Town of Wayland, MA
Town-Wide Athletic Field Master Plan

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enclosures

Gale JN 714570

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TOWN OF WAYLAND
TOWN-WIDE ATHLETIC FIELD
MASTER PLAN

Wayland, MA

Section 1.0 - Introduction, Background, and Purpose

Gale Associates, Inc. (Gale) was engaged by the Wayland Recreation Department to assist the Town with the development of a Town wide Outdoor Athletic Field Master Plan. This plan looks at the Town existing outdoor facilities and does not address current condition or demand associated with indoor facilities (i.e. pools, hockey rinks, basketball courts, etc).

As an initial step in this effort, Gale completed an evaluation of each outdoor athletic facility. Additionally, Gale completed a demand assessment to quantify the use made of the existing facilities and to assess their adequacy. The deliverable is a Master Plan Report, which addresses the following questions:

- What is the current population of outdoor athletic fields in the Town?
- What record information or base plans are available for each field?
- What is the general condition of this population of outdoor athletic fields?
- What are some of the immediate renovation needs for these fields (as opposed to redevelopment), and what are the costs associated with these needs?
- 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?
- What are the most compelling, high priority needs for additional field space in the Town?
- Which properties have potential for athletic field development or redevelopment?

This Master Plan Report will set the next stage for the development of schematic plans for the development of additional outdoor athletic fields, or improvements to existing outdoor athletic fields, consistent with the priorities identified in this report.

Section 2.0 - Field Assessments- Methodology

As noted above, the first step in the Town-Wide Athletic Field Master Planning effort was to assess the existing conditions at each facility. The scope of this study included multiple fields at each of the following complexes:

- Town Building
- Alpine Field
- Clay Pit Fields
- Cochituate Field
- Riverview Field
- Happy Hollow School
- Loker School

Distributed throughout these eight (8) complexes, are a total of nine (9) multi-purpose athletic fields that vary in size and ten (10) 60-ft baseball/softball diamonds. These numbers are exclusive of the athletic facilities at the High School and Middle School, as those facilities are addressed in a separate report. In addition, the nine (9) multi-purpose athletic fields are comprised of several small fields that cannot be utilized for other sports due to size constraints.

Each field was visited multiple times by Gale staff and standard field evaluation forms were completed for the fields at each location (Tab 1). Gale completed photo documentation describing each field and took measurements as required to assess geometric compliance with applicable standards.

The assessment was performed using accepted industry standards and guidelines where available. A good example of the use of structured guidelines by which to assess an area of these fields is the Wayland Town Building site. The National Federation of State High School Associations (NFHS) and Massachusetts Interscholastic Athletic Association (MIAA) guidelines were followed in the evaluation of the school field layout and equipment. Similarly, the Architectural Access Board Guidelines were used to assess ADA 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 within each functional area are categorized as they relate to the safety, serviceability, and accessibility of the components.

The findings of the assessment led to recommendations for each individual site. The recommendations included herein do not consider economic constraints of available budgets. Instead, the deficiencies identified and the recommended actions to be taken form the basis for the next step in the process, which is the development of a Master Plan for the Town of Wayland. This will involve input from the community and the subsequent phasing of work to coincide with budget availability.

Section 3.0 - Field Assessments – Short Term Recommendations

The individual field assessment reports detail the general condition of each facility that Gale observed at the time of the assessment (see Tab 1). Additionally, Gale has compiled a listing of short-term maintenance and repair items required at each of the subject fields to address immediate needs. These

repairs are required to provide safe, serviceable and accessible facilities, and are not related to the renovation strategies presented in the next report. They are summarized as follows:

Art King Field/Town Building

- 25' high protective netting should be installed along the Town Building
- Existing spectator seating should be replaced
- Existing wooden dugout benches should be replaced and the dugouts should receive roofed enclosures
- Existing baseball backstop has several rails that need to be adjusted and the CLF fabric needs to be adjusted and tightened

Alpine Field

- The existing spectator seating is non-code compliant and should be replaced.
- There is no ADA access to the existing spectator seating; walkways should be installed
- The guardrails along the parking lot should be repaired/replaced
- The T-Ball backstop should be replaced

Claypit Hill School

- Fields are in poor condition due to overuse; a maintenance program (including resting of one (1) field per growing season) should be implemented
- Irrigation should be installed for the facility
- Wooden player's benches should be replaced

Cochituate Field

- The fields at Cochituate are in excellent condition. There are no immediate repairs required at this facility.

Riverview Field

- Existing spectator seating should be replaced and ADA access should be provided
- Existing wooden dugout benches should be replaced

Happy Hollow School

- Field is in generally good condition with dense growth and minor deficiencies.

Loker School

- Site used for T-ball. No deficiencies noted.

Overall, the fields are in fair to poor condition. A majority of the fields throughout the Town have deficiencies in similar areas including little to no resting period (essential to turf growth and establishment), spectator seating and ADA accessibility.

Again, it is not the intent of these immediate repairs to address the renovation and redevelopment recommendations for each facility, which is addressed further in this report. Rather, these comments are intended to define existing field conditions and establish those repairs and upgrades necessary to make the fields more fully serviceable, safe and compliant.

Section 4.0 - Base Plan Development

An essential task of the Master Planning effort is the creation of a suitable base plan in AutoCADD for each field to serve as the basis for the schematic planning effort to follow. Gale contacted Town officials to obtain record information and GIS data (assessor's maps, utility maps, topographic maps, and wetland maps) as available. Additionally, we consulted FEMA maps, state soil maps, and aerial mapping available on the MASSGIS web site. Gale produced a suitable base plan for each field, provided as Enclosure 2.

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

Section 5.0 - Scheduled Field Demand – Team Uses

An essential task in the fields study was to determine the extent to which fields are used and rested. During the assessment phase, Gale met with the Wayland Recreation Department, Wayland School Department and contacted various users of the existing fields. The officials from each User Group completed the field use data form.

The total number of team uses (a team use being 10-20 persons using the field for a 2-hour event) was then established for each playing field. Practices are also taken into account as team uses due to their repetitive nature over the same areas, which can cause considerable damage to the turf.

Gale has provided a field use matrix for all high school, middle school, camp and club type use, recreation and youth sport programs in the community (see Tab

3). The totals from this matrix provide an accurate reflection of all of the scheduled field uses for each field across the town in a given year.

Based on the calculated demand on these fields, it is clear that the Town is lacking adequate space for athletic fields, as each site exceeds the recommended use allotments for natural turf fields.

Section 6.0 - 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 Little League T-ball, 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 as well, by applying an impact factor to the raw scheduled use data (see Tab 3).

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 adult football is twice as damaging to the turf and assign it a 2.0 impact factor accordingly. Similarly, Little League baseball has less impact on turf condition and is assigned an impact factor of 0.75. Other impact factors for various sports were assigned accordingly, and multiplied by the number of scheduled uses for each type of activity, to yield the equivalent team uses in terms of turf damage and impact.

The equivalent scheduled team use data for fields which routinely sustain use for adult sports such as men's lacrosse or football tend obviously to be higher than actual scheduled uses, while those for fields which are routinely used for Little League baseball tend to be less.

While this approach is arguably somewhat imprecise, it is a definite improvement over the consideration of raw scheduled use data alone, as it does account for differences in the impact on turf condition.

Section 7.0 - Field Use Schedule

How a field is scheduled is an important consideration in its ability to sustain heavy use with an acceptable decrement in turf condition. Obviously a field with 250 scheduled uses stretched out over the year (May through October) behaves differently than if this use was broken up with rest period(s) provided. Ideally, a natural turf field should have a 30-day minimum rest period during the active growing season (spring or fall) in order to repair the root zone damage it has

sustained and to propagate new crown growth. Alternatively, this rest period can be in the summer time; however, this is less effective as the turf grass is somewhat dormant.

It should be noted, however, 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. The enforcement of a restrictive inclement weather policy by field managers is the singular best management practice available.

Section 8.0 - Field Demand Conclusions

The Wayland fields sustain heavy use. In addition, virtually none of the fields have a spring, fall or summer rest period.

An aggressively maintained and irrigated field that is rested for up to one third (1/3) of the growing season can theoretically sustain up to 250 team uses per year and provide a high quality and safe athletic turf. However, for most municipal fields that are less well maintained, seldom rested, and often poorly watered, a more realistic level of use is 200 scheduled team uses per year. Gale's preliminary findings are that given optimal maintenance efforts and growing conditions, the demands on the playing field currently in use exceed the level at which it possible to sustain safe, high quality athletic facilities.

Based on our initial findings, it is apparent that many of the Town's existing fields are in poor condition due to overuse. In addition, the Town is lacking sufficient athletic field space to accommodate the existing amount of Youth and Adult sports programs that are active in the Town. Based on the numbers, the Town is currently lacking two (2) multi-purpose athletic fields, five (5) 60-ft diamonds and two (2) 90-ft diamonds.

Section 9.0 - Redevelopment Potential and Preliminary Strategy

Beyond the immediate field maintenance requirements noted above, Gale also evaluated each location for its potential for redevelopment. In addition to re-development of existing sites, Gale also assessed several Town-owned sites to be potential areas for athletic and recreation development. These sites are the undeveloped Greenways Property and the undeveloped Route 30 property (Loker Recreation Area).

Redevelopment may consist of construction of new fields, re-orientation of existing fields, complete renovation of existing fields, strategic placement of synthetic turf at fields with heaviest use, new athletic lighting, and increased parking. Gale believes it is essential to develop these sites to alleviate the demand placed on the existing athletic fields in the Town of Wayland, and make more optimal use of available fields.

Section 10.0 - Master Plan Layouts

The following is a brief discussion of the primary alternative field layouts for redevelopment at each of the complexes within the study that had redevelopment potential.

Alpine Field

General. The Alpine Field complex is an important venue given its location and general proximity to resources that would limit its development (i.e. wetlands). The location of the parcel provides opportunity for development of athletic field lighting, which combined with synthetic turf, could take on significant use.

Master Plan Strategy. The natural turf footprint should be replaced with a synthetic turf field to combine the rectangular multi-purpose field and a new 90-ft diamond. The Master Plan recommendations do not include any increase in the existing size of the field, which will help with permitting. In addition, a new MUSCO athletic field lighting system should be constructed. The site improvements project should include new bleachers, press box and ADA accessible walkways.

Permitting Requirements. The improvements as proposed above for Alpine Field will likely involve minor permitting. We do not think any of the required permits will be problematic, however, as there are no environmental issues and we are not changing use or limits of existing disturbance. The major permitting effort will be associated with the proposed athletic field lighting, however given the proximity to local residents; Gale feels that this will be a successful effort.

Cost Estimates. The costs associated with this project will include the proposed synthetic turf field and the athletic field lighting. New bleachers and press box will be constructed to allow for ADA accessibility. The following is a bulleted list of approximate costs:

• Synthetic Turf Field	$ 1,100,000
• Athletic Field lighting	$ 350,000
• Fencing, walkways and appurtenances	$ 20,000
• New bleachers and ADA Access	$ 50,000
TOTAL	**$1,520,000**

This estimate is an approximation and more detailed construction cost estimates shall be prepared with the detailed design of each facility.

Recommendations. The improvements to Alpine Field will result in a significant increase in field capacity of well over 650 uses, with the substitution of a filled synthetic turf field and addition of athletic field

lighting. We believe these improvements can be accomplished with minimal inconvenience to users and little impact on surrounding field availability, as the project could be completed between graduation and fall sports.

Claypit School Fields

General. The Claypit School Fields consist of seven (7) soccer fields that are currently used non-stop. It is an important facility with over 770 scheduled team uses per year. The field is absent of irrigation, which makes it difficult to maintain to the same standards as some other fields in the Town. It receives a great deal of use. There is little or no "rest period" afforded to the field.

Master Plan Strategy. Six (6) of the fields should be reconstructed to include drainage, a more durable sand based root zone, and irrigation. The last field in the southeast corner of the facility should be re-constructed with synthetic turf. Additional improvements will include site drainage and ADA accessible walkways.

Permitting Requirements. The reconstruction of the fields may involve work within or adjacent to a bordering vegetated wetland area and an aquifer protection district. As the fields in the aquifer protection district will be natural turf, the Town may require the submission of an Integrated Turf Management Plan.

Cost Estimates. The costs driving the work associated with this project include the drainage improvements and field reconstruction. The following is a bulleted list of approximate costs:

• Drainage		$ 140,000
• Field Reconstruction		$ 250,000
• Synthetic Turf Field		$ 600,000
	TOTAL	**$990,000**

This estimate is an approximation and more detailed construction cost estimates shall be prepared with the detailed design of each facility.

Recommendations. The improvements to the Claypit School Fields, coupled with the reduced demand resulting from the synthetic turf field, will result in a significant increase in field capacity. With a complete reconstruction of the site, this could become a more durable, higher quality site for the Town and meet the demands placed on it by the Youth Soccer Program.

Loker Recreation Area (Route 30)

General. The Loker Recreation Area offers unique opportunities to develop a currently undeveloped parcel that is owned by the Town. The advantage of this is the opportunity to use CPA funding for development, which provides no additional burden on the taxpayers. Given the lack of 60-ft diamonds in the Town, it is Gale's proposal to make this a dedicated Little League baseball facility.

Master Plan Strategy. The site needs to be developed to include three (3) new Little League/softball fields, to include site fencing, backstops, parking and a future concessions/restroom facility.

Permitting Requirements. The development of the fields will involve work within or adjacent to a bordering vegetated wetland area and will likely involve site plan approval as it is a change in use. As the field will be natural turf, the Town may require the submission of an Integrated Turf Management Plan

Cost Estimates. The costs driving the work associated with this project include the drainage improvements and field reconstruction. The following is a bulleted list of approximate costs:

• Athletic Field Development		$ 750,000
• Parking Lot Development		$ 175,000
• Drainage development		$ 50,000
	TOTAL	**$975,000**

This estimate is an approximation, and more detailed construction cost estimates shall be prepared with the detailed design of each facility.

Recommendations. The development of the Loker Recreation Area as a Little League complex will take use off of Cochituate Field and the Town Building field. It will also provide opportunities for hosting regional tournaments, which will boost the local economy and provide potential revenue streams for the Town.

Greenways Property

Gale Associates, Inc. did investigate the potential development of the Greenways Property for athletic facilities to offset the current demands placed on the Town's fields; however given the area of the parcel that is currently available for development, the permitting efforts and cost to access this portion of the site, greatly outweigh the potential for development and the area does not provide sufficient room for adequate recreation fields.

Section 11.0 - Master Plan Summary

The following table summarizes the Town's Outdoor Athletic Facility Redevelopment Master Plan elements described above:

Location	Redevelopment Strategy	Field Change	Cost
Alpine Field	New Synthetic Turf Field	Synthetic Turf (+.5)	$1.10M
	Athletic Field Lighting		$ 350K
	New Bleachers		$50K
	Access Improvements		
Claypit Fields	Drainage Improvements		$ 140K
	Reconstruct Existing Fields	No Change	$ 250K
	Synthetic Turf Field Construction	Synthetic Turf (+.5)	$ 600K
Loker Rec. Area	Development of 3 Little League fields	+3 Fields	$ 975K

SUMMARY (Net Change):
+1 Multi-Purpose Synthetic Turf Fields, +3 Little League Fields, +1 90-ft Diamond **$3.47M**

Section 12.0 - Field Demand/Impacts and Rest Following Master Plan Implementation

The main objective of the Master Plan is to reconstruct existing fields or develop sufficient new fields to better meet the demands placed on them by the Town's existing athletic programs. The Master Plan goal is to provide sufficient fields by type such that the demand on any individual field does not exceed 250 scheduled team uses. As previously noted, 250 team uses is the maximum number that a properly irrigated and maintained field with a 30-45 day rest period during the active growth season can sustain and still maintain good quality athletic turf.

Existing User Demand. As reflected in the existing condition demand matrix, there are many fields that greatly exceed the 250-use criteria. Additionally, the majority of these overused fields have no growth season rest period. This type of demand throughout the Town results in an abundance of chronically poor fields, which provide un-safe playing surfaces and become liabilities for the Town of Wayland.

Master Plan Influence on Demand for Fields. Once the final number and type of fields were established, the next task was to allocate each user group and associated uses (i.e., # of practices, # of games) to the existing fields. The goal was to minimize the number of total uses per field to less than 250. In addition,

we also wanted to integrate a rest period for each field during one of the seasonal growing periods.

The implementation of the Master Plan will result in the natural turf fields seeing a 25% 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 from up to 650 uses per year, and 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.

Section 13.0 - Master Plan Implementation – Phasing Plan

It is apparent that the implementation of the entire Master Plan is not feasible in a single project due to the Town's fiscal constraints and to 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:

- 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 five (5) years, including the current year;
- Attempt to balance the Town's expenditure on field renovation throughout the Master Plan implementation period;
- Schedule Master Plan elements that only provide for a renovation of an existing field, with no change in layout or use, late in the phasing plan.

Phase 1, Fiscal Year 2012

Phase 1 should include the development of the Loker Recreation Area, as this is something that can be done with current CPA funding and will take the longest to grow-in. This project can be phased to complete the two (2) southern most fields and phase the north field afterwards; however the additional design and construction costs make this the least favorable option. The cost of the development project is $975,000, and when completed, will result in a dedicated facility with potential revenue streams for the Town.

Phase 2, Fiscal Year 2013

Phase 2 should include the reconstruction and renovation of Alpine Field to include a new synthetic turf area that will accommodate a 90-ft diamond and multi-purpose rectangular field. The cost of this project is $1,520,000, which results in a field that can see immediate use. With the addition of lights, the synthetic turf field would achieve its allowable use and take significant impact to the current overuse of other Town fields.

Phase 2 should also include the renovation of the natural turf fields at the Claypit facility to include irrigation and drainage improvements. This cost of $390,000 will provide the necessary infrastructure to the Claypit facility to maintain the fields adequately to sustain the current use.

Phase 3, Fiscal Year 2014

With the renovation of the six (6) natural turf fields at the Claypit Facility, the next step would be to renovate the seventh field with a synthetic turf field. This field will provide additional use capabilities to the facility that will provide a dedicated soccer complex for the Town and will take uses away from other off-site facilities within the Town.

Phasing Plan Summary

LOCATION	FY 2012	FY 2013	FY 2014
PHASE I			
Loker Recreation Area	$975,000		
PHASE II			
Alpine Field		$1,520,000	
Claypit Renovations		$340,000	
PHASE III			
Claypit Synthetic Turf			$600,000
Total Costs	$975,000	$1,860,000	$600,000

Total Cost: $3,435,000

Section 14.0 - Recommended Maintenance Regimen

The implementation of a Master Plan is only effective if the work completed is properly maintained. This section of the report defines those activities that are routinely accomplished in the maintenance of high quality natural turf athletic fields during the course of a year to allow for the use allotment associated with this Master Plan.

Inventory of Outdoor Athletic Fields

The Town of Wayland Department of Public Works is responsible for the maintenance of Town athletic fields, the athletic fields at K-8 schools, small parks and public grounds. Maintenance of these facilities includes mowing, aerating, fertilizing, irrigation and system maintenance, weed and insect control; litter clean-up, leaf removal, marking fields, and support for civic activities. An inventory of the areas for which maintenance is included under the jurisdiction of the DPW is provided below and has broken down into three (3) priority categories of varying athletic use.

The priority category dictates the level of maintenance that each site receives. In general, the more frequently used athletic fields, which are used and partially funded by those paying user fees and used by older athletes and therefore seeing more damage are Category I and II.

Category I. Category I sites include natural turf field facilities utilized for athletic league competition and recreation. These sites tend to be high visibility sites utilized by multiple user groups. Because the users of these fields pay user fees, field expectations are elevated are expected to be available and to perform throughout the calendar year.

Category II. Category II fields can be described as secondary support sites, generally containing two or less fields. These are highly use fields that have intermittent rest periods at intervals during the year. These fields exhibit internal flaws affecting year round playability. Fields are maintained on regular bases but do not receive additional cultural practices to maximize use. Due to growing scheduling demands for field space, Satellite Fields may require upgrading into Maintenance Category I.

Category III. Category III sites require programmed development work for to become Satellite fields and budgeted funding for maintenance procedures. Currently, there are limited scheduled athletics or recreation activities beyond physical education classes. These fields are used by those paying user fees; however they are typically geared towards younger age groups and less maintenance is required due to less impact from the athletes.

Inventory

An inventory of the athletic fields within Wayland maintained by the Recreation Department is as follows, along with their Category and typical uses:

Category I
- Cochituate Field (Baseball and Softball)
- Claypit Fields (Youth Soccer, Youth Lacrosse, Baseball and Softball)

Category II
- Town Field (Soccer, Lacrosse, Baseball, Camps)
- Alpine Field (Baseball, Soccer, Lacrosse, Camps)
- Riverview Field (Little League Baseball)

Category III
- Happy Hollow School (Little League Baseball ,Phys Ed Classes)
- Loker School (Little League Baseball, Phys Ed Classes)

Natural Turf Athletic Fields

Natural Turf Athletic fields require stringent maintenance programs to maintain quality turf that is safe for play. The programs are above and beyond typical lawn maintenance due to the soil composition, seed type and use associated with them. In addition, public natural turf recreation areas require special maintenance protocols due to state regulations (Massachusetts Pesticide Control Act – MCPA, Chapter 132B of the Massachusetts General Laws) associated with the use of chemicals. The following is a recommended maintenance program for Massachusetts public natural turf athletic facilities.

Soil Testing and Turf Inspection. The first step to the proper maintenance of a natural turf athletic field is to develop the baseline for topsoil that supports the natural turf. This can be accomplished by testing of the topsoil layer. Soil tests should be taken biennial, typically before April 1st. Samples should be submitted to an Agronomy Laboratory (Hummel & Company, Inc) that specializes in analysis of athletic field soil. The testing will establish the in situ pH and micronutrient deficiencies for each field and prescribe an amendment strategy to result in optimal athletic natural turf grass development.

An individual worker can accomplish the soil testing. A single worker can sample and ship an estimated ten (10) playing fields per day. The samples requirements are typically one (1) gallon, but that one gallon should be comprised of samples from several locations within the field footprint. The cost of analysis for each field sample, including shipping is approximately $400 per field.

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, Parks and Grounds crews should observe the conditions of the field they are on while performing regular maintenance. 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 Parks and Grounds Foreman.

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 begin as early as weather allows equipment to be on the fields without damaging the athletic turf, usually in late 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 (e.g., 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. Turn the power on to the irrigation controller.
2. Open the valves to the water source, including all system-isolated valves 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, 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 cleanup 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 takes 0.25 man-days, that servicing the irrigation systems takes 10 man-days, and that the actual clean-up and repairs required at each field take 1.5 man-days.

Based on discussions with other Parks and Grounds foreman throughout Massachusetts, these seem like reasonable estimates.

The level of effort required for spring cleanup is consistent with the Town's current operations. Under the Town's current maintenance program the spring cleanup is included under miscellaneous maintenance and the level of effort is not specified in detail due to the variability of the effort required from year to year.

Fall Cleanup, Leaf Removal, Late Fall Facilities Inspection and Repair, and Irrigation System Winterization. The fall cleanup 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 cleanup 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 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, 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. Disconnect the electrical supply to both the controller and any pumps within the system.
2. Shut off the water supply source (well or public water).
3. "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.

The winterization of the existing irrigation systems will take approximately 10 man-days. If you hire an irrigation company, budget $400/field for winterization.

The other significant, labor-intensive requirement during the fall cleanup 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 manually operated and truck/tractor mounted blowers are used for this purpose.

For purposes of a budget development, it is impossible to predict the fall cleanup 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 and the actual cleanup and repairs required takes approximately 0.75 man-days per acre. Based on discussions with other Parks and Grounds foreman throughout Massachusetts, these seem like reasonable estimates.

Organic Fertilizing. Due to all of the facilities being public grounds, the Town should develop an Integrated Turf Management Plan in accordance with the Northeast Organic Farming Association (NOFA), Massachusetts Chapter. 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. 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.

While actual requirements will be dictated by testing results, for planning purposes, important fields should receive three (3) or more applications of fertilizer (3 pounds of Nitrogen per 1,000 square feet) per year. The Parks and Grounds foreman will determine the nitrogen weight based on the rating of the actual fertilizer used.

During any one application, not more than one (1) pound of nitrogen will be applied per 1,000 square feet at any time. The foreman will also determine the release time of the fertilizer based on field conditions, anticipated use, and time of year.

A granular materials spreader generally applies fertilizer. Organic, 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 two and one half (2.5) man-hours, or one and one quarter (1.25) man-hours per acre, to fertilize, and requires a materials spreader, utility truck and trailer.

The fertilizer itself is $3.00 per pound and covers at a rate of three (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.

Lime Application. Lime application will generally be conducted during the last two (2) weeks of November. Lime requires up to six (6) 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 (2) hours with motorized equipment.

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.

An aerator extends "fingers" into the earth and "shatters" the soil. The best aeration method is a ½ inch + hollow tine aerator that removes plugs from the soil. When done over a period of years and followed by top dressing with sand, the Town can actually improve the character of the root zone and its ability to drain properly and resist compaction better. 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 inches to 3 inches for most parks and turf areas that are

under stress from compaction or wear, and 4 inches to 5 inches 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.

The frequency of aeration is highly variable 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
Deep tine aerating:	90-100 minutes per field per occurrence
Goal and wear areas:	30 minutes per field per occurrence

For the purpose of this report we have assumed that the aerating for all athletic fields is performed in the fall in conjunction with top dressing and over-seeding. The high-use areas of the Category 1 fields should be aerated at least twice per season. Category II and III will only be aerated on an as-needed basis and have not been included in the regular maintenance regimen.

Top Dressing. Top dressing will be conducted as the Recreation Director and the Parks and Grounds foreman deem necessary. If possible, top dressing should be done in conjunction with aerating and over-seeding.

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 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 site-specific 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 top dresser, check conveyer and material drop mechanism.

6. Distribute evenly over the playing surface following a prescribed pattern.
7. Surface can then be lightly 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 (1) person 3-4 hours for full field application, while goal mouths take as little as 15-20 minutes per goal area.

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 develop new turf grass. 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. Over-seeding should be especially concentrated on in the late summer to fall because it allows turf grass germination and development to occur when moisture conditions are optimum and weed competition is minimal. Over-seeding should be conducted after aeration has been done, and should be spread over stressed or bare turf areas. Fertilizer should be added after over-seeding has been conducted.

Over-seeding can be done by different methods, which is usually determined by the size of the area to be over-seeded. 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 over-seeder. Preparation of the area should involve compaction relief by roto-tilling 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 over-seeded. Bare areas require a higher rate than over-seeding an established turf stand.
5. Always ensure 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.
6. Soil contact is critical for germination and sustained growth.
7. Set irrigation operation to maintain satisfactory soil moisture at all times. After germination, maintain moisture level, mow at 2 ½ inches, and fertilize every 21 days until plants reach maturity.

Over-seeding is done as needed, depending on the amount of wear and the ability to create germination conditions. It takes one (1) person 90-100 minutes per field, depending upon equipment used and the size of area being over-seeded.

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 rhizome development. It is done to keep the plants at a height that provides safe footing and a cushion for falls.

Mowing on most fields and park areas 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. 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 seven (7) days between mowing 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 mowing equipment being used.

Weed Control and Pesticide Applications. Pest control activities at Wayland 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.

Organic Pesticides should be used sparingly and by licensed applicators and in strict accordance with the MPCA. Organic Pesticides used must be of recent manufacture, and have quick and effective results. Pesticides that may present health hazards will not be used. Wayland and the Wayland parks superintendent shall approve any chemical used on a field.

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 plays truer with more predictable ball performance. The soil is loosened to a depth of ¾ inches to 1 inch. 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 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.

The baseball and softball field maintenance described above is consistent with the Town's current maintenance regimen.

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.

Baseball line delineation is generally accomplished as:

1. Assemble the following equipment: 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-foot 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 feet 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 batters 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 dimension 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 (1) person 20 minutes.

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 surveyor's 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 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.

The layout procedure will require two (2) people approximately three (3) to four and one half (4 ½) hours per full size field. These estimates are consistent with Town's current maintenance regimen.

Routine Unscheduled Repairs. Wayland Parks and Grounds personnel 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.

"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.
- Staff professional development training on such topics as Integrated Turf management requirements, OSHA safety, etc.

Irrigation Operations. 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. We assume that all irrigation systems are on timers. For the purpose of estimating the costs of irrigation, we have included the start up and shut down of the system under spring and fall Cleanup. The cost of water will be based on the cost per gallon of water for the 35 irrigated acres at ½-inch per week over the 12-week irrigation season; or 5.7 million gallons of water per season.

The procedures described above are those activities that are routinely accomplished in the maintenance of high quality athletic fields,

manicured open space areas during the course of a year. Based on the categories applied to these fields this level of effort will not be applied to all fields. The level of effort applied per category is described below.

Category I Athletic Fields

Soil Testing and Turf Inspection. Soil tests for all Category I fields should be taken biennially by April 1st. An individual worker can accomplish the soil testing. A single worker can sample and ship an estimated ten playing fields per day. This equates to $800 for testing of Category I fields every two (2) years.

In addition to the formal turf inspection done in conjunction with soil sampling; Parks and Grounds crews should observe the conditions of the field they are on while performing regular maintenance. 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 Parks and Grounds Foreman.

Spring Clean Up, and Facilities Inspection and Repairs. The spring cleanup should be performed as described above for all Category I fields.

Fall Clean up, Leaf Removal, and Late Fall Facilities Inspection and Repair and Irrigation System Winterization. The fall cleanup should be performed as described above for all Category I fields.

Fertilizing. While actual requirements will be dictated by testing results, for planning purposes, Category I fields should receive 3 or more applications of Fertilizer (3 pounds of Nitrogen per 1,000 square feet) per year. The Parks and Grounds foreman will determine the nitrogen weight based on the rating of the actual fertilizer used.

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 two and one half (2.5) man-hours, or one and one quarter (1.25) man-hours per acre, to fertilize and requires a materials spreader, utility truck and trailer.

The fertilizer itself is $3.00 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.

Lime Application. Lime application for Category I fields will generally be conducted during the last two (2) weeks of November. Lime requires up to six (6) 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.

Aeration. For the purpose of this report we have assumed that the aerating for all Category I athletic fields is performed in the fall in conjunction with top dressing and over-seeding. The high use areas of multi-use rectangular fields should be aerated monthly. Parks and other open space areas will only be aerated on an as-needed basis and have not been included in the regular maintenance regimen.

Top Dressing. Top dressing for all Category I fields will be conducted in the fall in conjunction with aeration and slice seeding.

Over-seeding. Over-seeding for all Category I fields will be conducted in the fall in conjunction with aeration and slice seeding. Over-seeding takes 1 person 90-100 minutes per field, depending upon equipment used and the size of area being over-seeded.

Mowing. Mowing of Category I fields will be conducted as described above. Priority of mowing will be given to Category I fields.

Weed Control and Pesticide Applications. Weed control and pesticide applications for Category I fields will be conducted as described above and in accordance with the Town of Wayland's Integrated Pest Management Plan.

Scarify and Drag a Dirt Infield. Daily maintenance of Category I Baseball Fields will be conducted as described above. Priority of daily maintenance will be given to Category I baseball fields.

Striping. Striping of Category I Athletic Fields will be conducted as described above. Priority of field striping will be given to Category I fields. During Class A tournaments, this activity could occur as often as every game or as seldom as every fourth game.

Irrigation Operations. In general only Category I fields are irrigated. The operation and maintenance of irrigation systems will be performed as described above.

Category II Athletic Fields

Soil Testing and Turf Inspection. Soil tests for all Category II fields should also be taken biennially by April 1st. An individual worker can accomplish the soil testing. A single worker can sample and ship an estimated ten playing fields per day. This equates to $1,200 for testing of Category II fields every two (2) years.

Spring Clean Up, and Facilities Inspection and Repairs. The spring cleanup should be performed as described above for all Category II fields.

Fall Clean up, Leaf Removal, and Late Fall Facilities Inspection and Repair and Irrigation System Winterization. The fall cleanup should be performed as described above for all Category II fields.

Fertilizing. While actual requirements will be dictated by testing results, for planning purposes, Category I fields should receive 2 to 3 applications of Fertilizer (3 pounds of Nitrogen per 1,000 square feet) per year. The Parks and Grounds foreman will determine the nitrogen weight based on the rating of the actual fertilizer used.

Lime Application. Lime application for Category II fields will generally be conducted during the last two (2) weeks of November. Lime requires up to six (6) 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.

Aeration. For the purpose of this report we have assumed that the aerating for all Category II athletic fields will be performed in the fall as budget and time allow, or as a part of emergency repairs.

Top Dressing. For the purpose of this report we have assumed that the top dressing for all Category II athletic fields will be performed in the fall as budget and time allow, or as a part of emergency repairs.

Over-seeding. For the purpose of this report we have assumed that the over-seeding for all Category II athletic fields will be performed in the fall as budget and time allow, or as a part of emergency repairs.

Mowing. Mowing of Category II fields will be conducted as described above. Priority of mowing will be given to Category II fields over Category III and IV sites.

Weed Control and Pesticide Applications. Weed control and pesticide applications for Category II fields will be conducted as described above and in accordance with the Town of Wayland's Integrated Pest Management Plan.

Scarify and Drag a Dirt Infield. Daily maintenance of Category II Baseball Fields will be conducted as described above. Priority of daily maintenance will be given to Category II baseball fields over Category III fields.

Striping. Striping of Category II Athletic Fields will be conducted as described above. Priority of field striping will be given to Category II fields over Category III Fields.

<u>Category III Athletic Fields</u>

Soil Testing and Turf Inspection. No soil testing will be performed on Category III fields.

Spring Clean Up, and Facilities Inspection and Repairs. The spring cleanup should be performed as described above for all Category III fields, although priority will be given to Category I and II fields.

Fall Clean up, Leaf Removal, and Late Fall Facilities Inspection and Repair and Irrigation System Winterization. The fall cleanup should be performed as described above for all Category III fields, although priority will be given to Category I and II fields.

Fertilizing. No fertilizer will be applied to Category III fields.

Lime Application. No lime will be applied to Category III fields.

Aeration. Except in extreme repair situations no aeration will be performed on Category III fields.

Top Dressing. Except in extreme repair situations no top dressing will be performed on Category III fields.

Over-seeding. Except in extreme repair situations no over seeding will be performed on Category III fields.

Mowing. Mowing of Category III fields will be conducted as described above. Priority of mowing will be given to Category I and II fields over Category III.

Weed Control and Pesticide Applications. Weed control and pesticide applications will be will be conducted as described above and in accordance with the Town of Wayland's Integrated Pest Management Plan. Little or no weed or pest management will be conducted on Category III fields.

Scarify and Drag a Dirt Infield. Daily maintenance of Category III Baseball Fields will be conducted as described above, as time allows. Priority of daily maintenance will be given to Category I and II baseball fields over Category III fields.

Striping. Striping of Category III Athletic Fields will be conducted as described above. Priority of field striping will be given to Category I and II fields over Category III Fields.

Section 15.0 - Conclusions

As a result of this study, the Town of Wayland has a Master Plan for their municipal, outdoor athletic field redevelopment which, when implemented, will result in a population of fields by type and location which better meets the needs of the Town's recreation programs now and in the future. The field conditions, as a result of the immediate Master Plan improvements (e.g., reconstruction), the dramatic reduction in use on selected fields, and the provision of a rest period for fields, will be greatly enhanced. The phasing plan prescribes a series of discrete projects, accomplished over a 3-year or greater period in a logical progression that is sensitive to the Town's fiscal planning requirements, and which mitigates the impacts of field redevelopment on users.

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