitigate the current overage in hours of use per field.
- ♦ Poor playing conditions can demoralize users and increase the risk of injury.
- ♦ The lack of a clear, concise, and evenly enforced “Field Use Policy” places those responsible for field upkeep at a disadvantage. Many Eastern Massachusetts communities have long since adopted policies that have proven crucial to the maintenance of improved field/turf conditions by controlling use, particularly during poor weather. Manchester should adopt such a policy so that appropriate controls govern the use of the fields and allows for improved playing conditions to be achieved.
- ♦ Manchester should look for opportunities to add additional playing field footprints.

- ♦ The town should aggressively pursue other private, state, and federal funding sources in order to reduce the financial burden on residents and to match local funding authorizations.

Surrounding communities have moved aggressively to expand their field-based playing venues due to dramatically increased rates of participation in youth sports and the expanding participation rate of women and girls in general. Manchester is further impacted by the need for school-related programs to use Recreation Department facilities as well as the need to share facilities with neighboring towns like the Town of Essex.

The most important goal of this study is to help the town get to the point of maintaining and operating quality athletic fields regardless of the level of play.

We invite you to review the document that follows and to actively participate in an endeavor to provide improved recreational and athletic opportunities to all residents of Manchester-by-the-Sea.



CHAPTER 2 Introduction

The Town of Manchester-by-the-Sea retained Weston & Sampson in 2019 to complete this Athletic Fields Master Plan. The town has invested funds to assess current field and park properties that provide critical outlets for outdoor athletic competition and recreational enjoyment for residents of all ages throughout the community. It is important to note that outdoor recreation needs relate not just to the sports/athletic programs that make use of them, but also to less formal recreational pursuits by individuals not aligned with a specific organization, like the neighborhood kids who seek a pickup game of football, baseball, or soccer within a particular venue or the parents who would like to stroll across a field or fly a kite with their children. In addition, the study recommends accessibility improvements at all park and field facilities and other related site improvements to encourage multi-generational use.

As demand for Manchester's available recreational resources increases, pressures mount to maintain facilities in a condition that supports the desired level of use. This document proposes preferred conceptual designs at specific properties that, if implemented, will improve conditions and help to relieve the demand pressures currently being experienced. Some of the proposed concept plans involve major renovations while others are more targeted and strategic in their approach.

This will serve as a guide for the future development of fields, as well as a tool to secure funding from various private, municipal, state, and federal sources.



The specific scope of work undertaken by Weston & Sampson included:

- ♦ Compilation of base maps and plans suitable for the development of conceptual design plans for each of the properties being considered
- ♦ Compilation of all existing conditions at each property
- ♦ Identification of safety issues, site limitations, constraints, and opportunities for each property
- ♦ Formulation of a town-wide user assessment to evaluate current use and identify most critical needs
- ♦ Engaging the Manchester community in a public dialogue to further establish and confirm preferences, needs, and priorities in relation to the future renovation and restoration of each property
- ♦ Development of conceptual plans for select properties prepared specifically in response to community needs and preferences. Ultimately, these have been endorsed by both community participants and town representatives in the form of a “preferred” conceptual design for each property
- ♦ Establishment of high-level budgets and implementation strategies for all desired property enhancements
- ♦ Completion of a final master plan report

Representatives of Weston & Sampson have developed conceptual improvement plans for specific properties. The plans were generated in response to the needs of the town as identified through on-site evaluations and as expressed by various user groups and town representatives who are responsible for the programming and maintenance of the various sites. At the outset of the process, Weston & Sampson representatives toured the properties to assess the existing conditions of all field facilities. This helped to identify current limitations, safety, and maintenance issues as well as potential opportunities for improving facilities and the user experience.

Conceptual designs were iteratively presented to the Parks and

Recreation Department and Parks and Recreation Committee throughout the study process and to town residents at two public outreach meetings held on March 14, 2019 and September 19, 2019.

In addition to identifying capital improvement priorities for a site, it is important to note that this study also identifies important considerations pertaining to a modified town-wide maintenance strategy and the establishment of a fields use policy. If adopted, this field’s use policy will help to:

- ♦ Clearly articulate when fields are available for use and when they are closed due to inclement weather, the need to “rest” turf, or for other maintenance or refurbishment efforts
- ♦ Reduce the pressure on those making the decisions to close or delay opening a field by having clearly defined expectations and protocols
- ♦ Improve conditions at each playing field venue by eliminating play during poor weather. Use of fields during, or immediately after, poor weather can quickly damage a facility regardless of the effort and capital invested in the facility

It was clear that all participants in this process want to improve playing conditions so that competition can be held within venues that meet minimum organizational standards, are safe, attractive, and comfortable for users and spectators. In short, there was a strong desire to establish playing venues the town could take pride in. This report represents the culmination of the master planning process.

This report contains narrative and graphic depictions of the preferred conceptual plans with descriptions of potential improvements, expansion scenarios, and implementation strategies. In addition to identifying new and refurbished facilities, there was an attempt to identify other important initiatives that might improve the overall performance of a property/facility. These initiatives include improved turf conditions, improved parking, site access, pedestrian and vehicular circulation, improved ancillary features, and landscape

qualities which establish the characteristics inherent to first-class park and athletic facilities. Implementation of the improvements outlined in this master plan will require significant effort.

It is important to note that a “study” is typically general and dynamic which means the recommendations are not “cast in stone”. It is fully intended that, as particular projects are implemented, the actual scope of improvements contained in this report will again be validated or refined to meet actual field conditions and community priorities and preferences through a continuing dialogue with stakeholders.

PROPERTIES ASSESSED

The study focuses primarily on three (3) properties that are town-owned and under the jurisdiction of the Park and Recreation Department. The list of properties and their respective jurisdiction are as follows:

- ♦ Coach Field (aka Brook Street Field)
- ♦ Masconomo Park
- ♦ Sweeney Park



CHAPTER 3 Public Outreach

The study process included a series of informational and public comment sessions, with several stakeholder meetings identified in the chart located below.

AVAILABLE
FEBRUARY **8th** - MARCH **8th**

PUBLIC INPUT SURVEY

**HELP MANCHESTER-BY-THE-SEA PLAN THE
FUTURE OF ITS ACTIVE RECREATION SPACES!**



Meetings were held at the Town Hall and involved the Parks and Recreation Committee, sports league stakeholders, and members of the general public. Colored plans and digital presentations were used to communicate study findings, recommendations, and conceptual designs for each of the properties. Feedback from each meeting was constructive and positive with most participants expressing keen interest in achieving dramatic improvements to the facilities and enhanced conditions for all users.

MEETING	SUBJECT	DATE	
Parks and Recreation Committee	Project kick-off meeting, outline scope of work, review project schedule	December 17, 2018	
Public Survey	Public outreach survey questions and answers via SurveyMonkey.com	February 8, 2019	
Public Outreach Meeting 1	Review of initial mapping and field reconnaissance efforts, receipt of comments regarding limitations and opportunities	March 14, 2019	
Parks and Recreation Committee	Discuss and refine conceptual site designs	May 29, 2019	
Public Outreach Meeting 2	Get feedback on conceptual site designs for additional refinement	September 19, 2019	
CPA Meeting	Present report findings and discuss conceptual designs	November 14, 2019	
Planning Board Meeting		November 18, 2019	
Conservation Committee Meeting		November 26, 2019	
Parks and Recreation Committee		December 10, 2019	
Board of Selectmen Meeting		February 17, 2020	
School Committee Meeting		March 2, 2020	
Final Master Plan		Document approved	September 2020

USER SURVEY

A public survey was generated and distributed online and in printed form by town representatives in order to benchmark resident satisfaction with existing active recreation facilities and to learn of perceived deficiencies within the Manchester outdoor athletic fields. A total of 133 residents participated in the survey.

The key takeaways from the survey are as follows:

Current Use

The most popular recreational activity that respondents used town facilities for was walking and jogging (90%), followed by playground use (71%), passive recreation (65%), and soccer (62%).

During the spring and fall seasons, the field at Manchester Essex Regional High School is the facility used most frequently (66% of respondents indicated at least once per week) -- which is no surprise



due to school-related athletics. However, during the summer months, Coach Field is used most frequently (53% at least once per week). It is important to note that residents also used facilities in the neighboring town of Essex (30% in spring, 16% in fall and summer).

A significant number of respondents, 43%, use facilities in other towns at least once per week. Part of this high number reflects the informal athletic field partnership with the Town of Essex.

Satisfaction with Existing Facilities

In terms of overall satisfaction with all recreation facilities, 57% of respondents said the overall quality needs to be improved while 33% rated them as adequate.

For each facility, residents were asked to rate various elements on a scale of Excellent, Good, Average, Fair, or Poor. Key takeaways for each facility are listed below.

Sweeney Park

- ♦ Parking – Over 60% rated Fair or Poor
- ♦ Field Conditions – 68% rated the baseball field Good to Average; 65% rated the softball field Fair to Poor; 60% rated the multi-use rectangular field (overlapping the softball field) Poor
- ♦ Amenities – 50% rated the baseball field amenities Good to Average; 65% rated the softball field amenities Fair to Poor; 70% rated the multi-use rectangular field amenities Fair to Poor
- ♦ Field Availability – Over 60% rated the baseball and softball fields as Good to Average; 46% rated the multi-use rectangular field as Fair to Poor
- ♦ Overall Satisfaction – 66% rated the baseball field Good to Average; 54% rated the softball field Fair to Poor; 58% rated the multi-use rectangular field Fair to Poor

Coach Field

- ♦ Parking – 64% rated Good to Average
- ♦ Field Conditions – 54% rated Good to Average
- ♦ Amenities – 69% rated Fair to Poor
- ♦ Field Availability – 59% rated Fair to Poor
- ♦ Overall Satisfaction – 67% rated Good to Average

Masconomo Park

- ♦ Parking – 66% rated Good to Average
- ♦ Field Conditions – 46% rated Fair to Poor
- ♦ Amenities – 64% rated Fair to Poor
- ♦ Field Availability – 68% rated Fair to Poor
- ♦ Overall Satisfaction – 65% rated Good to Average

What is Wanted

When asked to list the three most important or critical recreational needs in town, 60% of residents stated the need for more and/or better rectangular fields followed by a track at 16%.

Over 69% of respondents believe an additional synthetic turf field is needed in town while, in a related follow-up question, 78% said more fields need sports lighting to extend and maximize the time of usage.

When asked to rank the top five (5) amenities needed, 78% ranked restrooms as #1 or #2.



In order to assess the best use of each property, it was important to consider the most pressing needs of the Manchester community. This section represents a synthesis of the information obtained during the data gathering and study process. It is important to note that this report focuses on the fields under the jurisdiction of the Recreation Department, and not school-owned properties. In order to compile the range of needs, a variety of methods and tools were used including those summarized below:

- Information obtained at public information meetings
- Information obtained at meetings with key stakeholder groups
- Information and advice from town staff members, including all key departments (Department of Public Works, Recreation Department, etc.) since these individuals are charged with the maintenance and operation of facilities
- Anecdotal data gathered during the study process
- Analysis and inventory of existing facilities and conditions throughout Manchester
- Use of recognized industry standard parks and recreation related guidelines and protocols



Regarding the last two items in the bulleted list above, comprehensive inspections were conducted at each venue to inventory the quantity of the facilities and to assess their conditions. For playing fields, the physical condition can often be a strong indicator of the degree of use (or overuse) or if there are any unsafe playing conditions.

Information compiled during meetings, the inventory of current facilities, and the analysis of existing conditions were most critical in determining the needs of the community.

CURRENT TRENDS AND EXPERIENCE

Over time, and throughout the New England region, there is typically an ebb and flow in the popularity of certain recreational activities. Manchester is no exception to this pattern. However, the town has historically exhibited a very consistent, and often increasing, participation rate across its sports programs. This rise in activity and popularity is putting additional pressure on existing athletic field facilities and points to a need for more field time to accommodate youth sports and school-related athletics.

The public information meetings and stakeholder meetings provided insight into what users are experiencing and how existing facilities support their needs and expectations, as well as fall short. Several themes became apparent:

- Weather and poor field drainage negatively impact ability to use fields
- The limited number of fields in town, and resulting high hours of use, puts excessive stress on the condition of growing and maintaining grass
- Field maintenance, and subsequent field conditions, is limited throughout town
- Weather-related cancellations of activity are not consistent
- Existing field venues need improvement

- ♦ Additional fields are needed to accommodate youth sports
- ♦ Sports lighting at additional fields is needed

FIELD ANALYSIS

Due to solid participation rates of sports programs and a limited number of fields, there is a general shortfall of dedicated rectangular-shaped fields that are consistently available. As a result, the sports programs requiring rectangular-shaped fields encounter scheduling conflicts and this causes some programs to reduce their number of practices or games. This is exacerbated when weather impacts field conditions and playability. Maintaining turf under these conditions becomes challenging for town staff.

It is important to note that several MBTS user groups, both recreation and school related, regularly utilize fields in other towns. In particular, the town has a strong relationship with the Essex and many residents use the fields at Centennial Grove and at Memorial Park.

Field Use Analysis and Annual Hours of Use



Weston & Sampson concludes that most fields are used near to, or beyond, their maximum number of recommended hours. It’s important to note that this does not allow for the “resting” of any fields and does not include additional events such as rentals, passive recreation, or other informal events that may occur. The following is a summary of the average study field use:

FIELD	WINTER	SPRING	SUMMER	FALL	ANNUAL HOURS*
Masconomo	-	375	-	462	837
Coach Field	31	735	-	740	1,506
Sweeney Baseball	-	645	-	-	645
Sweeney Softball	-	645	48	-	693
Sweeney Rectangular Field	-	-	-	553	553

** These figures represent permitted hours and do not include non-permitted or recreational use. The town does not permit or maintain the High School field or the tennis courts in front of Memorial Elementary School.*

For natural grass fields, it is typically recommended to limit use to 450 to 550 hours per year. Based on Manchester’s total annual hours of permitted use above, a shortage of rectangular multi-use fields is evident. This overuse is exacerbated by poor drainage and insufficient maintenance.

BASIS FOR RECOMMENDATIONS

To provide a better understanding of the analysis and recommendations in this report, it is useful to compare the industry standard recommendations with the assumptions used in this report. The industry standards and report assumptions can generally be divided in two categories: “ideal utilization” and “realistic utilization.” The list below outlines recommendations of turf professionals (including the Sports Turf Managers Association (STMA) and representatives from various colleges and universities) regarding the use and maintenance of the athletic fields.

- Make every effort to begin each season with 100% turf coverage.
- Industry field and turf professionals recommend limiting field event scheduling to 250 hours of use per year. Natural turf areas become noticeably thin and bare beyond this limit and are is challenging to recover.
- Each field should receive at least eight (8) weeks rest (no use at all) during the active growing seasons (spring and fall) each year to allow the turf to rejuvenate prior to the next year’s use.
- Each field should receive one inch minimum of water, through rain or irrigation, each week, to maintain healthy and vigorous growth.
- Turf should receive the same level of industry recommended maintenance during active, inactive, and field rest periods.
- Each field should receive one (1) full year of rest with a full rejuvenation program every four (4) years to permit turf to be revitalized and to develop a sufficient “thatch” layer. Although seasonal thatch removal is a normal part of turf maintenance, athletic fields require a certain thickness of thatch to protect roots from players’ cleats, to maintain moisture, and to cushion players from injury.
- Football, soccer, and lacrosse tend to be more damaging to turf than other sports such as baseball and softball. Therefore, to prevent overuse of natural turf, a shared use field (i.e., soccer

teams using baseball outfields) tends to be discouraged by field maintenance professionals.

While the above recommendations represent “ideal utilization” scenario, it is unrealistic for most municipal school, recreation, and maintenance departments to closely or consistently adhere to them. Fiscal budget, personnel, and facility supply limitations require a more “realistic utilization” to athletic field maintenance. Listed below are industry standard recommendations for the realistic utilization scenario:

- Make every effort to begin each season with 100% turf coverage.
- Field scheduling should be limited to 75% to 90% of maximum capacity per week to allow enough rain date game replays; allowance for field, player, and equipment setup/takedown time; and some measure of in-season field rest.
- Limit use of each sufficiently maintained natural turf field to 450 to 550 hours of use per year.
- Sufficient field quantities should exist to allow each field at least four (4) weeks of rest (no use at all) during an active growing season (spring and fall) each year to allow the turf to rejuvenate prior to the next year’s use in either the spring or fall.
- Fields that are not irrigated should be scheduled for moderate use during the summer season with play rotated frequently during the season to minimize turf damage. Alternatively, provide on-site irrigation or watering systems for each town field. Exceptional damage occurs easily with use during hot and dry summer months as well as use immediately after a rain event.
- Maintain sufficient thatch levels and vigorous turf. All fields should receive the industry-recommended levels of maintenance throughout the spring and fall growing seasons.
- Play on multi-use fields should be routinely rotated, where possible, to minimize areas of turf damage and wear.

- ♦ Fields should be aerated and slice-seeded as necessary to ensure adequate root growth and turf coverage.

ACCESSIBILITY

Each facility under the jurisdiction of the Recreation Department needs improvements to accessibility. General themes of these improvements include better accessibility at parking lots, pathways, and spectator seating areas. These improvements would also enhance multi-generational use of these field facilities.

SUMMARY

In response to the factors above, and as an outgrowth of the survey and study process, many basic needs have been identified, as summarized below:

It is anticipated that the town will require modifications and upgrades to existing facilities to meet the needs related to sports activity participation rates. In addition, a key goal for the town is to provide more rectangular field playing space to accommodate youth sports. The conceptual plans attempt to address the needs that are most pressing, most widely supported, and most realistic given the nature of the properties that are available and given likely funding scenarios. Due to space constraints at existing town properties, there are limited opportunities for field expansion or reorganization of facility types.

MANCHESTER'S ATHLETIC FIELD AND COURT NEEDS

More Field Space / More Field Time to Accommodate Demand

Opportunities to Rest Fields

Improved Accessibility Town-wide

Improved Ancillary Facilities (Bleachers, Backstops, etc.)

New Capital Funding for Major Improvements at Field and Court Properties

OVERALL RECOMMENDATIONS

The master planning effort presents a unique opportunity for the Town of Manchester-by-the-Sea to assess their recreation and athletic facility properties and develop a series of thoughtful and achievable enhancements that will provide benefits to all members of the community.

The master planning process identified the critical need for new and refurbished athletic facilities (i.e., fields, courts, diamonds, etc.) to better support the many sports programs that operate within the community. Based on participation rates for various activities, and the limited number of existing facilities, Manchester does not have enough high performing fields to accommodate the large number of users. The resulting problem is two-fold; with heavy programming/overuse and limited facilities, the town cannot serve its recreation programs adequately, and appropriate field conditions cannot be maintained. To this end, we have structured the preferred conceptual plans for various properties to:

- Recognize the desire of residents to provide good quality and well-performing sports facilities that can be maintained with reasonable resources in a manner that fits the town’s (and leagues’) operation and maintenance abilities;
- Identify the need to develop facilities that are properly oriented, adequately dimensioned, properly designed, and contain appropriate setbacks and buffers to ensure user safety;
- Recognize the surrounding land use context and the need to be a good neighbor by developing safe, attractive field, court, and park facilities and amenities that respect the needs of abutting property owners; and
- Provide accessible and multi-generational open space and recreation assets in order to better serve all Manchester residents.

Due to the shortage in multi-use rectangular fields, it is recommended

that the town construct new facilities at additional properties. Several properties in town, as well as in neighboring towns, were considered and investigated. It is important to note there are few town-owned properties available and/or suitable for the construction of new sports fields. At the conclusion of this investigation, it is recommended to construct a small field at 156, 158, and 160 Pine Street which is an old trash burn site. Although the combined properties allow for a small rectangular field footprint, it can still provide critically needed playing space for younger athletes.

Field Maintenance

It is recommended that the town increase the operational budget for an appropriate maintenance fields at the desired level of performance. The following table provides an example of an annual maintenance budget if Manchester is to maintain its fields at an above-average level:

ANNUAL MAINTENANCE BUDGET EXAMPLE			
Field Type	Materials Cost per Field (\$6,000)	Labor Hours per Field (250 labor hours @ \$25/hour)	Total Annual Cost
Natural Turf Field (3 fields)	\$18,000	\$18,750	\$36,750
Synthetic Turf Field (2 fields)	\$12,000	\$12,500	\$24,500
Grand Total	\$30,000	\$243,750	\$61,250

It is important to note the budget figure above does include the cost (hours) for mowing the fields and does not include maintenance/improving of the facilities at the high school. The town should also assess current staffing levels to properly maintain the fields and facilities.

Synthetic Turf Versus Natural Turf

With the increasing vagaries of weather, popularity of youth sports,

and the high demand for fields and field maintenance, many communities are installing synthetic turf fields to handle the increase in user demand. Synthetic turf is extremely durable, high performing and easy to maintain, making it reliable and available when other natural turf fields are being over-used with little to no rest creating potential safety hazards and poor playability. Below are a list of the advantages and disadvantages of each field type.



SYNTHETIC TURF FIELD	
ADVANTAGES	
Lower Maintenance Costs	Synthetic turf requires much less yearly maintenance which includes grooming the field every 100 hours of play, top dressing the infill every 2-3 years, and annual G-MAX monitoring. Annual maintenance costs can range from \$15,000-\$25,000.
Playing Time	Due to the durability, synthetic turf can support over 2,000 hours of play per year and can be played on in most weather conditions. Extended play seasons - can usually play March to December.
Fewer Injuries	The even playing surface creates fewer injuries compared to the uneven surface of natural turf where dips and patches form and are enhanced during wet conditions creating mud and slipping hazards.
DISADVANTAGES	
Initial Costs	The initial costs can be 2-4 times that of a natural turf field.
Abrasive	Synthetic turf has been known to be more abrasive than natural turf, resulting in more turf burns to a player's skin.
Heat Hazards	Synthetic turf has heat absorbing properties.
Replacement Costs	The replacement costs are a lot higher for synthetic turf and can reach up to 75% of the initial investment.

NATURAL TURF FIELD	
ADVANTAGES	
Initial Cost	The initial cost of a natural turf field is about one-half to one-third of the cost of a synthetic turf field.
Performance	Natural grass creates more friction than artificial turf, a factor that accelerates rates at which objects move across its surface. In a game such as baseball or soccer, reduced friction means ground-based plays that may be easy catches on natural grass are more difficult on artificial turf.
Replacement Costs	The replacement costs are similar to the initial costs, which are much lower than the cost of replacing a synthetic turf field.
DISADVANTAGES	
Maintenance Costs	Annual maintenance costs for a natural grass field can be more than three times that of a synthetic turf field. These costs include mowing, watering, fertilizing, aeration, seeding and labor.
Playing Time	Natural turf should not be played on more than 500 hours per year, limiting the amount of use it gets. If a natural turf field is being played on more than the recommended amount, there is less rest/ recovery time for the grass, resulting in more safety hazards and poor playing surfaces. Natural turf is also restricted by the weather condition.
Environment	An average natural turf field uses about 50,000 gallons of water per week during the growing season. Also, natural grass fields require fertilizers (and sometimes pesticides/herbicides) which can be impactful to the environment.

Reasons to install a synthetic turf field:

- ♦ Increased availability for community use and school athletics
- ♦ Extension of seasonal field usage (March-December in comparison to mid-April through early November)
- ♦ Strong response to New England weather (practice/compete on fields earlier in the spring and later in the fall, allowing for competition on wet, rainy days; natural turf fields require cancellation in most cases)
- ♦ Flexibility in scheduling practices and games; opportunity for longer time slots, necessitated by increased numbers of student-athletes
- ♦ Ability to rest the natural turf fields for proper maintenance, improved playing conditions, and higher performance

Due to the factors described above and based on Manchester's specific needs identified in *Chapter 4 NEEDS ASSESSMENT*, it recommended to install one (1) synthetic turf field at Sweeney Park. This will allow for athletic programs to use the field in early March and into late November when sports are in season. It will also take advantage of the lighting system already in place. Due to poor current natural turf conditions, the field can rarely be used prior to April and can be used only sporadically late in the fall season. These limitations on field use were repeatedly brought up as a frustrating experience at nearly every stakeholder meeting.

Sports Lighting

Only two facilities in town possess sports lighting: the synthetic turf field at the high school and the multi-use rectangular field at Sweeney Park.

Due to the durable characteristics of synthetic turf fields, as described earlier, it is recommended to concurrently install sports lighting wherever synthetic turf is installed in order to maximize the hours of use. The hours diverted to synthetic turf fields relieves the burden on

natural turf fields which enables more “rest” and promotes better natural turf field conditions. It is important to note that sports lighting was investigated thoroughly at Coach Field, particularly since it’s a synthetic turf field, but is not being pursued in order to be sensitive to surrounding neighbors.

The technology in today’s sports lighting is significantly advanced compared to even five (5) or ten (10) years ago. Sports lighting installed at appropriate heights, result in better lit facilities, improved night-time play, reduced light spillage, and less glare seen by adjacent properties.

Drainage Management and Targeted Drainage Improvement Options

The proper drainage of fields (the removal of excess water from the soil surface and/or soil profile either by gravity or artificial means) is critical. Some fields possess adequate drainage because the field was constructed properly. However, poor drainage is one of the most common problems at other high-use athletic fields. Soil compaction is a major contributor to drainage issues, even if the field is properly graded. When water remains on the field surface and does not drain, many problems occur including slippery and unsafe conditions. Games are cancelled and maintenance practices are delayed. If play occurs on fields when saturated, the turf can become permanently damaged. Additionally, wet soils take longer to warm up in the spring which can delay seed germination.

The most effective way to improve the drainage performance of a natural grass turf field is a full-depth reconstruction with proper soil composition, grading, and a sub-drainage system. However, full reconstruction and sub-drainage can be cost prohibitive and take a field offline for two (2) or more growing seasons. Other drainage improvement options are available that are less intensive and help to get a field back online faster. Some of these methods, which are frequently used together, include two-inch (2”) trench drains, verti-

drain aeration, verti-quake sand injection slits (available in multiple widths depending on need), and sand top-dressing. Trench drains require a perimeter collector pipe and, ultimately, an outlet structure.

The approximate cost to install these drainage improvement interventions at existing fields is summarized below:

ITEM	UNIT	UNIT COST
Cut in 2” Sand-Slit Trench Drains	LF	7.50
Verti-quake Sand Injection Slits (2 directions)	SY	\$1.25
Verti-drain Aeration	SY	\$0.25
2mm Spec. Sand for Top Dressing (1/4” depth)	CY	\$54.00
Collector Drain	LF	\$30.00
Drainage Structure	EA	\$1,000.00

SITE ANALYSES AND RECOMMENDATIONS

The conceptual design plans included on the following pages identify the proposed configuration of fields and other site features at individual properties. It is important to note that many recommendations suggest the refurbishment of **existing facilities** within the properties. However, the plans also recommend the development of **new facilities** and amenities that would provide new or expanded opportunities for public use and enjoyment. Importantly, if additional sites become available to the town for new recreational amenities, the additional facilities could alleviate/eliminate issues at other recreation and school properties.

The following property assessments and recommendations identify a series of improvements that would help to relieve many pressures and challenges currently being experienced by the sports-playing residents of Manchester. These properties are valuable assets and, if properly

redesigned, could provide more meaningful sports and recreational opportunities to all user groups. These properties include, but are not limited to:

- ♦ Coach Field
- ♦ Masconomo Park
- ♦ Sweeney Park
- ♦ Pine Street (new facility location)

It is important to note that town representatives have provided a significant amount of input and many suggestions during the development of the conceptual plans and review process. In addition, key stakeholders (i.e., sports league representatives) and other residents contributed to the development of the preferred plans. Short narratives describe each preferred conceptual plan, which graphically depicts the basic scope of suggested improvements.

Cost Considerations

The following pre-design program cost estimates are high-level estimates and identify an initial breakdown of costs associated with the recommended improvements. All costs have been rounded and are estimated based on previous experience with similar projects.

The soft costs found in each estimate typically cover the consultant services costs associated with survey, wetlands delineation, soil borings, test pits, stormwater modeling, permitting, bid assistance, and construction administration and oversight.



SWEENEY PARK EXISTING CONDITIONS

Basic Site Description and Location

Sweeney Park is located off Summer Street and is adjacent to the Weems Conservation Area. The park contains the following facilities:

- ♦ One (1) softball field with a rectangular multi-use field overlapping the outfield
- ♦ One (1) Little League baseball field and support building
- ♦ Two (2) basketball courts
- ♦ A paved area with remnants of an old skate park

Summary of Existing Conditions

The baseball field is in fair to poor condition in terms of infield, overall grading, and grass turf. The fencing, backstop, dugouts, and support building are showing signs of aging and the need for repair or upgrade.

The softball field is in fair to poor condition in terms of infield, dugouts, and fencing. The backstop is in poor condition and is inadequate in height. The outfield, which also serves as part of the multi-use rectangular field, has grading irregularities and areas of poor drainage. The rectangular field is limited and overlaps the skinned infield.

The existing sports lighting at the baseball and softball fields reflects older, less-efficient technology.

One basketball court was recently renovated and is in good condition. The other basketball court was in poor condition and is frequently used for parking.

The spectator seating is not ADA accessible. The gravel parking lot is uneven and not ADA accessible.

The pavement of the old skate park was in poor to fair condition with instances of surface cracking.





SWEENEY PARK RECOMMENDATIONS

The recommended improvements include replacing the natural grass rectangular fields with synthetic turf, provide sports lighting of appropriate height, and replacing the backstop at the softball field.

Recommendations Summary

- Construct a synthetic turf field that provides a rectangular field space of 330' x 180' and includes the softball infield.
- Replace the softball dugouts and backstop to accommodate the synthetic turf field layout.
- Upgrade the sport lighting fixtures while utilizing the existing poles and foundations.
- Consider the installation of a new restroom building.
- Improve the parking lot and add pathways; a preliminary design was developed (the conceptual plan reflects this previous work.)

Cost Consideration

ITEM	COST
SITE PREPARATION	\$32,500
SYNTHETIC TURF FIELD	\$910,000
SOFTBALL FIELD AMENITIES	\$105,000
SITE WORK and PLANTING	\$16,000
Subtotal:	\$1,063,500
Mobilization, Overhead & Profit (15%):	\$159,525
Contingency (10%):	\$106,350
Basic Design Services (10%):	\$133,000
Supplemental Services:	\$37,000
SUBTOTAL:	\$1,499,375
Subtotal with Inflation Allowance (5%):	\$1,574,344

* does not include parking, pathways, or bathroom facility

BASIC DESIGN SERVICES	COST
PRELIMINARY DESIGN (20%)	\$26,600
DESIGN DEVELOPMENT (25%)	\$33,250
CONSTRUCTION DOCUMENTATION (30%)	\$39,900
CONSTRUCTION ADMINISTRATION (25%)	\$33,250
TOTAL:	\$133,000

SUPPLEMENTAL SERVICES	COST
TEST PITS (4 Total)	\$8,000
BORINGS (5 Total) (Optional for sports lighting)	\$8,000
NOTICE OF INTENT	\$10,000
STORMWATER REPORT	\$6,000
SURVEY & WETLAND DELINEATION	\$5,000
TOTAL:	\$37,000

BATHROOM FACILITY	COST
BATHROOM FACILITY	\$400,000
UTILITIES	\$60,000
Subtotal:	\$460,000
Mobilization, Overhead & Profit (15%):	\$69,000
Contingency (10%):	\$46,000
Basic Design Services (10%):	\$46,000
SUBTOTAL:	\$621,000
Subtotal with Inflation Allowance (10%):	\$683,100



SWEENEY PARK | Conceptual Improvements Plan

COACH FIELD EXISTING CONDITIONS

Basic Site Description and Location

Coach Field is located at the intersection of Brook Street and Norwood Avenue and adjacent to Memorial Elementary School. The park contains the following facilities:

- ♦ One (1) synthetic turf field and scoreboard
- ♦ Two (2) tennis courts with sports lighting

Summary of Existing Conditions

The synthetic turf field is in poor to fair condition. The fiber carpet is showing signs of wear and deterioration with tears in some areas; it is nearing its expected end of life. In terms of the subbase, there have

been reports of drainage issues. The field has minimal ancillary amenities for teams and/or spectators.

The spectator seating is not ADA accessible due to being located in a grass area. The gravel parking lot has potholes and is not ADA accessible.

The tennis courts are in poor condition with significant settlement and cracking issues. The fencing around the tennis courts is also in poor condition. It is important to note that the courts are currently being utilized as a staging area for the construction of the new elementary school and should be renovated when that work is completed.





COACH FIELD RECOMMENDATIONS

The recommended improvements include replacing the synthetic turf field carpet and assess the condition of the subbase and drainage system.

Recommendations Summary

- ♦ Replace the fiber carpet of the synthetic turf field in its existing footprint.

Cost Consideration

ITEM	COST
FIBER CARPET DISPOSAL/RECYCLING	\$50,000
NEW FIBER CARPET AND INSTALLATION (390' x 225')	\$300,000
INFILL 50/50 (Crumb rubber) as needed	\$35,000
SPECTATOR AMENITIES	\$20,000
Subtotal:	\$405,000
Mobilization, Overhead & Profit (15%):	\$60,750
Contingency (10%):	\$40,500
Soft Costs (5%):	\$20,250
SUBTOTAL:	\$526,500
Subtotal with Inflation Allowance (5%):	\$552,825

MASCONOMO PARK EXISTING CONDITIONS

Basic Site Description and Location

Masconomo Park is located near the center of town off Beach Street. The park contains the following facilities:

- ♦ One (1) baseball field
- ♦ One (1) playground
- ♦ A gazebo, dock, and pier

Summary of Existing Conditions

The baseball field is minimalistic in terms of amenities and the infield is in fair condition. However, the backstop (modified to be shorter) and team bench areas are in poor condition. The outfield, which also serves

as a small multi-use rectangular field, has grading and drainage issues. The field has no spectator seating.

The perimeter stone dust pathway loop has damaged areas that prevent it from being ADA accessible (at the time of site visit).

The paved parking lot is in good condition, but has a limited number of spaces.





MASCONOMO PARK RECOMMENDATIONS

The recommended improvements include regrading the outfield, renovating the backstop and team bench areas, and improving accessibility to the field.

Recommendations Summary

- ♦ Regrade the outfield to improve drainage.
- ♦ Reconstruct the perimeter pathway with full-depth ADA trail surfacing.
- ♦ Construct accessible pathways to the team bench areas.

Cost Consideration

ITEM	COST
SITE PREPARATION	\$7,500
BASEBALL FIELD DRAINAGE IMPROVEMENTS TO OUTFIELD	\$210,000
WALKWAYS (ADA trail surfacing)	\$11,000
Subtotal:	\$228,500
Mobilization, Overhead & Profit (15%):	\$34,275
Contingency (10%):	\$22,850
Soft Costs (10%):	\$22,850
SUBTOTAL:	\$308,475
Subtotal with Inflation Allowance (10%):	\$339,323



PINE STREET EXISTING CONDITIONS

Basic Site Description and Location

This proposed site consists of three parcels of town-owned land (156, 158, and 160) on Pine Street on the north side of town. These parcels used to be the location of a town trash burn site and then, subsequently, then were the sites of residences. However, the properties were acquired by the town and the homes have since been razed. The remnants of a driveway is evident from the road. The surface of these parcels is covered with low volunteer species of vegetation. An intermittent stream is located along the western edge and wetlands are mapped along the southern edge.





PINE STREET RECOMMENDATIONS

The recommended improvements include constructing a small multi-use rectangular field, parking lot, and ADA accessible pathways.

Recommendations Summary

- ♦ Construct a natural grass multi-use rectangular field (240' x 150') with 4'-height black vinyl chain link fence along the length of Pine Street.
- ♦ Construct and parking lot with 35 total parking spaces.
- ♦ Construct accessible pathways from the parking lot to the spectator seating.

Cost Consideration

ITEM	COST
SITE PREPARATION	\$50,000
RECTANGULAR NATURAL TURF FIELD	\$325,000
SUPPLEMENTAL SERVICES	\$30,000
WALKWAYS & PARKING LOT	\$160,000
Subtotal:	\$565,000
Mobilization, Overhead & Profit (15%):	\$84,750
Contingency (10%):	\$56,500
Soft Costs (15%):	\$84,750
SUBTOTAL:	\$791,000
Subtotal with Inflation Allowance (5%):	\$830,550

** does not include any remediation related to the historical use a burn site. Additional testing is recommended.*



PINE STREET | Conceptual Improvements Plan