



Grafton Open Space and Recreation Plan

Grafton, Massachusetts
May 2020



Final May 2020

Town of Grafton

Open Space and Recreation Plan

2020

Prepared for: Town of Grafton
30 Providence Road
Grafton, MA 01519

Prepared by: Central Massachusetts Regional Planning Commission
1 Mercantile Street, Suite 520
Worcester, MA 01608

Acknowledgements

The following individuals and organizations have contributed to the development of this Open Space and Recreation Plan for the Town of Grafton:

Grafton Open Space and Recreation Committee

Jennifer Thomas
Kristin Belanger
David Robbins
Karen Eisenhauer
Dawn Geoffroy
Rick Geoffroy, past member
Scott Conway, past member
Melinda Springer, past member

Special Thanks to the Following Town of Grafton Staff

Maria Mast, Conservation Agent
Joe Laydon, Town Planner
Jen Andersen, Recreation Director
Rachel Benson, Assistant Town Planner

Central Massachusetts Regional Planning Commission

Trish Settles, Deputy Director
Ron Barron, Principal Planner
Matt Franz, GIS Analyst
Eli Goldman, Assistant Planner

TABLE OF CONTENTS

Contents

TABLE OF CONTENTS	iv
LIST OF APPENDICES	v
SECTION 1: PLAN SUMMARY	1
SECTION 2: INTRODUCTION	4
2A. STATEMENT OF PURPOSE	4
2B. PLANNING PROCESS AND PUBLIC PARTICIPATION	4
SECTION 3: COMMUNITY SETTING	6
3A. REGIONAL CONTEXT	6
3B. HISTORY OF THE COMMUNITY	7
3C. POPULATION CHARACTERISTICS	10
3D. GROWTH AND DEVELOPMENT PATTERNS	17
3E. PRIOR PLANNING EFFORTS.....	23
SECTION 4: ENVIRONMENTAL INVENTORY AND ANALYSIS	26
4A. GEOLOGY, SOILS, AND TOPOGRAPHY	26
4B. LANDSCAPE CHARACTER	28
4C. WATER RESOURCES.....	28
4D. VEGETATION	34
4E. FISHERIES AND WILDLIFE	35
4F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS	37
4G. ENVIRONMENTAL CHALLENGES	39
SECTION 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST	44
5A. PRIVATE PARCELS	45
5B. PUBLIC AND NON-PROFIT PARCELS.....	49
5C. PARKS AND RECREATIONAL FACILITIES AND USAGE	53
SECTION 6: COMMUNITY GOALS	71
6A. DESCRIPTION OF PROCESS	71
6B. STATEMENT OF OPEN SPACE AND RECREATION GOALS	73
SECTION 7: ANALYSIS OF NEEDS	74
7A. SUMMARY OF RESOURCE PROTECTION NEEDS	74

7B. SUMMARY OF COMMUNITY'S NEEDS	79
7C. MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE.....	81
SECTION 8: GOALS AND OBJECTIVES	83
SECTION 9: SEVEN-YEAR ACTION PLAN	86
SECTION 10: PUBLIC COMMENTS	97
SECTION 11: REFERENCES	101

LIST OF APPENDICES

Appendix A: Maps (folded at the end of the document)

- Map 1 – Regional Context Map
- Map 2 – Environmental Justice Map
- Map 3 – Zoning Map
- Map 4 – Soils and Geologic Features Map
- Map 5 – Scenic Unique Features Map
- Map 6A – Water Resources Map 1
- Map 6B – Water Resources Map 2
- Map 7 – Open Space Inventory Map
- Map 8 – Action Plan Map
- Map 9 – CAPS Index of Ecological Integrity

Appendix B: Community Engagement Materials

Appendix C: The Massachusetts Cultural Resource Information System (MACRIS) Inventory

Appendix D: Massachusetts General Law Chapter 21E Hazardous Waste sites in Grafton

Appendix E: BioMap Report, 2012 (NHESP)

Appendix F: ADA Grievance Procedure and Employment Practices

- ADA Coordinator Designation Letter
- ADA Access Self Evaluation

SECTION 1: PLAN SUMMARY

This Open Space and Recreation Plan (OSRP) is an update of Grafton's previous OSRP completed in 2007. This plan has been updated through an extensive review of available data, public participation from Town stakeholders, and thorough review and inclusion of current regional issues related to open space preservation. Grafton is a community actively engaged in open space and resource protection. To this end, the goals included in the OSRP focus on: preserving and enhancing water resources, protecting and conserving land resources, preserving Town character, providing well-distributed and varied recreational facilities and opportunities throughout the Town, and enhancing use of existing recreation and conservation resources in Grafton. This plan seeks to assess the current status of open space in Town by inventorying existing land uses as they relate to open space and recreation opportunities.

The 2020 Grafton Open Space and Recreation plan centers around preserving, enhancing, and creating new methods to sustain the ecological integrity of the Town while simultaneously meeting an increased demand for active recreation facilities. The residents of the Town of Grafton consider open space, recreation, and the preservation of the natural features of the Town to be of the utmost importance. Grafton's rolling hills and green space contribute to the Town's aesthetic beauty, and have helped inform the Town's development patterns. Major features of Grafton's landscape are the two north-to-south waterways composed of streams and rivers connecting natural and manmade ponds, which in turn established the mill areas of Town.



Figure 1 Town of Grafton

Open space provides numerous social benefits and ecosystem services, both of which contribute to increased quality of life at a local and regional scale. Open spaces provide peaceful areas, pleasant vistas, sites for wildlife and flora, active and passive recreational opportunities, safety from flooding and groundwater contamination, and they contribute to clean air. Municipal action is required to protect these features and benefits, which are threatened by development activity. Grafton citizens and interest groups have already begun to work together to proactively and innovatively preserve open space. However, the work needs to continue as development pressures mount. Grafton has been under constant developmental pressure through the 1990's and 2000's and has been proactive and innovative in preserving open space. The development pressure continues to this day and Grafton must continue to be proactive and innovative to preserve open space. This plan will help the Town as it continues to face this issue. The visibility of new growth contributes to the sense of suburbanization without regard to vistas, coordination or neighborhood character. Without continued and intensive action by the Town to remove

fragile land from potential development, Grafton will likely lose much of its scenic and environmental resources. Along with the need to continue to actively seek out and preserve land, the Town has identified that it currently lacks sufficient field space and other necessary active recreation facilities. In addition to identifying land for conservation purposes, the Town should seek new locations to meet growing recreation needs.

Grafton is situated along the Massachusetts Turnpike, and in the line of westward development from Interstate 495, southerly development from Worcester. Development activity is rapidly depleting open space and limiting natural resources. The loss of open land to development can lead to increases in surface water runoff and negative impacts on groundwater resources. Continued development can be expected to contribute to landscape fragmentation as well, which will limit available habitat and has the potential to reduce critical wildlife corridors.

To this end, this OSRP emphasizes open space connections, open space corridors, and a combination of a full range of indoor and outdoor recreation opportunities. The Town of Grafton used two methods to develop the goals and objectives of this Open Space and Recreation Plan. The first method was to conduct a citizen survey of Grafton residents in an effort to discern their preferences regarding conservation and recreation. Conducted in two phases between July and August, and September and October 2017, survey data was collected electronically using the Survey Monkey platform. The response rate included 686 respondents or about 3% of Town residents. Following this survey, a public workshop was held in October of 2017. At this workshop the proposed OSRP goals and objectives from the Town's previous OSRP were reviewed with members of the public to see if they were still valid or warranted modification. Town planners made use of the public's input from the survey and forum to develop the following open space and recreation goals for Grafton:

- Preserve and Enhance Grafton's Water Resources,
- Protect and Conserve Grafton's Land Resources,
- Preserve Grafton's Town Character,
- Enhance Grafton's Existing Recreation and Conservation Resources,
- Expand Grafton's Recreation and Conservation Resources, and
- Connect Grafton's Recreation and Conservation Resources.

As stated above, Grafton previously addressed open space and recreation issues with a comprehensive OSRP in 2007. The 2007 Plan is still valid in many respects; however, there have been changes in Town and there is an even greater sense of urgency towards preserving Grafton's natural resources. The changes and additions to the 2007 Plan primarily relate to updated data, identification of new methods for prioritizing and connecting parcels, and programs and regulations to protect the character of the Town.

DEFINITIONS

The term "*open space*" in this document refers to either public or privately-owned land that is undeveloped. It is land in a predominantly natural state or altered for natural resource-based uses (i.e., farming, orchards, forestry, hunting and fishing, walking-type parks and trails). Examples of privately-owned open space might include farms, forest lands, and passive recreation areas.

The term “*recreational open space*” or “*recreation*” refers to land used for active recreational purposes. Land used for active recreation does not qualify technically as open space because these parcels often have portions covered with paved surfaces such as that for tennis courts, basketball courts and parking lots. In addition, athletic fields require regular fertilizer applications and are usually installed with fencing and outbuildings. Since this plan deals with both open space and recreation, we have presented an approach to obtain the benefits of developing new and maintaining existing recreational facilities, without losing scarce valued environmental assets. In addition, grants and partnerships between federal state and local agencies are often based on recommendations the applicant community makes in its OSRP. Hence, we recognize and embrace opportunities for healthy outdoor activities, be it hiking along forest trails or a competing on a soccer or football field.

SECTION 2: INTRODUCTION

2A. STATEMENT OF PURPOSE

The Town of Grafton developed this plan to coordinate efforts between town departments, private organizations, landowners, and citizens as efforts relate to acquisition, protection and management of open space and recreation resources particularly in light of continued residential and commercial development pressures. In order to secure and protect valuable parcels of open space, it is essential to bring forth today's issues and concerns regarding development, land exchanges, and open space and recreation needs. The Grafton 2020 Open Space and Recreation Plan builds on past and recent planning initiatives to provide a framework for priority needs and actions. This 2020 update of the Grafton Open Space and Recreation Plan is part of a Town-wide effort to manage growth and protect the natural and built resources that Grafton has to offer. The Town has worked aggressively to protect its open space, and will greatly benefit from an updated plan to refer to for direction and coordination.

The past ten years have contributed to continued growth and land development. Through its goals and objectives, as well as the larger narrative, the 2007 Plan identified many tracts of land to be protected, most of which remain important today. In addition, the Plan developed a five-year action plan in accordance with its goals and objectives. While efforts have been made to achieve the goals in the 2007 Plan, much of the action plan has not been realized. The 2020 update includes a current action plan that builds on the 2007 Plan and has been adjusted to reflect changes in and around Grafton that have occurred over the past ten years. The primary purpose of this plan is to realize the Town's vision where open space preservation is integral to the Town's character, where pastoral landscapes are valued and where natural and historical resources are protected and retained.

2B. PLANNING PROCESS AND PUBLIC PARTICIPATION

Planning Process

In an attempt to accurately determine citizen preferences regarding open space and recreation, the Town of Grafton distributed a town-wide citizen survey, held public workshops, and a series of public meetings. The Town formed an Open Space and Recreation planning committee (hereafter the Committee) comprising of representatives from the Select Board, Recreation Department, Conservation Commission, Grafton Land Trust and Planning Board, along with two at-large position. The Committee met monthly at public meetings in the Grafton Municipal Center throughout the planning process.

The Town contracted with the Central Massachusetts Regional Planning Commission (CMRPC) to work alongside the Committee to develop this document. CMRPC provided research and assistance with public outreach. Ron Barron, Associate Planner from CMRPC served as the principal consultant with Joe Laydon, Maria Mast, Rachel Benson, and Jen Andersen serving as staff for the Town. Town residents played an integral role in this planning process as well via survey responses and public forum attendance.

This OSRP builds an understanding of Grafton's current place in the region, its history and sense of self, its demographics, and its growth and development patterns. A thorough review of the geology, landscape, water resources, vegetation, wildlife and fisheries, unique and scenic resources, as well as, environmental challenges was necessary to develop a clear picture of the area's strengths, weaknesses, opportunities

and threats. Working with the State’s Geographic Information Systems (MassGIS) database, the Grafton Town Assessor’s Office and others, an inventory of public and private lands of conservation and recreation interest was compiled. This Plan identifies special areas that town residents enjoy and sets out a strategy for improving open space and recreation opportunities in a manner that is sustainable for future generations. Central themes included in this plan include protection of existing resources, providing open space and recreation opportunities, enhancing land conservation programs, and preserving town character. The Seven-Year Action Plan included in [Section 9](#) outlines progressive steps to increase community information dissemination and involvement, to improve recreational opportunities for Grafton’s residents and visitors, and to foster economic growth by promoting its open space and recreation opportunities. It stipulates detailed action steps, time frames, and suggests responsible parties intended to help Grafton move forward with open space planning.

Public Participation

The Committee first convened in March of 2017 and began working on a town-wide survey. The survey was completed by early June 2017 and was open to receive responses over the summer of that year. The survey received 689 responses or a response rate of around 3%. For comparison purposes, the 2007 survey received more than 800 responses. The difference between the two are accounted for largely in the differences in delivery method. The 2007 survey contained only eight questions and was mailed to every household in town. The 2017 survey contained twice as many questions. Because of the length of the survey and the costs associated with delivery, it was decided to promote this survey entirely online. Despite receiving fewer responses, the level of specificity and detail included in the 2017 survey allows for increased analysis. This analysis will be presented in [Section 7](#).

The Committee also planned and held a public forum to engage the community in a true dialogue centered on open space and recreation needs in Grafton. This public forum was held the evening of October 26, 2017 at Grafton’s Millbury Street School. At the forum, residents were briefed on the Town’s open space and recreation resources, and the goals and objectives from the Town’s previous Open Space and Recreation Plan were reviewed to see if they were still valid or warranted modification. In addition to the survey and forums, the Committee met monthly throughout the duration of this project starting in April of 2017. All Committee meetings were open to the public.



Figure 2 OSRP Community Meeting Flyer

SECTION 3: COMMUNITY SETTING

3A. REGIONAL CONTEXT

Grafton is a semi-rural community located in central Massachusetts southeast of the City of Worcester. Located in the Blackstone River Watershed, the Town abuts Worcester, Millbury, Sutton, Northbridge, Shrewsbury, and Upton. **Map 1, Regional Context Map**, provides a visual depiction of Grafton's place in the region. Like many New England communities, Grafton's history and land development have been heavily influenced by its location and proximity to major waterways. The Quinsigamond River flows south through Town and meets the Blackstone River within Town boundaries. Native Nipmuc Indians considered it a place of great Manitou, or spiritual power, because of its many waterways, along which they developed overland trails that later became regional transportation routes.

Central Massachusetts hills, which are often too steep for easy development, are, in many cases, mantled with soils that make prime pasturelands. The rich loams found in the river valley are well suited for crops. Even before the Blackstone's waterpower was harnessed for industry, success with farming and animal husbandry fostered a rural economy in Grafton, which remained significant in the region as late as 1940. The Town was long known for its dairy production and was famous for its fruit orchards. Although Grafton and Worcester County have lost farmland to urbanization over the last four decades, the Town still retains much of its rural character.

The Blackstone River

The 438-foot drop in run of the Blackstone River produced the power that launched the Industrial Revolution in America. As in other towns and cities within the Blackstone River Valley, the industrial enterprises growing up along the river and its tributaries influenced Grafton's land use and settlement patterns until well into the twentieth century.

The Blackstone Canal and, shortly after, the railways linked Grafton to Worcester, Providence, and Boston, providing access to much larger markets and allowing the Town to flourish as an independent commercial center, a status it held until the post-war period.



Figure 3 Dams in Grafton

After the war, Grafton's proximity to Worcester influenced North Grafton's development as a suburban location for Worcester's metal industry, bringing a concomitant burst of residential growth, typified by one-half acre lot subdivisions, in that section of Town. The industrial expansion bolstered the Town's economy at a time when its basis in the textile industry was becoming obsolete, allowing Grafton to thrive in a way not typical of more southerly towns in the Blackstone Valley.

Grafton's proximity to the Massachusetts Turnpike has significantly increased its connectivity to the rest of the region. Due in part to its location near the Turnpike, many residents view Grafton as a bedroom community. The subsequent development of Interstate 495 further increased residential development pressures in Grafton. Since 1970, the Town has experienced a substantial increase in its housing stock, much of it occurring in the previously open and rural midsection. Between 1980 and 2000, the entire Blackstone Valley saw substantial growth in its population, rising from 72,414 residents in 1980 to 95,674 residents in 2000 – an increase of 32.1%. Today, Grafton still experiences considerable development pressure. Development pressure, discussed more in depth in [Section 4](#), has the potential to significantly impact and reduce existing open space. While maintaining open space is a necessary component of maintaining an adequate supply of recreational opportunities, it is increasingly critical to providing necessary habitat space for wildlife due to constraints caused by climate change.

Over the past two decades, development pressures have increased due in large part to the opening of the Route 146 Connector to the Massachusetts Turnpike, the construction of an MBTA Commuter Rail Station with daily trains into Boston, and an improved local and regional economy. There is no indication at this time that this pressure will decrease in the immediate future. This fact should be taken into account during future open space planning in Grafton and the larger region.

3B. HISTORY OF THE COMMUNITY

Grafton, with its lush meadows, good farmlands, and abundant waterways, has been historically a site of settlement. Originally called Hassanamesit, it became the third of Reverend John Elliot's "praying Indian" towns and served as a center for missionary activities in Central Massachusetts until the outbreak of King Philip's War. As fortunes of the Native American population continued to dwindle in the war's aftermath, white settlers purchased half of the land from the Hassanamisco band of the Nipmuc tribe and incorporated Grafton as a Town on April 18, 1735. Only a three-acre tract, the Hassanamisco Reservation on Brigham Hill Road, remains in Native Nipmuc ownership to this day.



Figure 4 Miscoe Brook

Early colonists farmed, but with increasing use of the Blackstone River's water power for manufacturing the Town developed as an industrial center, numbering a cotton mill, grist mill, wheelwright shop, blacksmith shop, and linen mill among its early enterprises. Ethan Allen began the manufacturing of firearms, pocket cutlery, and the "pepperbox" revolver in 1832. Grafton was the site of the first shoe factory in the United States. The Forbush-Brown J.D. Nelson and Son shoe factory located in North Grafton in the 1840s in what was known as the Hancock Building just off the Grafton Common. Employing as many as 200 people at the height of its operation, the factory was taken over by Forbush-Anderson after the death of Charles Nelson. Willard Clocks was another notable manufacturing operation to locate in Grafton and its site is still preserved as the Willard Clock Museum.

Many of the mills thrived during the nineteenth century and first decades of the twentieth, but few were able to make a comeback once stricken by the Great Depression. By 1960, there were only 17 manufacturing firms in the Town, compared to 72 in 1922. Even with such reduced numbers, the remaining companies accounted for 80% of local jobs. Manufacturing, now mostly in machine tools and castings, still provides a large proportion of Grafton's jobs (17% of average monthly employment in 2018). The majority of manufacturing jobs come from a single firm, Wyman-Gordon, in North Grafton. However, the number of jobs in Manufacturing appears to be declining, since 2001, the number of manufacturing establishments dropped by 7 and the average monthly employment fell by over 400 jobs. Educational Services has surpassed manufacturing in providing the greatest proportion of jobs, mostly coming from the largest employers the Cummings School of Veterinary Studies.

Today the largest employers in Grafton are Tufts University School of Veterinary Medicine, Washington Mills (abrasive grains and fused mineral products) and Wyman-Gordan (highly-engineered, closed and open-die titanium, steel and nickel-based forgings) each with more than 250 employees according to MA Executive Office of Labor and Workforce Development (EOLWD).

Grafton today is a suburban community with almost one-third of its resident labor force (36.5%) working outside the county, likely in Boston and the surrounding metropolitan area. Mean commute time to work is 33 minutes. Many of Grafton's population commute to Worcester, about a 20-minute drive from downtown.

Historic Land Use Patterns

The distinct stages of Grafton's history, described below, had an impact on the Town's land use patterns, which are evident in the Town's landscape.

Native American Settlement: The Nipmuc Indians developed trails along the Quinsigamond and Blackstone Rivers, and along the Miscoe Brook, which drains into the West River. Portions of the trails developed into the two regional stagecoach routes that crisscrossed in Grafton. The Boston-to-Hartford Post Road incorporated the old "Connecticut Trail", generally known as the "Thomas Hooker Trail", which ran over Keith Hill, across the Blackstone and into Sutton. This was the path along which the renegade Puritan preacher Thomas Hooker led his dissenting flock out of Massachusetts into Connecticut. The



Figure 5 Trails in Grafton

Worcester to Providence Road, included Worcester and Oak and South Streets, and Old Upton Road and Leland Street as it ran through Grafton into Upton. Other Indian routes included one starting below Flint Pond, running along what is now Creeper Hill Road and Westborough Road, which became an east-west road to Worcester, and the long-distance Nipmuc Trail, which traversed Grafton into Worcester via Brigham Hill.

Colonial Settlement: Land bought by the Massachusetts General Court from the Indians was apportioned to each English settler-farmer in 40-acre lots. These lots, some of whose stone wall boundaries still exist, formed the basis for the dispersed pattern of settlement seen amid the hills. In following years, the Center,

where the stagecoach routes crossed, became the focal point of Town. Rapid residential growth took place along the Town's radial routes, such as Brigham Hill, Estabrook, Fay Mountain, and Soap Hill Roads, all of which were developed as upland connectors.

The Mill Era: Clustered Settlements Amid Open Space: Mills that took advantage of the Town's waterways appeared along river and stream banks. The advent of canal and rail transportation through Town insured that the mills would prosper and spurred development along transport routes. Notable mill villages developed in North Grafton (New England Village) and South Grafton (Farnumsville, Fisherville and Saundersville) in addition to the settlement in Grafton's center. The farm economy also benefited from the railroads and Grafton became famous for its fruit orchards. There was little loss of farmland to residential growth throughout the 19th century. As late as 1960, 80 % of the Town was undeveloped land, with agricultural activity occurring on 3,447 acres, or 23.6 % of the total land area. Grafton was also home to an airport in the late 1920s and 1930s. The Grafton Airport was located in North Grafton near what is known as Airport Road. South Grafton was the site and headquarters of Tupperware Inc. before they relocated out of Massachusetts.

Post-War Suburbanization: As Grafton's mill-based economic fortunes declined after the war, the Town increasingly became a bedroom suburb dependent on Worcester's economy. From 1950 to 1960, during the height of the baby boom, the Town's population grew by 37 percent, the largest increase over a decade in the last 50 years. In spite of the high birth rate, in-migration from the city of Worcester accounted for 62 % of the increase. Much of the residential growth occurred in North Grafton, on lots zoned for 10,000 to 20,000 square feet. The commercial growth supporting the new population occurred as strip development along Route 122 leading from Millbury into Grafton. South Grafton did not grow at the same rate, which kept the old 19th century mill village-based spatial pattern of its landscape intact and visible.

Modern Day Suburbanization: The most recent spurt of growth occurred in response to the development of Interstate 495. Long distance commuters engaged in professional, managerial, technical, and sales positions comprise an increasing percentage of the resident labor force. In 1980, the mean travel time to work for Grafton's labor force was 20.3 minutes. By 2000, with the new MBTA station in place, the mean travel time to work had increased to 28.2 minutes.

Use of land for recreation expanded significantly in the 1950s when a group of South Grafton men established the Town's first Little League program. At the time, there were only three suitable locations to play: Fisherville Park, Norcross Park and Nelson Park. Grafton's recreational resources and facilities have continued to develop as the Town's population continues to grow.

Historical and Archeological Resources: A complete listing of Grafton's archeological resources and historical buildings and landscapes can be found in A Survey of Historic and Cultural Resources of the Town of Grafton, by Anne Forbes, on file with the Grafton Planning Board and Grafton Historical Commission and is included here by reference.

3C. POPULATION CHARACTERISTICS

Population, Household Trends and Density

The Town of Grafton has experienced steady growth in the last century. In 1940, Grafton had a population of 7,030 residents, and the Town’s population grew steadily through 1970. After experiencing a slight decrease in population between 1970 and 1980, population in Grafton has continued to rise as evidenced by the data presented below. By 1990 the Town’s population had grown to 13,035, indicating significant growth over this period. Since the turn of the century Grafton’s population has continued to grow, bringing new needs and opportunities to the region. As the population and associated development increase it becomes more important that the Town plan for evolving open space and recreation needs. Planning in this way will not only ensure that there are adequately distributed recreation opportunities throughout the Town, but will help to build a community that is more resilient to climate change. As temperatures and storms continue to become more severe, as species become threatened, and as development begins to encroach on existing open space it becomes increasingly important for open space to be designed with wildlife corridors and various other ecological needs in mind. Having adequate open space will allow for continued biodiversity and delivery of ecosystem services in addition to providing adequate space for Grafton residents and those traveling to Grafton to recreate.

As shown in Table 1 below, Grafton’s population more than doubled in size between the years 1930 and 2016. When compared to other Towns in the region, Grafton experienced a considerable increase in its population between 1980 and 2010. This comparable growth is evidenced via Table 2 below. The highest rate of growth in Grafton took place between 1950 and 1960, with population leveling off somewhat between 1960 and 1980. Since 1980 the Town’s population has gone back to increasing by more than 10% each decade. Based on 2016 American Community Survey projections, Grafton’s population reached 18,330 in the year 2016, or a 3.2% increase from the 2010 documented population.

Table 1 Population change in Grafton 1930 to 2016

Year	1930	1940	1950	1960	1970	1980	1990	2000	2010	2016
Population	7030	7457	8281	10627	11659	11238	13035	14894	17765	18330
Change from Previous	X	427	824	2346	1032	-421	1797	1859	2871	565
% Growth	X	6.1%	11.1%	28.3%	9.7%	-3.6%	16.0%	14.3%	19.3%	3.1%
<i>Source: U.S. Census Bureau Decennial Census; U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates</i>										

At a broader, more regional geographical scale, the previous 30 years represent a period of significant growth for the Blackstone Valley as many communities in the Valley have experienced explosive development pressure (see Table 2). Since 1980, Grafton’s population has grown by 63%. Based on the data presented below, Grafton’s increase of 6,526 residents is responsible for 17.7% of regional growth in the Blackstone Valley. Other towns in the Blackstone Valley that have undergone significant population

growth include: Douglas, Mendon, Millville, and Upton. The State of Massachusetts has experienced population growth of 14.1% between 1980 and 2010. Over the course of the same period Worcester County has experienced a growth rate of 23.5%. Meanwhile, the Blackstone Valley has grown at a rate of 50.7%.

CMRPC projections (Table 4) show continued growth for the Town with an estimated 20,970 residents by 2030. CMRPC regularly publishes population projections for its constituent communities based on U.S. Census estimates. The town level projections were vetted with the communities for transportation planning purposes as part of the 2016 Long Range Transportation Plan. The control totals for the CMRPC region are provided by the Massachusetts Department of Transportation (MassDOT). Town level projections were developed based upon past growth trends, land use and infrastructure capacity, planned future projects, and stakeholder input, including that of the Central Massachusetts Metropolitan Planning Organization (CMMPO), CMMPO Advisory Committee, and CMRPC Regional Collaboration and Community Planning staff.

Table 2 Regional Population Growth - 1980 through 2010

Town Name	1980	1990	2000	2010	Change 1980-2010	% Change 1980-2010
Blackstone	6,570	8,023	8,804	9,026	2,456	37.4%
Douglas	3,730	5,438	7,045	8,471	4,741	127.1%
Grafton	11,238	13,035	14,894	17,765	6,527	58.1%
Hopedale	3,905	5,666	5,907	5,911	2,006	51.4%
Mendon	3,108	4,010	5,286	5,839	2,731	87.9%
Millbury	11,808	12,228	12,784	13,261	1,453	12.3%
Millville	1,693	2,236	2,724	3,190	1,497	88.4%
Northbridge	12,246	13,371	13,182	15,707	3,461	28.3%
Sutton	5,855	6,824	8,250	8,963	3,108	53.1%
Upton	3,886	4,677	5,642	7,542	3,656	94.1%
Uxbridge	8,374	10,415	11,156	13,457	5,083	60.7%
Blackstone Valley	72,413	85,923	95,674	109,132	36,719	50.7%
Worcester County	646,352	709,705	749,973	798,552	152,200	23.5%
Massachusetts	5,737,037	6,016,425	6,349,097	6,547,629	810,592	14.1%

Source: U.S. Census Bureau, Town of Grafton

Table 3 (below) indicates that roughly twenty percent (19.92%) of Grafton’s population in 2016 consisted of school-age children. This population represents an increase of 17.85% from the Town’s 2000 population. The majority of age brackets have experienced population growth between 2000 and 2016. The 20-44 year old age group in Grafton has increased by 1.23%, indicating a slow growth in the number of younger residents in Town. The Town of Grafton has also experienced an increase in the number of residents aged between 45 and 64. In 2000, 3,325 residents fell into this category. By 2016, this figure had increased to 5,552 or a 66.08% increase. Since the year 2000 the number of residents 65 years of age and over has grown by nearly forty percent (39.98%) from 1,671 to 2,339. The only age group that indicates a decrease in population is children under five years of age. In total, Grafton’s population has increased in

size by nearly a quarter (23.07%) from 2000 to 2016. As Grafton continues to be home to a population of a significant number of young children and older residents it is critical that open space and recreation needs are identified and met in order to provide necessary access and services to residents.

Table 3 Grafton Population Growth by Age

Age	Year 2000	Year 2010	Year 2016	Population Change 2000-2016	% Change 2000-2016
Under 5 Years of Age	1,086	1,300	1,034	-52	-4.79%
5 – 19	3,098	3,921	3,651	553	17.85%
20-44	5,714	6,080	5,784	70	1.23%
45-64	3,325	4,522	5,522	2,197	66.08%
65 Years of Age and Over	1,671	1,458	2,339	668	39.98%
Total:	14,894	17,765	18,330	3,436	23.07%
<i>Source: U.S. Census Bureau Decennial Census; U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates</i>					

As shown on Table 4, Grafton is expected to experience steady population growth compared to other communities in the Southeast sub-region. The population in surrounding Towns of Northbridge and Upton is expected to rise by 13% and 11% respectively by the year 2030. This proximal growth in population may have an impact on the Town of Grafton by increasing local housing needs, spending, and goods and services. Once again, this growth can be expected to have an impact on the Town’s open space and recreation needs. Projections indicate that Grafton can expect to experience an increase in employment as well. Grafton’s estimated 8% increase in employment is relatively high when compared with neighboring towns in the sub region, with several other nearby towns expected to experience between 3 and 4% employment growth from 2010 to 2030. With a total land mass of 23.3 square miles, Grafton’s population density is equal to 763 people per square mile. By contrast, Worcester had a population density of 4,815.03 people per square mile in 2010 and Worcester County as a whole had a population density of 527.77 people per square mile.

Table 4 Population and Employment Projections

Municipality	Population Projections			Employment Projections		
	2010	2030	% change	2010	2030	% change
Blackstone	9,026	10,110	11%	1,030	1,060	3%
Douglas	8,471	9,550	11%	830	930	11%
Grafton	17,765	20,970	15%	4,100	4,470	8%
Hopedale	5,911	6,480	9%	1,620	1,670	3%
Mendon	5,839	6,550	11%	1,280	1,320	3%
Millbury	13,261	14,880	11%	5,050	5,440	7%
Millville	3,190	3,580	11%	270	280	4%
Northbridge	15,707	18,070	13%	5,320	5,950	11%
Sutton	8,963	10,040	11%	2,110	2,420	13%
Upton	7,542	8,520	11%	1,010	1,040	3%
Uxbridge	13,457	15,950	16%	3,080	3,200	4%
Southeast Sub-Regional Total	109,132	124,700	12%	25,700	27,780	7%

Source: U.S. Census Bureau and the Central Massachusetts Regional Planning Commission

Housing Characteristics

Table 5 Grafton Housing Unit Growth

As population has increased in Grafton so have the number of housing units. Table 5 indicates changes in the number of housing units from 1960 through 2010. Data from 2016 and 2016 are also presented via American Community Survey 5-year estimates. The Town of Grafton has experienced consistent growth in the number of housing units in recent years. Since the 1970s, the Town has seen an increase in the number of housing units by at least 500 units each decade. After this period the decadal increase has varied, ranging from 766 units to 936 units added. Based on projections, the number of housing units increased from 2010 to 2015 by 767 units or an 11.8% change. Data indicates a decrease in housing growth between 2015 and 2016. However, it is noted that the margin of error for this change is +/- 189.

Year	Housing Units	Numerical Change	% Change
1960	2605	----	----
1970	3097	492	18.90%
1980	3863	766	24.70%
1990	4799	936	24.20%
2000	5694	895	18.60%
2010	6,516	822	14.40%
2015	7283	767	11.80%
2016	7179	-104	-1.42%

Sources: US Census, Decennial Census 2010, ACS 2015, ACS 2016.

The number of family households in Grafton has increased alongside the total gross population from the year 2000 (Table 6). Over the same period the overall percentage of non-family households has increased. In 2000, just shy of 4,000 family households were recorded as living in Grafton compared to 1,742 non-

family households. By 2016, the number of family households had increased to 4,747, while the number of non-family households has increased to 2,060.

Table 6 Households by Type

Year	Family Households	Percentage of Households	Non-Family Household	Percentage of Households
2000	3,952	69.4%	1742	30.60%
2010	4,736	68.7%	2,156	31.30%
2016	4,747	69.7%	2,060	30.3%

Source: 2000 U.S. Census Bureau decennial figures; 2010 U.S. Census Bureau decennial figures; 2016 ACS 5-year survey

Of the 6,892 households in Grafton in 2010, the majority are 2-person households (32.5%). The other highest categories of household size include 1-person households (24.2%), 4-person households (17.6%), and 3-person households (17.4%). See Table 7.

Table 7 Household Size

A comparison of the data presented indicates that Grafton’s housing stock has continued to grow at a faster rate than its population. Table 8 indicates that there has been an increase in the number of vacant housing units between 2000 and 2010 as well. This trend of a greater rate of increase for housing units compared to population is not surprising when one considers the national trend towards smaller household sizes. Couples are having fewer children today and many households are of the single parent variety. Grafton’s US Census data confirms this trend. In 1960, the typical Grafton household contained 4.08 people. By 1980, the persons per household figure had declined to 2.91 and by 2000, to 2.62 persons per household. Based on 2016 projections from the American Community Survey, the number of persons per household has increased slightly to 2.67, representing a slight increase. However, there is an apparent downward trend reflected in household size. Another factor contributing to smaller household sizes is

HOUSEHOLD SIZE	Number 2010	% 2010
Total households	6,892	100%
1-person household	1,665	24.2%
2-person household	2,237	32.5%
3-person household	1,197	17.4%
4-person household	1,215	17.6%
5-person household	434	6.3%
6-person household	113	1.6%
7-or-more-person household	31	0.4%

Source: 2010 U.S. Census Bureau decennial figures

“the graying of America”, that is, our nation’s elderly population is expanding. The Census data clearly demonstrates that this national trend is taking place in Grafton. In 1970, the median age of Grafton’s population was 32.5 years of age. By 2000 the median age had increased to 35.9 years of age, and 39.2 by 2010. 2016 American Community Survey estimates project that the median age has increased to 41.3

years old. Comparatively, the median age for the entire State of Massachusetts in 2010 was 39.1, while the 2016 American Community Survey projected a median age of 39.4.

Grafton’s median household income is significantly higher than the average for Worcester County and the State as a whole (Tables 9 and 10).

Table 8 Median Household Income Comparison

Category	2000	2010	2015	2016
Grafton Per Capita Income	\$26,952	\$39,304	\$42,542	\$44,034
State Per Capita Income	\$25,952	\$33,966	\$36,895	\$38,069
% of State Average	103.80%	115.70%	115.30%	115.67%
Worcester County Per Capita Income	\$22,983	\$30,557	\$32,284	\$33,272
% of Worcester County Average	117.30%	128.60%	131.80%	132.35%
Source: 2010 US Census, 2015 ACS, 2016 ACS.				

Table 9 Occupancy Status

Year	Number of occupied housing units	Number of vacant units	% Vacant
2000	5,694	134	2.29%
2010	6,892	285	3.97%
2016	6,807	372	5.2%
Source: U.S. Census Bureau 2000 and 2010; 2018 Grafton Housing Production Plan			

Table 10 Per Capita Income Comparison

Year	Median income (dollars)	State Median Household Income	% of State Average
2000	\$66,396	\$50,502	131.50%
2010	\$91,743	\$64,509	142.20%
2015	\$88,712	\$68,563	129.40%
2016	\$96,277	\$70,954	135.68%

Source: U.S. Census Bureau 2000, 2010 US Census, 2015 ACS, 2016 ACS.

Table 11 shows significant growth in all but the upper middle-income categories, which saw a small decline between 2000 – 2016. The greatest growth is found in less than \$10,000 and greater than \$100,000 range indicating a bifurcated income distribution pattern seen elsewhere in the region. This being said, the 2010 US Census data do indicate that the around 75% of housing units continue to be owner-occupied, which represents a small increase from 2000 (72.3%). Rental occupied units only accounted for 25% of total housing stock in 2010 compared to 27.7% in 2000.

Table 11 Grafton Income Distribution

Income Range	2000	2010	2016	% Change 2000-2016
	# Households	# Households	# Households	# Households
Less than \$10,000	48	143	283	489.58%
\$10,000 - \$24,999	381	436	610	60.10%
\$25,000 to \$34,999	284	417	387	36.27%
\$35,000 to \$49,999	527	654	564	7.02%
\$50,000 to \$74,999	943	872	916	-2.86%
\$75,000 to \$99,999	772	834	763	-1.17%
\$100,000 to \$149,999	653	1388	1,554	137.98%
\$150,000 and over	337	1488	1,730	413.35%

Source: U.S. Census Bureau 2000, 2010 US Census, 2016 ACS.

Additional Demographics

According to the most recent statistics of the Massachusetts Division of Unemployment Assistance, there were 363 business establishments in Grafton as of 2005, employing an average monthly total of 4,356 people. The service industry had the highest number of the jobs in Grafton (3,137) followed by manufacturing (835).

The Division of Unemployment Assistance statistics further indicate that Grafton had a labor force of 8,928 workers as of 2005, with an unemployment rate of 4.2%, significantly lower than the State average of

5.4% and the Worcester County average of 5.7%. Grafton’s unemployment rate has fluctuated wildly during the past fifteen years, with a low of 2.5% in 2000 and a high of 10.1% in 1991.

Environmental Justice

Since 2002, the Executive Office of Energy and Environmental Affairs (EOEEA) has been implementing an Environmental Justice Policy to help ensure that all Massachusetts residents experience equal protection and meaningful involvement with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits. This policy was instituted recognizing that communities across the Commonwealth, particularly those densely populated urban neighborhoods in and around the state’s older industrial areas, are facing many environmental challenges associated with Massachusetts’ industrial legacy. Residents in these predominantly low-income and minority communities – nearly 29% of the state population – lack open space and recreational resources and often live side-by-side with numerous existing large and small sources of pollution and old abandoned, contaminated sites, which can pose risks to public health and the environment. Critical to advancing Environmental Justice (EJ) in the Commonwealth is the equitable distribution of environmental assets such as parks, open space, and recreation areas. Toward this end municipalities shall identify and prioritize open space sites in their OSRPs that are socially, recreationally, and ecologically important to EJ populations within the community. Environmental Justice Populations in Massachusetts are determined by the following criteria:

- Percentage of households that earn 65% or less of the statewide household median income;
- 25% or more of the residents are minority;
- 25% or more of the residents are foreign-born; or
- 25% or more of the residents are lacking English proficiency.

There is currently one Environmental Justice population located in the Town of Grafton. This segment of the population is located in the southern section of Town abutting Northbridge and Upton. In planning for Grafton’s future open space and development this population should be taken into account. **Map 2, Environmental Justice Map**, depicts the location of the single Environmental Justice population in Grafton.

3D. GROWTH AND DEVELOPMENT PATTERNS

Patterns and Trends

The University of Massachusetts-Amherst has been tracking statewide land use data for the better part of the century. The University uses aerial photographs and interprets them based on land use categories. This work was updated in 2005 by MassGIS, the Massachusetts Bureau of Geographic Information (Table 12). As indicated below, the largest land use in Grafton is forest cover followed by residential development. Together these two land uses make up well over two-thirds of total land use in Grafton.

Table 12 2005 Land Use

2005 Land use	Total Acres in Town	% of Total Acres
Forest	7081.26	47.47%
Residential	3325.13	22.29%
Cropland	733.97	4.92%
Wetland	1325.59	8.88%
Open Land	366.36	2.46%
Water	361.15	2.42%
Pasture	292.73	1.96%
Urban Public/Institutional	214.08	1.44%
Powerline/Utility	194.52	1.30%
Transportation	188.56	1.26%
Commercial	158.54	1.06%
Golf Course	153.73	1.03%
Transitional/Industrial	1140.41	1.35%
Participation Recreation	74.84	0.50%
Brushland/Successional	68.84	0.46%
Nursery	53.06	0.36%
Cemetery	52.11	0.35%
Mining	42.57	0.29%
Orchard	20.38	0.14%
Waste Disposal/Junkyard	10.35	0.07%
Source: MassGIS 2005		

Table 13 shows a clear comparison of land use change from 1971 through 2005. The amount of developed land in Grafton has increased by 67.7% between 1971 and 1999. In terms of sheer acreage, the residential sector has grown the most, adding 1,243 new acres of development between 1971 and 1999. Conversely, Grafton’s farmland has declined by roughly 22% and forestland by 8.8% during the same time period. With only 3,667 developed acres out of a total land area of 14,528 acres (or 25.2% of the total), Grafton is still very much a rural, small town despite the increase in development documented above.

Table 13 Grafton Land Use Changes Over the Years

Land Category	1971	1985	1999	2005
Developable Acres	2,186	2,919	3,667	3,581
Residential	2,048	2,583	3,291	3,267
Industrial	29	181	194	97
Commercial	109	155	182	158
Forestland	8,420	8,113	7,677	7,081
Farmland	2,189	2,057	1,707	1,026
Source: UMass-Amherst land use data for 1971, 1985 and 1999; MassGIS, 2005				

Zoning

Zoning and other land use laws constitute a community's "blueprint" for its future. Grafton's residents and leaders can expect that the Town's existing land use will continue to look more and more like its zoning map over time until the Town is finally "built out." The Town adopted its first Zoning Bylaw in 1956 and was amended as recently as October 2018. Grafton has nine base zoning districts and six overlay districts. Grafton's zoning districts are shown in **Map 3, Zoning**. The base districts define the allowed uses and dimensional requirements, while the overlay districts provide for additional uses, restrictions and protection measures in specific areas of Town. Permitted uses within each of the zoning districts, as well as dimensional and density regulations for building sizes and yard areas, are set forth within Grafton's Zoning Bylaw.

Infrastructure

The public roads and highways are in good condition and meet the requirements of a modern roadway network. Immediate access to the interstate highway system is available via Exit 11 of the Massachusetts Turnpike in Millbury, just a few hundred feet from the Town line in North Grafton. A second interchange that connects the Massachusetts Turnpike (US Interstate 90) with Massachusetts State Route 146 has made the valley more accessible and therefore more attractive to commercial firms.

In addition to roadways, Grafton also is accessible by rail and bus service. MBTA commuter rail service was introduced to Grafton in 2000, with a station located at Route 30 and Pine Street. Bus and rail service are available in adjacent Worcester at Union Station with connections to Amtrak and Peter Pan and Greyhound bus lines. The Worcester Regional Transit Authority (WRTA) provides additional connections to neighboring towns such as Northbridge and Millbury and links to the nearby MBTA station. Other than the Massachusetts Turnpike, east-west travel is limited to local roadways, except for short sections of Routes 122A, 122, and 30. Route 122A enters the Saundersville section of Grafton at the Sutton town line and joins Route 122 in the Farnumsville section. Route 30 in North Grafton provides east-west travel to the major high-tech employers in Westborough and along Interstate 495. Two major north-south highways are present in Grafton. Route 122 is the principal connection to Worcester and Route 140 provides access to U.S. Route 20 and State Route 9 in Shrewsbury. Portions of Routes 140 and 122 are state-administered highways; the Town maintains Routes 30 and 122A and the other portions of Routes 140 and 122.

Roadways

Table 14 Grafton Road Inventory

The Town of Grafton owns the majority of roadways in the town. Of the 96.07 miles of paved roadways, 84 are Town-owned. A complete breakdown of roadways is included in the Table 14. This table indicates the amount of mileage for each category of roadway in Grafton.

Administration	Number of Miles
State	10.01
Town	84
Mass. Turnpike Authority	4.43
Unaccepted	2.57
Within Grafton State Hospital	2.9
Total Mileage	96.07
Source: MassDOT Road Inventory File	

Blackstone River Bikeway: Another important transportation element that is currently in the planning/design stages is the Blackstone River Bikeway. The Bikeway will ultimately extend forty-eight miles from Worcester, Massachusetts to Providence, Rhode Island passing through Grafton. Currently, various sections of the Bikeway are open to the public in Rhode Island and Massachusetts.

When completed, the Bikeway will provide a mostly off-road non-motorized transportation corridor through the historic John H. Chafee Blackstone River Valley National Heritage Corridor. The Corridor Commission has been instrumental in the formation of the Bikeway, working with Federal, State, Regional and local agencies to create an important recreational and cultural link within the Blackstone River Valley. The Blackstone Valley Bikeway will serve as an alternative mode of transportation for commuters as well as the region’s premiere multi-use recreational facility. This bi-state linear State Park along the Blackstone River will connect New England’s second and third largest cities serving a population of more than one million. The bikeway will link many of the Valley’s significant natural and historic features. The three (3)- mile stretch of the bikeway in Grafton will pass through the historic mill village communities of Farnumsville, Fisherville and Saundersville, further described in [Section 4](#) of this document.

In Grafton, many of the primary evacuation routes (Routes 122, 122A and 140, among others) pass through FEMA flood zones, and flood areas are expected to expand as the climate warms. Route 122A near the Blackstone River has previously been closed due to flooding, isolating the southwest end of town from most local emergency services, which are based to the north. Also of concern is Route 122 in central and southern Grafton, where the adjacent Quinsigamond River and its impoundments could flood the road, potentially limiting emergency access. Relocating evacuation routes is a challenge since most of the major roads connect the historic village centers along flood-prone river and brook valleys. Many roadways outside of designated flood zones are also impacted by localized flooding caused by deteriorated or undersized drainage structures such as culverts and storm drains – these are expected to become even more unsuitable as the climate changes.

Freight and Air Transport: The Grafton & Upton, Providence & Worcester and CSX railroads pass through Grafton, providing freight rail service. Flex-van and Piggyback service are also available with connections from Worcester. Worcester Municipal Airport is the closest air terminal. The airport has paved runways 7000, 5498, and 3900 feet long. The Worcester Airport witnessed extensive growth in passenger service

in the late 1980's and early 1990's. The Worcester Municipal Airport currently offers flights to a growing number of US cities such as Orlando, New York, Fort Lauderdale, and Detroit. Growth at the Worcester Municipal Airport stands to increase general traffic in the region including Grafton.

Bicycle and Pedestrian Transportation

Sidewalks are located along some of the main roads and around the schools, as well as in the commercial areas of town, and in subdivisions. However, sidewalks experience issues of connectivity and while some are in excellent condition, others are not. Priority areas in Town have been identified that would benefit most from safety and infrastructure improvements. These locations include: Grafton Middle School and High School Area; North Street Elementary School and North Street; Millbury Street Elementary School and Crosby Road; Pleasant Street; Providence Road/Route 140; Old Westboro Road; Brigham Hill Road, and around the Commuter Rail Station. The Town recently completed pedestrian improvements around the Town Common however roadways and sidewalks leading to the Common still require improvements. During the summer of 2018, the State reconstructed Worcester Street from Carroll Road to the Millbury Town Line including the areas that serve Dunkin Donuts, Stop and Shop, and Senior Housing and the Northwest Worcester Street Commercial Area including Cumberland Farms, and 5-Star Liquors.



Figure 6 Walking Path in Grafton

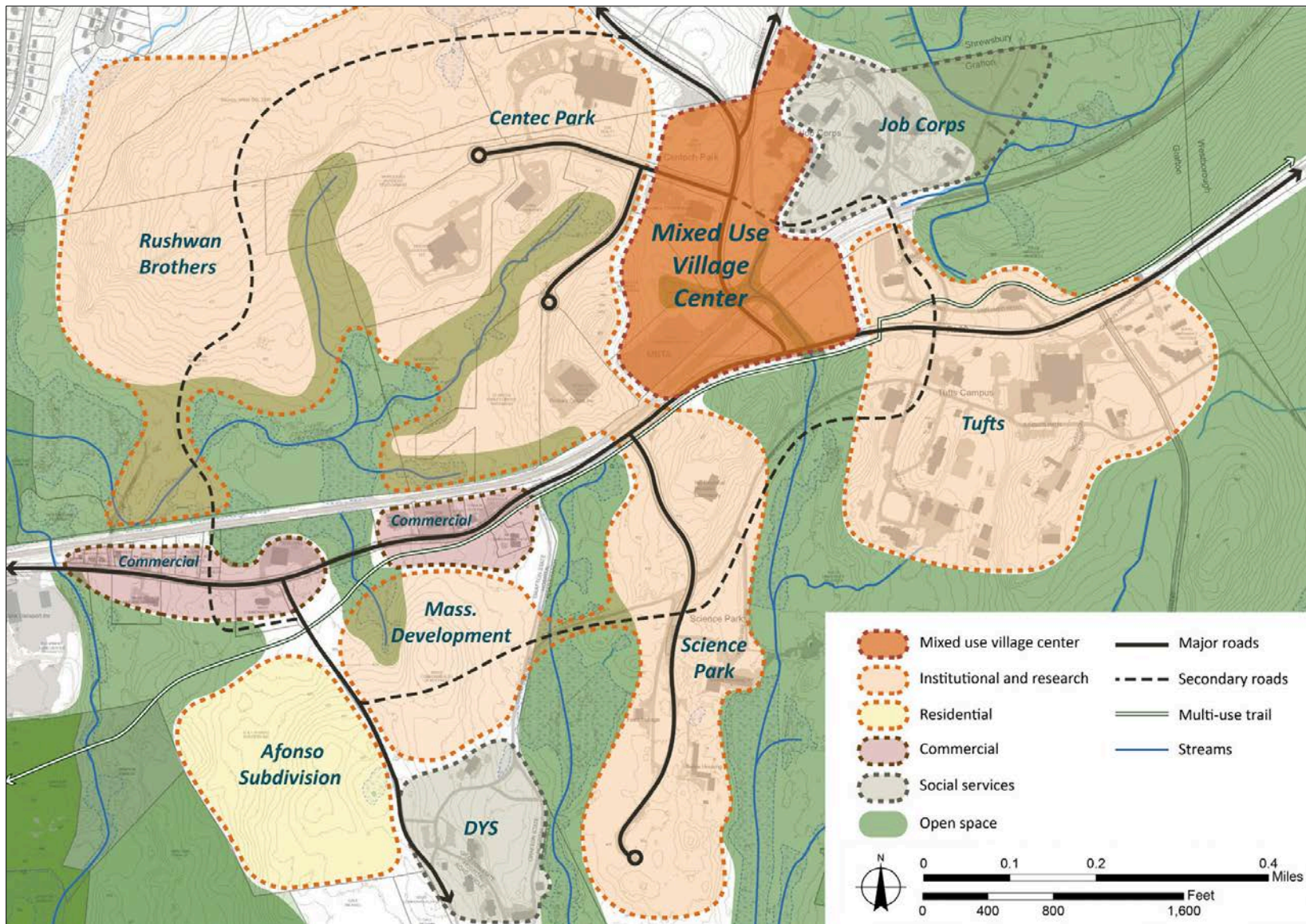


Figure 7 Land Use Diagram for North Grafton Transit Village, a mixed village center near the MBTA station in conjunction with a network of multi-use trails, street scape improvements, and vegetated corridors, could connect the separate land uses in North Grafton into a more cohesive village.

Continued improvements to sidewalks and bicycle infrastructure in Grafton would allow residents to use alternative modes of transportation to access open space and recreation facilities. There are currently no sidewalks, bike lanes, or trails located along Westborough Road. This lack of alternative transportation infrastructure is of particular note as the Town works to transition the area depicted in Figure 7 to become a mixed-use village district. The Town is actively seeking means to increase connectivity for alternative transportation between the MBTA Station, Tufts, Grafton Science Park, Centech Park, Job Corps development site, Afonso development site, and other future developments along primary and secondary streets in the project area. This bicycle network should also connect to the future Boston Worcester Air Line Trail (BWALT).

Municipal Water and Sewer

The Town of Grafton Wastewater collection and treatment system consists of 15 remote pump stations and one 2.4 million gallons per day (MGD) treatment plant. There are more than 70 miles of gravity sewer main ranging in size from 8-inch to 36-inch and more than four (4) miles of pressure mains. The service area ranges north to south from the Shrewsbury town line to the Northbridge town line and west to east from the Millbury and Sutton town lines to Keith Hill Road, North Street, Wesson Road and Tufts University.

The 2018 average daily flow was 1.7 million gallons per day (mgd) from more than 4,500 service connections. Most of the commercial, industrial, and education facilities in the community contribute to the system. The system also serves about 60% of the town's residential population or 12,000 people. The treatment plant and the Arcadia Street and Worcester Street pump stations were fully upgraded in 2018. These system wide improvements are designed to accommodate the 2018 expected flows. Upgrades at all three sites included new doors, windows, roofs, emergency generators, HVAC systems, and electrical systems. Additionally, at the treatment plant all process and mechanical systems were upgraded including: band screens, grit removal, conversion to four (4)- stage Bardenpho nutrient removal process, cloth disc filters for phosphorous removal, and ultraviolet light disinfection. The pump stations improvements also include new pumps, motors and drives. All 15 remote pump stations are integrated into the newly added Supervisory Control and Data Acquisition (SCADA) system.

While large amounts of the Town are zoned for residential use, Grafton's zoning allows for concentrated commercial and industrial development along major routes as well as in designated village areas. The minimum lot sizes for residential development range from 20,000 square feet (medium density) to 80,000 square feet (low density). A graphic depiction of Grafton's zoning scheme can be found on the accompanying Zoning Map.

3E. PRIOR PLANNING EFFORTS

Residents of Grafton have been actively engaged in the planning for the protection and preservation of vital land resources for many years now. Some of the past Town planning efforts include those listed below.

MUNICIPAL VULNERABILITY PREPAREDNESS PLAN, 2018

The Town of Grafton participated in the first round of the Executive Office of Energy and Environmental Affairs' MVP program. Through this process the Town used a community resiliency building framework to identify top hazards impacting the Town due to climate change. Strategies for how to best build on existing strengths and reduce potential risks were discussed as well. Items from this planning process have carefully been integrated into this open space planning process.

GRAFTON HOUSING PRODUCTION PLAN, 2018

With assistance from a housing and planning consultant, the Grafton Planning Department completed an update of its Housing Production Plan in 2018. This plan identified historic development patterns in the Town, provides analysis of future scenarios, and presents a series of goals and strategies to help best meet future scenarios.

FISHERVILLE MILL RIVERWALK FEASIBILITY STUDY, 2018

With funding from the Community Preservation Committee, a Riverwalk feasibility study was prepared for the development of a Riverwalk/ bicycle path along the Fisherville Mill Pond and Blackstone River. The study will be used to encourage the development of the Riverwalk as part of the development of the Fisherville Site.

NORTH GRAFTON TRANSIT VILLAGE STRATEGIC PLAN, 2017

As a follow up to the Master Plan, the North Grafton Transit Village (NGTV) Strategic Area Plan further defines the potential for a mixed-use village, focused on the MBTA commuter rail station, and other properties held in private and public ownership. This Strategic Area Plan addresses various challenges and opportunities related to future development and re-development within the project area, including historic and cultural resources, environmental constraints and attributes (e.g., water resources, open space, and habitat preservation), recreation, infrastructure, housing needs and demands, economic development initiatives, and design objectives. This plan also provides an overall vision, conceptual development scenarios, and action strategies moving forward in creating a mixed-use village.

WORCESTER STREET VILLAGE STUDY, 2017

The Worcester Street Village Study is a subcomponent of the Route 30 Transit Village Master Plan. The Town undertook this study to gather input from residents and local businesses to re-envision the area around and including 215 Worcester Street as a village center and to guide the development of land use regulations and bylaws.

GRAFTON BICYCLE AND PEDESTRIAN PLAN, 2016

The Town of Grafton’s Bicycle and Pedestrian Plan was developed in June 2016. This preliminary plan, created within the limitations of time and funding, is intended to serve as a broad look into identifying the needs and priorities with to improving Bicycle and Pedestrian mobility in the town. It serves as a basis for identifying future bicycle and pedestrian infrastructure needs, Zoning Bylaws and Subdivision Rules and Regulations for new and redevelopment and recommendations on improving and encouraging multi-modal transportation.

Plan Name	Plan Year
Hassanamesit Woods	2004 - 2008
Urban Rivers Vision 2	2007
Affordable Housing Plan	2006
South Grafton Villages Master Plan	2006
Blackstone Canal Preservation Study	2005
Blackstone River Visioning	2004
Comprehensive Master Plan	2001

Table 15 Grafton Planning Projects

LOW IMPACT DEVELOPMENT STUDY, 2016

An analysis was prepared by the Central Massachusetts Regional Planning Commission (CMRPC) and Mass Audubon as part of a technical assistance project, "Nutrient Reduction through Innovative Land Use Techniques: Overcoming Municipal Implementation Barriers". The project provides training and technical assistance to communities in the Massachusetts portion of the Blackstone Watershed to apply cost-effective Low Impact Development (LID) techniques. Specifically, this report evaluates selected land use regulations in the Town of Grafton in relation to models and examples from the Commonwealth of Massachusetts’ Smart Growth/Smart Energy Toolkit and other sources in relation to the use of LID and Green Infrastructure (GI) techniques in development. The focus is primarily on residential development.

HAZARD MITIGATION PLAN, 2016

This plan identifies the natural hazards facing the Town of Grafton, assesses the vulnerabilities of the area’s critical facilities, infrastructure, residents, and businesses, and presents recommendations on how to mitigate the negative effects of typical natural hazards. This effort has drawn from the knowledge of local municipal officials and residents, and the recommendations presented are intended to be realistic and effective steps for mitigating natural hazards. Implementation of these actions will translate into savings – fewer lives lost, less property destroyed, and less disruption to essential services.

HOUSING PRODUCTION PLAN, 2013

This Housing Plan includes a Housing Needs Assessment that presents an overview of the current housing situation in the town of Grafton, providing the context for developing a responsive set of strategies to address housing needs and meet production goals.

ROUTE 30 / WESTBOROUGH ROAD CORRIDOR STUDY, 2013

In September 2012, the Town of Grafton contracted with the Worcester Business Development Corporation to collect and analyze property on the Westboro Road corridor of North Grafton for the purpose of determining the assets and challenges for future development within the corridor.

SECTION 4: ENVIRONMENTAL INVENTORY AND ANALYSIS

4A. GEOLOGY, SOILS, AND TOPOGRAPHY

The Town of Grafton is located in the northern portion of the Blackstone River Valley. The landscape exhibits the geo-morphological results that are typically associated with glaciated landscapes in central New England. The terrain is hilly with generally north to south oriented ridgelines that are interspersed with extensive wetland systems in areas of lower relief. Large areas of the Town are overlain with thick deposits of glacial till. Two of the most integral rivers to central Massachusetts, the north-to-south flowing Quinsigamond River and the west-to-southeast flowing Blackstone River, intersect in south Grafton. Elevations range from 640 feet above sea level at Pigeon Hill to 280 feet



Figure 7 Passive Recreation in Town

above sea level at the villages in South Grafton. Other significant hills in Grafton include Keith Hill (600 feet), Potter Hill (600 feet), Brigham Hill (580 feet), Tower Hill (580 feet) and Lazy Hill (540 feet). Most of the landscape ranges in elevation from 350 feet to 500 feet above sea level.

Grafton is located on the central plateau of Worcester County. The plateau, as a whole, is so thoroughly dissected that large areas of smooth plateau surface do not exist within the county – and certainly not within Grafton. The surface of the plateau is interrupted in many places by hills rising higher than the general plateau elevation, which averages 800 to 900 feet in the southern portions of the county. These hills are predominately small in area and consist largely of elongated, rounded hills with the longer axes generally oriented north-to-south. Some of the hills are piles of unconsolidated clay, gravel and sand, called “drumlins” by geologists. These drumlins are the result of past glacial activity. The most recent glacier is estimated to have retreated some 12,000 to 15,000 years ago. As the glacier melted and retreated, it dumped along the receding face the load of boulders, stones and soils it gathered while moving southward. The material left by the glacier is called glacial “till” and, with drumlins, constitute most of the land surface area of Worcester County. Many of the hills within the central plateau consist of rock hills with a thin layer of unconsolidated material covering them.

Much of the most easily developed land has been developed; road frontage lots without development constraints such as wetland, ledge and unsuitable percolation tests for septic systems are increasingly hard to find. The result has been the creation of large interior tracts of land as yet inaccessible by road systems and still economically unattractive because of site development costs. At some point, the cost of development will be exceeded by the return on the development. This will make these large tracts vulnerable to development pressures. As additional development occurs, thought should be given to preserving existing wildlife corridors and areas of ecological concern. Maintaining open space across these critical linkages will help to ensure that wildlife will be able to continue to have suitable available habitat

and that ecosystem services will continue to be delivered to local residents and those living in the larger central Massachusetts region.

According to the *USDA Natural Resources Conservation Service report of 1998, Soil Survey of Worcester County, Massachusetts, Southern Part*, Grafton can be divided into three major soils categories. Soils in Grafton range from sandy loam in the hills and near Town Center to rich deposits of gravelly loam closer to the river valleys. The majority of soils in Grafton are classified as well drained, moderately well drained, and excessively drained. A full breakdown of soil drainage class can be found in Table 16. The three (3) main soils found within Grafton Town lines are:

- Paxton-Woodbridge-Ridgebury Soils;
- Merrimac- Hinckley-Windsor Soils; and
- Canton-Montauk-Scituate Soils.

Table 16 Soils and Drainage Class

Dominant Drainage Class	Acres	% of Town
Not Classified	3,685,817.66	6%
Excessively drained	5,801,028.59	10%
Moderately well drained	11,506,135.89	19%
Poorly drained	1,428,909.54	2%
Somewhat excessively drained	3,372,512.00	6%
Very poorly drained	5,924,309.25	10%
Well drained	28,586,544.52	47%
Source: United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and MassGIS		

Map 4, Soils and Geologic Features, depicts the geographic location of varying soil types in Grafton. Table 17 describes the dominant soil classes found in Town.

Table 17 Soil Types in Grafton

Soil Type	Description
Paxton-Woodbridge-Ridgebury Soils	Nearly level to steep, very deep, well drained to poorly drained soils on glaciated uplands. This soil type consists of soils on upland hills and ridges with many small drainage ways. Stones cover more than 3% of the surface in most areas. Soils formed in glacial till derived from schist, gneiss, and granite. This is the predominant soil type found in Grafton, covering most of the Town except along either side of the Quinsigamond River, Blackstone River and Miscoe Brook. This soil type is well suited to trees, cultivated crops, and hay and pasture. Slope, stoniness, erosion and the seasonal high water table are limiting factors for farming.
Merrimac-Hinckley-Windsor Soils	Nearly level to steep, very deep, excessively drained and somewhat excessively drained soils on outwash plains. This soil type consists of soils located on broad, flat plains and in rolling to steep areas throughout the southern portion of Central Massachusetts. The soils were formed in water-sorted deposits of glacial outwash. In Grafton, this soil category appears on either side of the Quinsigamond River, Blackstone River and Miscoe Brook This soil type is suited to trees, cultivated crops, hay and pasture. Slope, droughtiness, and low nutrient content are the limiting factors for farming.

Soil Type	Description
Canton-Montauk-Scituate Soils	Nearly level to steep, very deep, well-drained soils on glaciated uplands. This soil type consists of soils located on upland hills and rolling glacial till flats. It is dissected by broad drainage-ways that flatten out on the lower slopes. Stones cover more than 3% of the surface in most areas. The soils were formed in friable glacial till. In Grafton, this soil category covers the southwest corner of Town, south and west of the Blackstone River. This soil type is well suited to trees, cultivated crops, and hay and pasture. The slope, stoniness, hazard of erosion and wetness are the limiting factors for farming.

4B. LANDSCAPE CHARACTER

Traveling west on Route 30, Grafton’s rural character is clearly evident upon crossing the Westborough/Grafton line. The broad open vistas on one hand, and the concentrated development in the villages on the other, mimic the Town’s economic history, first based on dairy farms and then on textile mills. Sections of North Grafton, close to Millbury and Worcester, display a suburban character, with numerous residential subdivisions and strip commercial development along the most heavily traveled thoroughfares.

Grafton has several prominent hills, including Brigham, George, Keith, Potter, Tower and Lazy Hill. Many lower hills and ridges add to the general ruggedness of the terrain, while the waterways running along the bottomlands add to the visual variety. The Quinsigamond and Blackstone Rivers, and their bordering wetlands, are most visible heading south on Route 122 towards the villages of South Grafton. Flint Pond, Lake Ripple and Silver Lake are the Town’s most prominent waterbodies.



Figure 8 Grafton Landscape Character

The Miscoe Brook, with its wet meadows and extraordinary vegetation, the expanses of the Fisherville Marshes and the many ponds formed by the damming of rivers for waterpower, all contribute to the visual appeal of Grafton’s landscape and are highly regarded by citizens and visitors alike. The unspoiled views from the hills of west Grafton are also prized landscapes. The Town Common provides an excellent visualization of the traditional New England town center.

The Town of Grafton includes a number of Heritage Landscapes as well. Examples of these sites include: Merriam and Estabrook Road Farms; Grafton State Hospital Campus; New England Village; Depot Street (Farnumsville); and North Street and South Street.

4C. WATER RESOURCES

The Town of Grafton is located within two major drainage basins, Blackstone River Drainage Basin and the Sudbury/Assabet/Concord (SuAsCo) River Drainage Basin. In Grafton, these basins can be divided into four major watersheds (three in the Blackstone River Drainage Basin and one in the SuAsCo River Drainage

Basin), with several smaller drainage areas contributing to each. The general locations of Grafton’s watersheds, along with their sub-watersheds and drainage patterns, are presented in Table 18. This information is depicted visually in **Map 6A, Water Resources Part 1**, as well.

Table 18 Watersheds in Grafton

Watershed Name	Description
Quinsigamond Watershed	The Quinsigamond Watershed covers the largest swath of land in Grafton, from its western boundary through the center of town. Within Grafton, the Quinsigamond Watershed is comprised of two sub-watersheds: the Lake Quinsigamond Sub-Watershed that drains Lake Quinsigamond and Flint Pond and the Quinsigamond River Watershed that drains the River through the center of Grafton.
Blackstone River Watershed	The Blackstone River Watershed covers the majority of South Grafton, including the villages of Saundersville, Farnumsville and Fisherville. This watershed drains south into Northbridge and beyond, and the Cronin Brook Sub-Watershed that drains a small area of west Grafton.
West River Watershed	The West River Watershed covers a large section of East Grafton. The Miscoe Brook forms the headwaters of the West River and flows through Cider Mill Pond and Silver Lake before crossing the town line into Upton. The West River drains in a southerly direction before eventually joining with the Blackstone River in Uxbridge.
SuAsCo	The Sudbury Assabet Concord (SuAsCo) Watershed covers a portion of the northeast corner of Grafton north of the Massachusetts Turnpike. This watershed is comprised of the Sudbury, Assabet, and Concord Rivers.

Because land use varies within Grafton and subsequently within these watersheds, open space and recreation facilities should be designed and sited with pollutant loading and discharge in mind. Point-source pollution and non-point source pollution can both be treated via nature based solutions that stand to decrease capital costs associated with traditional stormwater management practices. However while types of costs can be expected to change, maintenance and upkeep of low impact development infrastructure will require consistent investment. However, as storms become more frequent and more intense in nature making this transition to implementing sustainable best management practices is critical and a major component of open space planning.

There are two private water districts that provide drinking water to the majority of Grafton residents and both entities have their wells located above the aquifer. **Map 6B, Water Resources Part 2** indicates where wells are located throughout Grafton. The Grafton Water District (GWD) is a public municipality separate from the Town of Grafton government. The GWD is the larger of the two (2) districts, serving 4,337 connections with water mains located in the northern and central sections of Grafton. Its wells have an average safe yield capacity of 1.34 million gallons per day (mgd). According to the Grafton Water District’s 2017 Annual Report, the district pumped a total of 507,655,000 gallons of water in 2017. The principal assets of the system are four (4) wells located in the areas of Follette Street, Worcester Street and East Street. The Town leases the land for the Follette Street Well area to the District, all of the other well sites

are owned by the District. The District has constructed a fifth well site which will be coming online on Trinity Avenue. The District has a water treatment facility on East Street, which treats the Worcester Street and East Street wells for the removal of iron and manganese. The District has two (2) standpipes that store water for fire emergencies and create pressure for the system when pumps are off. These two standpipes are located on Pigeon Hill and Brigham Hill. The District is presently cooperatively working with the Grafton School Department for the use of a well site located behind the High School on Providence Road. This well will supply water for the future growth of the community. The District headquarters are located at 44 Millbury Street in Grafton.

The South Grafton Water District serves 798 connections, mostly within the villages of South Grafton. The District makes use of three gravel-packed wells, two located off Ferry Street and one located off Providence Road (Route 122). The District owns roughly 75% of the land under its Zone I contribution areas, however, most of the land under its Zone II contribution areas are under private ownership and the District relies on provisions of the Town's Water Supply Protection Overlay District to protect these areas. The District does not have any current plans to drill new wells.

As mentioned previously, Grafton's Zoning Bylaw contains a Water Supply Protection Overlay District, which limits and regulates development within those land areas that contribute to Grafton's public water wells. These regulations, in addition to the River Protection and Wetland Protection Acts, make developers give serious consideration to the Town's wetland resources.

Surface Waters and Aquifers

Grafton is home to two (2) lakes (Lake Ripple and Silver Lake) and three (3) large ponds (Flint Pond, Hovey Pond and Fisherville Pond). Grafton also contains extensive amounts of frontage along the Quinsigamond and Blackstone Rivers. Lake Ripple has two (2) points of access for the public. Ekblaw Landing located off of Worcester Road (Route 140) provides canoe access, and there is a boat launch off of Brigham Hill Road that also provides access to southern shoreline of Lake Ripple. Silver Lake has a small public beach but no boat launch facilities. Fisherville Pond has a small boat



Figure 9 Ekblaw Landing

launch behind the Riverview Apartments. The State maintains a boat launch for Flint Pond, located on the Shrewsbury side of Route 20. Grafton has a very large ground water aquifer (2,062 acres in size) that extends through Town in a north-to-south direction, located on either side of the Quinsigamond River and

the Blackstone River. The aquifer underlies both Lake Ripple and Fisherville Pond. The aquifer boundaries were delineated by IEP Inc. in its 1988 Aquifer Study prepared for the Town.

Floodplains

Grafton's floodplains are located along either side of the Town's major waterways, primarily the Quinsigamond River, Blackstone River, Cronin Brook and Miscoe Brook. The floodplains are also located around the shorelines of Grafton's larger waterbodies, including Flint Pond, Lake Ripple and Silver Lake. All told, Grafton has 1,423 acres of land falling within the 100-year flood hazard areas. Grafton has adopted a Floodplain Protection Overlay District, which regulates development within the Town's flood hazard areas as identified on the Town's Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), dated September 30, 1992.

Wetlands

Grafton's Conservation Commission regulates development within wetlands based on the standards found within the Town's Wetlands Protection Bylaw (Article 25 of the Town's General Bylaws). The Conservation Commission has adopted a set of regulations for the bylaw's administration. The Commission is also the local administrator of the Massachusetts Wetlands Protection Act (Massachusetts General Law (MGL) Chapter 131, Section 40) and associated regulations (Chapter 310, Code of Massachusetts Regulation (CMR) 10.00). The Army Corps of Engineers, under provisions of the Federal Clean Water Act, also regulates the filling of wetlands. As mapped by the DEP Wetlands Conservancy Program, Grafton contains 1,317 acres of wetlands.



Figure 10 Dams in Grafton

Wetlands are located throughout the Town of Grafton. However, they are large wetlands along the eastern edge of the Town as well as the southeast portion of Town. There are three (3) significant wetland areas of note. Great Meadows, which is located within the Miscoe Brook drainage sub-watershed, contains a mixture of deep and shallow freshwater marshes, shrub marshes and wooded swamps. This wetland area acts as a natural sponge, providing flood storage during heavy rainfall, which in turn minimizes downstream damage from floodwaters. The wetland also serves as a pollution filter that protects the waters of Silver Lake. Fisherville Marshes, located at the confluence of the Quinsigamond and Blackstone Rivers, contains a mixture of plant communities and provides critical waterfowl habitat for migratory birds. The marshes are in danger of succeeding to a drier type of habitat (having been drained extensively because of a nearby broken dam) and are in need of restoration. Lastly, North Grafton Wildlife Management Area is comprised of 59 acres of shrub swamps and shallow freshwater marshes that serve as a habitat for wood duck breeding. Purchased in the early 1990s by Ducks Unlimited, the land was donated to the Massachusetts Division of Fisheries and Wildlife in 1991 and is now fully protected

under Article 97, Section 2 of the Articles of Amendment to the Constitution of the Commonwealth of Massachusetts entitled, “Rights of Environmental and Natural Resources.”

Core Habitats and Living Waters

In addition to the scenic and unique environments identified by the residents as part of the planning process for this document, it should be noted that Grafton contains a large swath of land that has been identified by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) as “Core Habitats” for aquatic, plant and wildlife species. In 2001, with funding from the Executive Office of Environmental Affairs (EOEA), the NHESP developed a *BioMap* for the entire Commonwealth in order to identify the areas most in need of protection to ensure native biodiversity. This was updated in 2012. *BioMap 2* identifies two (2) critical components for biodiversity; Core Habitat areas and Critical Natural Landscapes. Core Habitats “identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems.” Critical Natural Landscapes on the other hand, “intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames.”

BioMap 2 identifies a number of core habitat area and critical natural landscape cover as well. Core Habitat identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity. Critical Natural Landscape identifies large natural Landscape Blocks that are minimally impacted by development. If protected, these areas

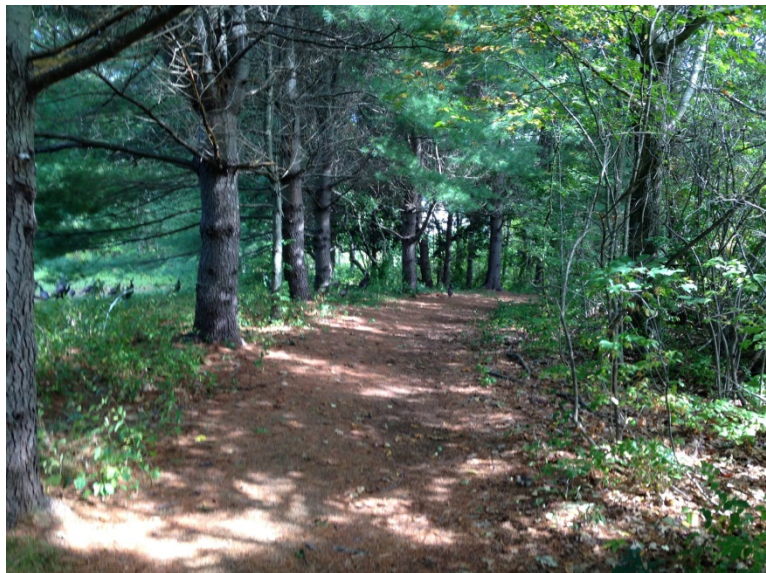


Figure 11 Walking Trails

will provide habitat for a wide range of native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.

In total, *BioMap 2*, which can be found in Appendix E, indicates that there are eleven (11) parcels in Grafton that fall into one of these two (2) categories. These core areas are located throughout Town, with clustering located along Millbury Street and Upton Street. Understanding patch dynamics and the landscape mosaic of this area are critical to preserving wildlife corridors and working towards ecological

integrity. Species of conservation concern in Grafton include: Four-toed Salamander, Pale Green Orchid, Oak Hairstreak, Blue-spotted Salamander, Smooth Green Snake, Wood Turtle, Triangle Floater, Spotted Turtle, and Marbled Salamander. Preserving linkages between these identified areas should be taken into account as the Town of Grafton makes future land acquisitions and decisions.

The four (4) critical natural landscapes located in Grafton as referenced in BioMap2 include: a 22-acre Critical Natural Landscape featuring Aquatic Core Buffer located in Grafton's southwest corner; a 62-acre Critical Natural Landscape featuring Aquatic Core Buffer located near Providence Road and Millbury Street; a 2,038-acre Critical Natural Landscape featuring Landscape Block on the Town's eastern edge; and a 184-acre Critical Natural Landscape featuring Wetland Core Buffer located north of Route 30 bordering Shrewsbury. Core habitat areas in Grafton are located throughout Town as well, with clustering again along Millbury Street and Providence Road, Upton Street, and the Route 122 and Bridge Street.

The NHESP's Living Waters Project attempted to identify and map the State's most critical sites for maintaining freshwater aquatic biodiversity. These Core Habitat sites represent where the State will focus its conservation priorities. In Grafton, a Core Habitat has been identified along a small stretch of the Quinsigamond River between Lake Ripple and Fisherville Pond. This section of the river is surrounded by a "Critical Supporting Watershed" that appears in the center of Town as a large swath.

Vernal Pools

There are 20 certified vernal pools located within the Town of Grafton. While these vernal pools are spread out throughout the Town, there are clusters in the southern and northern sections of Town. While there may be only 20 certified vernal pools, local conservationists believe there are many more scattered throughout the community. There are close to 100 sites in Town that the State considers "potential" vernal pools. Vernal pools are unique wildlife habitats best known for the amphibians and invertebrate animals that use them to breed. Vernal pools, also known as ephemeral pools, autumn pools and temporary woodland ponds, typically fill with water in the autumn or winter due to rising groundwater and rainfall and remain ponded through the spring and into summer. Vernal pools dry completely by the middle or end of summer each year, or at least every few years. Occasional drying prevents fish from establishing permanent populations.

Many amphibian and invertebrate species rely on a breeding habitat that is free of fish predators. Some vernal pools are protected in Massachusetts under the Wetlands Protection Act regulations as well as several other federal and state regulations. The Natural Heritage Endangered Species Program (NHESP) serves the important role of officially "certifying" vernal pools that are documented locally.

Full descriptions and details are provided in the *BioMap 2* report in Appendix E.

Areas of Critical Environmental Concern

In July of 2000, a large portion of east Grafton was designated as an Area of Critical Environmental Concern (ACEC) as part of the larger Miscoe-Warren-Whitehall Watersheds ACEC. The entire ACEC covers approximately 8,700 acres of land within three (3) communities: Grafton (3,010 acres), Upton (5,230

acres) and Hopkinton (460 acres). The resources of the ACEC fall within portions of five (5) sub-watersheds: Miscoe Brook, Center and Warren Brook (both of which drain south to the West River and Blackstone River), and two sub-watersheds that flow north into the Whitehall Reservoir and eventually the Sudbury River.

The distinguishing characteristics of these sub-watersheds are that they are located at the headwaters of their respective watersheds; provide crucial inputs of high-quality surface water to downstream communities and their public drinking water supplies; share a large expanse of unfragmented and diverse wildlife habitat; and are under intensive development pressure from the growing Blackstone Valley. The ACEC covers land that contributes to the public drinking water supplies of Upton, Westborough, Hopkinton, and the well that serves the Touchstone Community School in Grafton. Rare species habitats cover approximately 19% of the ACEC lands. The vast majority of the ACEC lands (89%) are comprised of forests, wetlands, open lands and farmlands. Approximately 28% of the ACEC lands are considered permanently protected (State, local and non-profit lands), and another 17% of the ACEC lands are considered as having limited protection (Chapter 61, 61-A and 61-B lands). The Miscoe-Warren-Whitehall Watersheds ACEC designation has helped the three home communities focus their stewardship priorities and work together to protect this environmentally sensitive area.

4D. VEGETATION

Grafton's forests are typically composed of southern New England hardwoods, dominated by oaks and hickories in the uplands. Additionally, there are large stands of white pine and red maple that grow in both Grafton's uplands and wetlands. Another species common to the forestlands is birch, reflecting the Town's location not far from the northern Worcester county transition zone where this species is prevalent. As is typical in southern New England, hemlock and beech trees, two species common farther north, are generally restricted in Grafton to the cool, moist, shadier north facing slopes. Of particular note is the red maple swamp located off of Glen Street and several stands of red spruce, which are most unusual to find this far south, again reflecting Grafton's location at the northern end of the southern hardwood forest range. The Town as an estimated tree canopy density of 57%. This ranking puts the Town above municipalities to the north (Worcester, Shrewsbury, and Westborough) and slightly below towns to the east and south west (Sutton, Upton, and Hopkinton). Canopy density and tree cover have the potential to

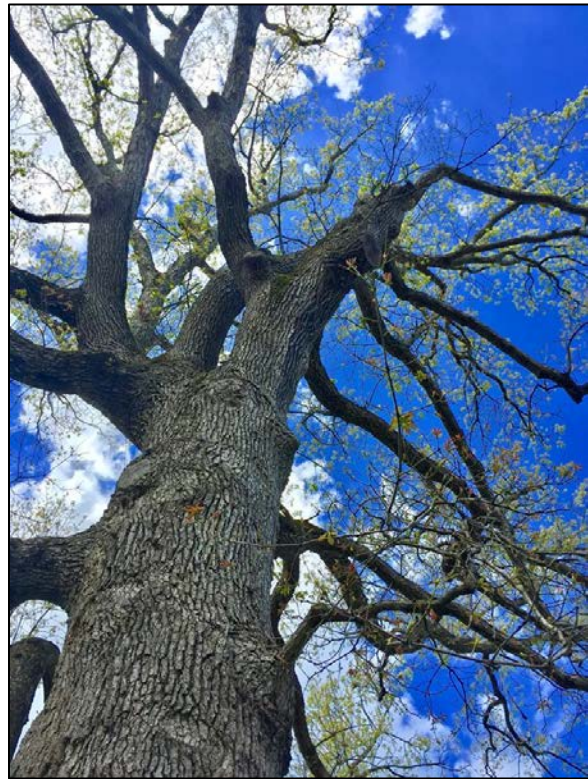


Figure 12 Grafton Tree Canopy

provide a wide array of ecosystem services to communities ranging from heating and cooling savings to stormwater infiltration. In 2017 Grafton was one of 88 Massachusetts communities to receive Tree City USA designation from the Department of Conservation and Recreation and the National Arbor Day Foundation in recognition for its dedication to urban forestry. The Department of Public Works oversees forestry operations related to public street trees in Town.

Grafton's wetland vegetation takes the form of both shallow and deep fresh water marshes, shrub swamps, wet meadows, and wet woods. These plant communities provide valuable habitat, protect the quality of surface and ground waters nearby, contribute to the diversity of wildlife found in Grafton, and provide flood storage that protects downstream areas. There are populations of insectivorous pitcher plant (*Scarracenia purpurea*) and the Purple Fringed Orchid (*Habenaria* spp.), both of which are characteristic of the bog community and unusual for this area of Massachusetts. The plants' presence may be due to the mixture of plant communities occurring in close proximity. Where there is a mosaic pattern of different types of vegetation, as in the Great Meadows, the composite wetlands support a greater variety of wildlife than would otherwise be the case.

While the Whorled Pogonia (*Isotria verticillata*) has been removed from the official State rare plant species list, it is still of local biological importance. Historical plants are not covered by the State's rare species list because none of the species listed are known to have a current population in Massachusetts. The Painted Cup (*Castilleja coccinea*) was last observed in Grafton in 1909. Were this to reoccur, it would be recommended to the official list of rare species.

Like every community, Grafton's natural resources are at risk due to the spread of invasive species. Common invasive species that may continue to impact Grafton's ecosystem include but are not limited to Glossy Buckthorn, Japanese Barberry, Multiflora Rose, Oriental Bittersweet, and Japanese Knotweed.



Figure 13 Honeysuckle, source: Mass Audubon

4E. FISHERIES AND WILDLIFE

Habitats

The interspersed of open fields, woodlands, lakes and ponds, rivers and streams, and wetlands found in Grafton creates a diversity of habitats for wildlife. Because of this diversity, Grafton currently supports virtually every species that is common in Massachusetts as well as several species that are uncommon. The diversity and abundance of wildlife in Grafton is remarkable considering the Town is located only some forty miles from Boston and adjacent to the State's second largest city, Worcester. Each species of

wildlife has its own set of habitat preferences. These habitat preferences ensure that food, cover, and breeding requirements are met, thus maximizing the likelihood of species survival and successful reproduction. Future open space acquisitions should be made with these habitats in mind.

Wetland Habitats

Fully or partially within Grafton's boundaries are nine named ponds and lakes (Flint Pond, Hovey Pond, Fisherville Pond, Windle Pond, Pratt's Pond, Hayes Pond, Lake Ripple, Cider Mill Pond and Silver Lake), four perennial brooks (Axtell, Big Bummet, Cronin, and Miscoe), two rivers (Blackstone and Quinsigamond), and adjacent wetlands, all of which provide habitat for a variety of reptiles, amphibians, fur bearers, water fowl and other water birds. The wetlands bordering Flint Pond and Hovey Pond, Miscoe Brook and Big Bummet Brook, the wetlands bordering the Quinsigamond River adjacent to East Street, and bordering Fisherville Pond (the Fisherville Marshes), provide substantial habitat for waterfowl and fur-bearers. The Massachusetts Division of Fisheries and Wildlife rate the Fisherville Marshes as the second most important waterfowl marsh in the Blackstone Valley. They straddle the confluence of the Blackstone and Quinsigamond Rivers and support and attract substantial numbers of wood duck, mallard and black duck in the late summer and early fall. Water birds such as the Great Blue Heron, Pied-Bill Grebe, Sora Rail, and Virginia Rail regularly feed or roost in the marsh. The North Grafton Wildlife Management Area and the marshes of the Great Meadows also support a variety of wildlife.

Grafton is one of the few Towns in the state in which the occurrence of juvenile Moorehen has been documented. The Moorehen is an uncommon bird in Massachusetts and there are less than 25 known nesting birds in the entire state. Muskrat occur in all waterbodies in Grafton. After an absence of more than 200 years, beaver reappeared in Grafton in the late 1970s. Mink, otter, weasel, and raccoon are found along the edges, or in the adjacent woodlands of Grafton's streams and rivers. The waters of both Cronin Brook and Miscoe Brook are of relatively high quality and support native brook trout populations. The Town's wetlands, ponds and streams also support or provide breeding habitat for snapping turtles, sun turtles, bullfrogs, frogs, spring peepers, toads and several species of salamander.

Upland Habitats

Grafton's undeveloped uplands are an interspersed of agricultural fields, pasture, brush, and woodland. Wildlife species commonly occurring in these areas include white-tail deer, red and gray fox, cottontail rabbit, snowshoe hare, ruffed grouse, woodcock, red and gray squirrel, woodchuck, chipmunk, striped skunk, opossum, several species of owl and hawk, and virtually all song birds common to Massachusetts. Deer are most abundant in the eastern half of Grafton, especially the wooded areas of George Hill, Keith Hill and the Miscoe Brook drainage area. A small population of pheasant exists in Grafton. Their maintenance in the Town is dependent on the continued fall stocking of pheasants by the Division of Fisheries and Wildlife. The continuation of the stocking program is dependent on the willingness of landowners to allow the public to hunt on their properties.

Additionally, there are several cold-water fisheries located in the Town of Grafton. These cold-water fisheries are located primarily in the western, eastern, and northern sections of Grafton. Miscoe Brook, Axtell Brook, Cronin Brook, the West River, and Nourse Brook are located within Grafton. Cold water fisheries represent particularly sensitive habitats, and changes in land and water use can substantially reduce the ability of these waters to support the species that rely on them as habitat.

Rare and Endangered Species

The most recent listing of the Massachusetts Natural Heritage and Endangered Species (NHESP) program shows the following species existing in Grafton (Table 19):

Table 19 Rare and Endangered Species

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC	2009
Butterfly/Moth	Callophrys irus	Frosted Elfin	SC	2007
Reptile	Glyptemys insculpta	Wood Turtle	SC	2013
Fish	Notropis bifrenatus	Bridle Shiner	SC	1981
Reptile	Terrapene carolina	Eastern Box Turtle	SC	2012
Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchid	T	2005

Source: Natural Heritage & Endangered Species Program

4F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

The resources discussed in this section include portions of those areas designated "Distinctive" or "Noteworthy" in the former Department of Environmental Management (DEM) Scenic Landscape Inventory, and those areas that are considered special places, landscapes, and views in Grafton. A graphic depiction of the Town's unique features and scenic resources can be found on **Map 5, Unique Features**.

The Quinsigamond and Blackstone Rivers

Among Grafton's abundant waterbodies, the Quinsigamond and Blackstone Rivers and their confluence at the Fisherville Marshes, and Lake Ripple are important areas. The two rivers, the Town's most important natural resources, drain 93% of the Town's land area. They were the lifeblood of its early agricultural and industrial settlement and are today its most unique scenic and recreational resources. Many residents indicate a desire for a trail system that follows along the banks and shores of these waters. The preservation and development of the Quinsigamond and Blackstone trail systems should take a high priority in the Town's recreation and conservation plan.

Lakes, Meadows, and other Scenic Water Resources

Lake Ripple: Once called the Town's most "glamorous lake, attractive for ice skating, fishing, boating", Lake Ripple remains a favorite scenic spot but at present is not living up to its potential. Sediment deposition and weed growth have been longstanding problems for the Lake.

Silver Lake: Approximately 26-acres in size, Silver Lake is an artificial impoundment on Miscoe Brook. It has a beautiful natural setting, with little development except at its southeastern end. Swimming and limited boating take place here.

Great Meadows: The waters of Silver Lake are protected by the Great Meadows, which include all the wetlands within the Miscoe Brook drainage of the West River watershed.

Other Scenic Water Resources: An area that is not often mentioned, but which is worthy of restoration, is the Big Bummet stream corridor, including Windle, Pratt and Hayes Ponds. Long-time residents speak of the days before the pond shores were built up and decry the present fouling of the stream ecosystem, a result of effluent leaking from septic tanks nearby and from a landfill beyond Grafton's borders. Stretches of the Blackstone River and Fisherville Mill Pond provide scenic views and opportunities for active and passive recreation opportunities as well.

Distinctive Landscapes

The resources discussed in this chapter include portions of those areas designated "Distinctive" or "Noteworthy" in the DEM Scenic Landscape Inventory, and those areas that are considered special places, landscapes, and views in Grafton. Surveys have revealed that the community esteems both the view of, and the view from Keith Hill and Old Upton Road, which intersects it. The area includes a varied terrain, open fields and forest, as well as significant wetlands at the base of the forested side of Tower Hill. While the western viewshed for Keith Hill is not protected, the Grafton Land Trust owns some property along the southern base of the Hill, as does the Town of Grafton (Hassanamesit Woods) and these properties are considered permanently protected.

Unique Features

As can be seen on **Map 5, Unique Features**, much of the undeveloped eastern portion of Grafton has been designated as noteworthy. Noteworthy areas are extensive and, as with Keith Hill, coincide with many favored vistas, views and farms along Adams Road, Fay Mountain Road, portions of Merriam and Meadowbrook Roads and Estabrook Street. Significant portions of the Great Meadow and the Tufts land are also included in the category. These areas include a mixture of forest and open farmland, varying elevations, wetlands and streams that are unspoiled by extensive contemporary development. There are a number of historic villages located in Town as well. These include: New England Village, Centerville, Grafton Common, Kittville, Wilkinsonville, Saundersville, Fisherville, and Farnumsville. This map depicts parcels included on the National Register of Historic Places in the northern and southern portions of Town.

Agricultural Landscapes and Rural Views

Consistently mentioned in the list of special places are the Knowlton and Adams farms, the Tufts land, the views from Brigham and Potter Hills, the aforementioned Keith Hill and the views across the Fisherville Marshes to Lazy Hill. Much of the land in these areas has temporary Chapter 61 protection, which provides the Town with an option to purchase the land should it become available for development.

Miscoe-Warren-Whitehall Area of Critical Environmental Concern (ACEC)

The entire 8,700 acres of this ACEC, including the 3,010 acres in Grafton, can be considered as a unique environment.

Scenic Roads

In a further effort to protect Grafton's scenic resources, the Town has compiled a list of scenic roads for protection under its local Scenic Road Bylaw:

- Adams Road
- Brigham Hill Road (between Potter Hill Road and Denholm Street)
- George Hill Road
- Keith Hill Road
- Meadowbrook Road
- Merriam Road
- Wesson Road
- Willard Road

In addition to identifying scenic roads as a benefit to the Town of Grafton, it is noted that roadways often serve as an impediment to open space and conservation planning due to a wide array of factors including but not limited to: landscape fragmentation, increased impervious surface cover, and increased flooding potential.

Cultural, Archaeological, and Historic Areas

The Grafton Common is a designated Historic District, which protects the outside appearances of its structures and grounds. The Willard Clock Museum, the mill villages of Fisherville, Saundersville, and Farnumsville in South Grafton, New England Village in North Grafton, where the Washington Mills complex is located, the Indian Reservation (Hassanamesit Plantation), the Indian Burying Ground and the Ethan Allen Gun Factory are other favored historic areas.

The Blackstone Canal located in South Grafton can also be considered a resource of historic significance. The Canal was created in the 1800s as a means to better transport goods between the cities of Worcester and Providence. Several federal entities have recognized the Canal's historic importance. The Blackstone Canal Historic District is listed on the National Register of Historic Places and the John H. Chafee Blackstone River Valley National Heritage Corridor Commission has been spearheading plans to protect the resources along the Blackstone River by developing the Blackstone River Canal and Heritage State Park, with an

interpretive site in South Grafton at Leland's Landing. This effort is still in the planning stages and will be enhanced by the construction of the Blackstone River Bikeway.

The Hassanamesit Woods is a site of regional and national historic significance that was acquired by the Town in 2004. This 200-acre parcel is located on the southeastern slope of Keith Hill between Old Upton Road and Salisbury Street. Research by the UMASS Center for Cultural and Environmental History in the spring of 2003 strongly suggests that the property is the site of Rev. John Elliot's 17th century Indian Praying Village, Hassanamesit. Only 14 of these villages were originally founded, and of those 14, only two (2), Natick and Grafton, ever achieved church status, making the site incredibly important from a research, educational and historic perspective.

The Massachusetts Cultural Resource Information System (MACRIS) Inventory for the Town of Grafton is included in Appendix C. MACRIS is a database for information on historic properties and areas in the Commonwealth. Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission. It is a useful tool for considering historic and cultural resources as they might be considered scenic and unique.

4G. ENVIRONMENTAL CHALLENGES

Grafton's primary environmental challenge is improving the water quality of its lakes, ponds, rivers and streams. Development has resulted in a host of negative impacts to Grafton's water resources, including weed growth, poorly planned shoreline development, poor erosion control, and/or non-point pollution such as washed away salt from roadway maintenance efforts, fertilizers from lawn maintenance, or pesticide applications. Any of the environmental challenges listed here may have a greater likelihood of impacting environmental justice populations than they may other segments of the population. Environmental justice is rooted in a common understanding that all people have a right to be protected from environmental pollution and to be surrounded by clean, healthy environments. Often times historical legacy, siting of major roadways, and negative impacts of previous industry have greater adverse impacts on minority or low-income populations than those who are not. There is one environmental justice area identified in the Town of Grafton. This area is located along the Northbridge Town line and extends north towards Fisherville Pond. Particular interest should be given to land acquisition for open space and new recreational facilities that are accessible to this population.

Grafton's efforts to manage stormwater runoff are also contributing factors to the quality of the Town's various water resources. Water from storm events flows across impervious surfaces (pavement, rooftops, and other surfaces that prevent water from sinking into the ground) and is collected in various stormwater management devices (pipes, detention ponds, etc.) before being channeled into a wetland, waterbody, stream or river. Many Massachusetts communities are investigating the use of Low Impact Development (LID) stormwater management techniques as a method to reduce negative stormwater impacts. The State is going so far as to encourage LID bylaws as one of the tools in its Smart Growth Toolbox. LID techniques are low-cost methods that use better site design practices and natural systems to reduce stormwater impacts. Otherwise known as "country drainage", LID techniques use grassy swales and vegetated buffers

to absorb and filter stormwater. LID methods can replace the more expensive “pipe and pond” practices that gather stormwater in large collection systems (i.e., detention ponds). In December 2015, the Town of Grafton worked with CMRPC, Mass Audubon, Horsley Witten Group, and the Blackstone River Coalition to produce a LID analysis. The report evaluates selected land use regulations in the Town of Grafton in relation to models and examples from the Commonwealth of Massachusetts’ Smart Growth/Smart Energy Toolkit and other sources in relation to the use of LID and Green Infrastructure (GI) techniques in development. The focus is primarily on residential development.

As the Town of Grafton begins to implement its Municipal Separate Storm Sewer Systems (MS4) permit, particular attention should be paid to preserving pieces of this unspoiled character for use as nature-based solutions to stormwater management. The 2016 MS4 Permit is a jointly issued permit by EPA and MassDEP. Under the requirements of the permit municipalities must meet six minimum control measures. These minimum control measures include: pollution prevention and good housekeeping; an Illicit Discharge Detection and Elimination (IDDE) Program; construction site runoff control; post construction runoff control; public education and outreach; and public participation and involvement. Implementing low impact development design standards and other best management practices serve not only to increase water quality, but are capable of increasing neighborhood aesthetics as well. Planting additional street trees, building bioretention areas, and limiting impervious surface can all provide a range of ecosystem services.

The Department of Environmental Protection (DEP) designates six classes of water quality, based largely on the standards of the Federal Clean Water Act. In Massachusetts, Class A refers to those surface water resources that are used as water supply sources. Class B waters are considered safe for fishing, swimming and boating. The remaining four water quality categories cover those surface water resources with lesser water quality. The majority of the surface water resources in Grafton meet the Class B water quality standards. There are, however, several ponds and river segments that do not meet the Class B standards.

Under the regulations of the Federal Clean Water Act, states are required to file a report every two years that identifies those surface waters that are not expected to meet the Act’s surface water quality standards (Class A, Class B, etc.). This report, known as the Massachusetts Section 303(d) Integrated Lists of Waters, was last prepared in 2014 through a joint effort of the Executive Office of Environmental Affairs (EOEA) and the Department of Environmental Protection (DEP). The following surface waters listed in Table 20 currently do not meet the water quality standards of the Federal Clean Water Act but could eventually if all required federal, state and local pollution control measures continue to be enforced. It should be noted that the 2014 water quality report did not assess Fisherville Pond or Pratts Pond.

Table 20 Water Resources in Grafton

Surface Water Resource	Watershed	Pollutants/Stressors
Flint Pond	Quinsigamond River	Turbidity, noxious aquatic plants
Hovey Pond	Quinsigamond River	Exotic species
Silver Lake	West River	Flow alteration
Source: Massachusetts Year 2014 Integrated List of Waters		

The 2014 report also listed several waterbodies and river segments in Grafton as requiring Total Maximum Daily Load (TMDL) investigations, or more commonly known as TMDL studies. A TMDL study is essentially a “pollution budget” designed to restore the health of the impaired waterbody or river segment. The Federal Clean Water Act requires that states must develop a TMDL plan for each waterbody identified as being impaired. Components of a TMDL plan include identifying the source(s) of the pollutant from direct discharges (point pollution sources) and indirect discharges (non-point pollution sources), determining the maximum amount of the pollutant that can be discharged into a specific waterbody to meet water quality standards and developing a plan to meet that goal.

In Grafton, the waterbodies and river segments listed in Table 21 have been identified as needing TMDL studies.

Table 21 Total Maximum Daily Load (TMDL)

Water Resource	Location	Pollutant Needing TMDL
Blackstone River	Confluence of Middle River and Mill Brook (downstream of the railroad spur bridge west of Tobias Boland Boulevard), Worcester to Fisherville Dam, Grafton. (through a portion of Fisherville Pond formerly segment MA51048)	(Debris/Floatables/Trash*); (Other flow regime alterations*); (Physical substrate habitat alterations*); Ambient Bioassays -- Chronic Aquatic Toxicity; Aquatic Macroinvertebrate Bioassessments; Escherichia coli; Excess Algal Growth; Fishes Bioassessments; Foam/Flocs/Scum/Oil Slicks; Lead; Nutrient/Eutrophication Biological Indicators; Other; Oxygen, Dissolved; Phosphorus (Total); Sedimentation/Siltation; Taste and Odor; Turbidity.
Blackstone River	Fisherville Dam, Grafton to outlet Rice City Pond, Uxbridge. (through Riverdale Impoundment formerly segment MA51136 and Rice City Pond formerly segment MA51131)	(Other flow regime alterations*); (Physical substrate habitat alterations*); Aquatic Macroinvertebrate Bioassessments; Cadmium; Copper; DDT; Escherichia coli; Excess Algal Growth; Fishes Bioassessments; Lead; Nutrient/Eutrophication Biological Indicators; PCB in Fish Tissue; Phosphorus (Total); Sedimentation/Siltation; Taste and Odor; Turbidity.
Hayes Pond	Grafton	(Debris/Floatables/Trash*); (Low flow alterations*); (Non-Native Aquatic Plants*); Aquatic Macroinvertebrate Bioassessments; Aquatic Plants (Macrophytes) 2391; Fecal Coliform; Nutrient/Eutrophication Biological Indicators; Turbidity.
Lake Ripple	Grafton	(Non-Native Aquatic Plants*); Aquatic Plants (Macrophytes)
West River	Outlet Silver Lake, Grafton to Upton WWTP discharge, Upton (through Lake Wildwood formerly segment MA51181)	(Non-Native Aquatic Plants*); pH, Low

Source: Massachusetts Year 2014 Integrated List of Waters

The EOE and DEP last issued TMDL plans for phosphorus in Lake Quinsigamond and Flint Pond (2014) and for pathogens in the Blackstone River Watershed (2010). For Flint Pond where the sources of phosphorus are largely unknown, a previous study recommended the following strategies:

- Conduct a field study to identify non-point sources of phosphorus.
- Develop methodology to calculate phosphorus loadings from highways.
- Identify remediation measures.
- Fund remediation measures.
- Implement remediation measures.
- Develop Best Management Practices (BMPs) for erosion during construction, stormwater runoff, turf management, septic systems, use of fertilizers and the use of phosphorus cleaning agents for industries.
- Conduct follow-up water quality monitoring.

For the Blackstone River Watershed, a 2010 study recommended the following strategies:

- Develop comprehensive stormwater management plans for each community in the Blackstone River Basin.
- Have each community implement an illicit discharge detection and elimination program.
- Have each community fix leaking sewer pipes and sanitary sewer overflows through a combined sewer overflow management plan.
- Have the State work with stakeholders and local officials to identify remedial measures.
- Fund remediation measures.
- Implement remediation measures.
- Conduct follow-up water quality monitoring.

Hazardous Waste, Brownfield Sites, and Waste Management

The Massachusetts Department of Environmental Protection (DEP) has an inventory of chemical spills in Grafton. The inventory lists 130 spills at 92 locations in Grafton from September 1986 through August 2019. Most of the spills are associated with oil or hazardous materials. These sites (known as 21E sites (Massachusetts General Law (MGL) Chapter 21E), or “brownfields”) are in various stages of remediation. A complete list of Grafton’s 21E sites can be found in Appendix D. Under the heading labeled “compliance status”, the reader will notice that most of the Grafton sites have the acronym RAO attached to them. RAO stands for Response Action Outcome. This term applies to those hazardous waste spills where immediate actions were taken that were sufficient to contain the spill to the point of posing no significant risk to the public.

Grafton does not have any active landfill facilities or a recycling center. There are three inactive landfills, the Adams Landfill, the Grafton Dump, and the Milford Road Landfill, in Grafton. The Adams Landfill and the Grafton Dump are located along Millbury Street west of Route 122, while the Milford Road Landfill is sited in the southern end of Town near the border with Northbridge. There is one closed landfill, the Grafton Landfill, just north of the Adams Landfill and Grafton Dump sites. The Town uses a pay-as-you-throw solid waste management program, contracting with providers to obtain the best rate possible. Currently the Town is contracted with E.L. Harvey & Sons for waste removal and recycling. Recycling is accepted at DPW sites in Grafton as well.

Erosion, Sedimentation, and Chronic Flooding

Soil erosion and sedimentation are addressed through site plan review and subdivision approval process with the Planning Board and, for areas within its jurisdiction, by the Conservation Commission under the Wetland Protection Act and the Grafton Wetlands Protection Bylaw, as well as under the federally administered National Pollutant Discharge Elimination System (NPDES) permitting. Regulations for the Wetlands Protection Bylaw were revised and updated in 2004 and 2005, tightening controls on stormwater management and erosion and sedimentation control during construction. In 2007, The DPW, Engineering, Planning and Conservation Departments developed a draft Stormwater and Sedimentation Bylaw. The final version was adopted by a Town Meeting vote in 2013. The Conservation Commission administers the stormwater bylaw and adopted regulation.

Chronic Flooding: Specific locations at risk of flooding were identified through Grafton's recent Hazard Mitigation Plan and Municipal Vulnerability Preparedness (MVP) workshop. Many of the evacuation routes (especially Routes 122A and 122, which are flood-prone and connect South Grafton to most emergency services), older mill villages along the rivers (primarily the South Grafton villages along the Blackstone River), and many inadequate culverts and storm drains throughout town. Drainage trouble spots were noted at Follette Street, Stowe Road, Wesson Road and George Hill Road. In addition, two of Grafton's 12 dams are categorized as high hazard dams. The dam located at Fisherville Pond in South Grafton has been identified as being of particular concern. This dam plays a key role in maintaining appropriate water levels to protect the public water supply from historic industrial contaminants. The Grafton Wetlands Protection Bylaw of 1987 as amended, and Regulations for administration as amended in 2004 and 2005 supplements the Massachusetts Wetlands Protection Act (M.G.L. 131) at the municipal level. Both are administered and enforced by the Grafton Conservation Commission. These laws further control flooding by strictly limiting filling of wetlands, areas vital for flood storage, and by requiring 1:1 compensatory storage for all work within any 100-year flood elevation. The Town of Grafton's Board of Health has and still is discussing issues relating to lawn and garden maintenance and road runoff. Grass represents the largest irrigated crop in the United States. Therefore, working with residents to limit the amount of fertilizer and other nutrient loading operations has the potential to have a significant impact on water quality. The Board of Health has not implemented a bylaw requiring routine maintenance relative to septic systems nor do they anticipate taking that route for a number of reasons.

New Development

Land conservation and ecological integrity was identified as a major concern during Grafton's MVP process. Grafton has been a rapidly growing community for the past few decades, growing from 11,000 population in 1980 to around 18,000 today, with more than 2,100 acres of new development in former farms and forests since 1971. This growth presents challenges in protecting existing open space and critical habitats from continued development. Existing and new development risks further limiting these ecosystems and damaging existing conditions. However, Grafton is well positioned to develop sustainably given its recent LID work, MVP planning process, and other comprehensive planning processes. Faced with continued development Grafton will seek to address challenges associated with development and climate change through low-impact development methods, habitat restoration, planting of street trees, and comprehensive open space planning.

SECTION 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

Open space helps protect Grafton's water supply, manage flood waters, provide wildlife habitat, and offers opportunities for various recreational activities. Open space lands also help identify the Town as a rural community and provide a window into Grafton's agrarian past. As vacant land continues to be developed, the remaining open lands become even more important to preserving Grafton's scenic and natural landscapes. More than just an open field or an area of cleared land, "open space" in the context of open space and recreation planning includes conservation land, recreation and parkland, agricultural land, cemeteries, and any undeveloped land with conservation or recreation interests. Open space can serve a variety of purposes, including passive recreation, active recreation, wildlife habitat, and protection of wetlands or water resources. Lands or areas with scenic or historic value are also essential components of a community's public open spaces. Based on Mass GIS land use data, the most prominent land use in Grafton is forestland followed by residential.

Open space and recreation planning is critical to help preserve open space while allowing development to occur that is consistent with the unique character of the Town. Central to the development of this plan is protecting the Town's open space lands and resources while enhancing recreational opportunities and experiences for the community. This Section describes ownership, management agency, current use, condition, recreation potential, public access, and degree of protection for lands of conservation and recreation interest. This information is summarized and depicted graphically on **Map 7, Open Space Inventory** in Appendix A. This map and the information referenced in this section was compiled using data from the Commonwealth of Massachusetts' Office of Geographic Information (MassGIS), as well as from data reported to CMRPC by the Town of Grafton.

Permanent Protection or Protection in Perpetuity

These lands are legally protected in perpetuity and recorded as such in a deed or other official document. Land is considered protected in perpetuity if it is owned by the Town's conservation commission or, sometimes, by the water department; if a town has a conservation restriction on the property in perpetuity; if it is owned by one of the state's conservation agencies (thereby covered by article 97); if it is owned by a non-profit land trust; or if the Town received federal or state assistance for the purchase or improvement of the property. Private land is considered protected if it has a deed restriction in perpetuity, if an Agriculture Preservation Restriction has been placed on it, or a Conservation Restriction has been placed on it. Many permanently protected lands are protected by Article 97 of the State Constitution, which provides permanent protection for certain lands acquired for natural resources purposes. Parkland is protected under Article 97 as well. Removing the permanent protection status of such lands is extremely difficult, as is evidenced by the following steps:

- The municipal Conservation Commission or Parks and Recreation Committee must vote that the land in question is surplus to its needs.
- The removal of permanent protection status must be approved at a Town Meeting/City Council vote and pass by a two-thirds (2/3) vote.

- The municipality must file an Environmental Notification Form with the EOEEA’s Massachusetts Environmental Policy Act (MEPA).
- The removal of permanent protection status must be approved by both the State House of Representatives and the State Senate and pass by a two-thirds (2/3) vote.
- In the case of land either acquired or developed with grant assistance from the EOEEA’s Division of Conservation Services, the converted land must be replaced with land of equal monetary value and recreational or conservation utility.

As shown in Table 22 below, the majority of open space in Grafton is protected in perpetuity. The largest permanently protected open space parcel in Grafton is Hassanamesit Woods (188.18 acres).

Table 22 Open Space by Ownership

Owner Type	Size (GIS Acres)	% of Total
Land Trust	584.49	22.38%
Municipal	1,304.85	49.97%
Private	417.24	15.98%
Private Non-Profit	30.17	1.16%
Public	176.00	6.74%
State	98.51	3.77%
Grand Total	2,611.26	100.00%

Table 23 Open Space by Levels of Protection

Level of Protection	Size (GIS Acres)	% of Total
Limited	837.43	32.07%
None	17.74	0.68%
Perpetuity	1,739.93	66.63%
Unknown	16.16	0.62%
Grand Total	2,611.26	100.00%

5A. PRIVATE PARCELS

Privately-owned parcels described in this subsection include land with agricultural preservation restrictions or conservation restrictions, Chapter 61, 61A, and 61B land, and lands with no protections but of open space or conservation interest. For each parcel, the location, ownership, zoning, land use, land use description, size, grade or condition, management agency, recreation potential, public access, funding, and degree of protection are indicated. The condition of the privately owned properties is unknown except where the assessor has provided a grade or condition. The management agency is assumed to be the owner or their agent. The future recreational potential on the limited protection parcels is passive such as fishing, hunting, hiking, or natural resource appreciation. Private land is

considered protected if it has a deed restriction in perpetuity, or if an agricultural preservation restriction (APR) or conservation restriction (CR) has been placed on the property.

There are many private landowners in Grafton who support the protection of open spaces and the development of additional recreational facilities. The OSRP can be used as a vehicle to educate these philanthropists that there are options available to them. These include sales, donations, deeded development restrictions, cooperative agreements, and Chapter 61 Land restrictions. The Town Open Space Committee encourages landowners to contact the Committee to discuss placing a portion of their land into a permanently-deeded restricted use. This will likely provide a tax reduction, reduce future real estate taxes, provide an open space or recreational use for the town on the portion of the property, prohibit building development on the property, and can generally be worded as desired by the landowner for special considerations. This process is further described in **Section 9, Seven Year Action Plan**. As properties become available, the Committee will review these parcels and encourage suggestions from town boards and the public to consider specific properties for protection or for future fields or active recreation development.

Conservation Restriction

A Conservation Restriction (CR) is a permanent deed restriction recorded with the Registry of Deeds that binds all current and future owners of the property placed under a CR. The conservation restriction (or easement) is a restriction to particular specified uses or from development. The restriction runs with the land and is recorded in a deed instrument. Conservation Restrictions can be placed on a parcel of land for a specified number of years or in perpetuity. This restriction identifies the property's important ecological features and the public benefit derived from preserving the natural condition of the land. This tool aims to retain the property in its natural state or in agricultural, farming, or forest use; to permit public recreation; or to restrict development activities.

The property owner retains ownership of the land and may sell or pass on the preserved land with all restrictions in place. Any title search of a property will reveal the existence of a CR and all future owners will be bound by it. Conservation Restrictions, sometimes called development restrictions, must be granted voluntarily, however, the Conservation Commission and/or Planning Board can encourage this mechanism as a way of maintaining privately owned land in a natural state. When a landowner places a property under a CR, he or she has permanently protected that property and ensured that the CR last forever, legally known as "in perpetuity."

The restrictions placed on the property through the CR allow the landowner to determine how the property will be used into the future. The CR allows the property owner to retain title, pass the property on to heirs or even sell the property. A landowner can determine which part(s) of their property would be restricted in the future by the easement. It is quite possible or even common, to withhold some land (i.e. 1-2 building lots for children) from the easement, and yet protect the remainder of the property from development (this is an example of conservation-based development). The details of what rights are restricted and what are permitted, and where these restrictions will apply, are worked out between the landowner and the holder of the easement when drafting the CR.

In addition to knowing the property will remain protected against development, the owner can derive tax benefits from the CR. These can include reduction of federal income taxes (if the CR is donated), reduction of estate or inheritance taxes, and possible deduction in real estate taxes. In addition to receiving tax benefits, the owner is strongly encouraged to allow public access to the conservation restriction. As a result, conservation restrictions provide additional opportunities for passive recreation. However, knowledge of existing conservation restrictions and certain allowable uses may be limited. Therefore, it is suggested that Grafton work to promote and educate landowners on the benefits and potential allowable uses that may result from entering land into a conservation restriction.

Agricultural Preservation Restriction

The Agricultural Preservation Restriction (APR) program allows for farmland to be protected from future development. An APR is a specific type of Conservation Restriction that is administered by the Massachusetts Department of Agricultural Resource. The APR program pays farmers the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for a permanent deed restriction, which precludes any use of the property that will have a negative impact on its agricultural viability.

Established by the Legislature in 1977, this program is the cornerstone of the Commonwealth's farmland protection efforts. This voluntary program is intended to offer a non-development alternative to farmland owners of "prime" and "state important" agricultural land who are faced with a decision regarding future use and disposition of their farms. To this end, the program offers to pay farmland owners the difference between the "fair market value" and the "agricultural value" of their farms in exchange for a permanent deed restriction which precludes any use of the property that will have a negative impact on its agricultural viability. The main objective of the APR program is to protect productive farmland through the purchase of deed restrictions and revitalize the agricultural industry by making land more affordable to farmers and their operations more financially secure.

Natural and cultural resource management is critical to the protection, restoration, and promotion of the scenic landscapes and historical treasures of a community. Table 24 outlines lands in Grafton with Agricultural Preservation Restrictions and Conservation Restrictions in place.

Table 24 APRs and CRs in Grafton

Property	Size (GIS Acres)
Lands under APR	19.91
Nourse Farm	19.91
Lands under CR	586.79
Hassanamesit Woods	188.18
Potter Hill WCE	88.12
Pell Farm Conservation Area	84.67
Williams CR	72.42
Brigham Hill Wildlife Area	49.26
Webber Hills Preserve OS	25.28
Mazza Farms Conservation Area	22.58
Pell Farm CR	14.09
Merriam Road CR	13.03
Brigham Hill Community Farm CR	12.94
Screech Owl Acres CR	9.67
Pullard Road CR	3.75
English CR	2.81
Grand Total	606.70

Chapter Lands

Land in active and passive use is eligible for a reduced tax rate under Chapters 61, 61A, and 61B of the Massachusetts General Laws (M.G.L.), which are designations for lands that are used for forestry, agriculture, conservation or recreation, respectively. These lands include those legally protected for less than perpetuity (e.g. short term conservation restriction or Chapter 61 lands), or temporarily protected through an existing functional use. For example, some chapter lands may only be temporarily protected through their forestry use, while residential is their primary use. These lands could be developed for other uses at the end of their temporary protection or when their functional use is no longer necessary. These lands might be protected by a requirement of a majority municipal vote for any change in status. This designation also includes lands that are likely to remain open space for other reasons (e.g. cemeteries and municipal golf courses). The following describes the different Chapter Lands programs:

M.G.L. Chapter 61 is designed to keep forested land under productive forest management. Owners with more than 10 acres of forest are eligible for enrollment. They must submit a DCR-approved forest management plan and a management certificate to the Town assessor before a new tax classification can begin. The assessed value of land classified under Chapter 61 is reduced by 95%. Chapter 61 classifications run for ten-year periods.

M.G.L. Chapter 61A is most commonly applied to agricultural or horticultural land but can be used for the forested portions of a farm, provided a forest management plan is approved by DCR. To qualify for Chapter

61A, a farm owner must have five or more contiguous acres being used for agricultural or horticultural purposes. Property under Chapter 61A is assessed at rates that vary for different agricultural uses. Generally, classification will result in an 80% reduction in assessed value.

M.G.L. Chapter 61B is similar to 61A, but applies to lands designated for recreational use and containing at least five contiguous acres. The land must be retained in a natural state to preserve wildlife and natural resources, must be devoted primarily to recreational use, and must provide a public benefit. Recreational uses may include golfing, hiking, camping, nature study, shooting/target practice, hunting, and skiing. The assessed valuation of Chapter 61B land is reduced by approximately 75%.

Landowners who enroll their land in the program receive property tax reductions in exchange for a lien on their property. The terms of the lien require that enrolled land remain in an undeveloped state and be managed for forest production, agricultural production, or recreation. Furthermore, the lien provides the municipal government of the city/town in which the enrolled property is located a right of first refusal should the landowner put the land up for sale while it is enrolled in the program. The Town has the “right of first refusal” for purchase of the land within 120 days of notification by the property owners of the pending sale. Towns may assign their right of first refusal to a state agency or a nonprofit conservation organization, such as the Grafton Land Trust. Towns often have trouble taking advantage of the right of first refusal because of the rapid timeframe within which the Town must find the money and approve the purchase. Landowners who develop their land while enrolled in the program, or for a period of time after withdrawing from the program, may be required to pay penalties. These lands are considered to have limited or temporary protection because the owner can sell the property or choose to unenroll the property in the special taxation program and thus the open space public benefit goes away.

The Town’s Right-of-First Refusal on Chapter 61 properties is an important conservation and recreation opportunity. Often, Chapter 61 lands have been owned by families for generations and are important places in Grafton’s history and character. The Town has a policy and a well-defined process for working with a Chapter 61 landowner who decides to divest the property. The Right-of-First Refusal process in Grafton is handled by the Select Board who consult with other town boards per the policy.

5B. PUBLIC AND NON-PROFIT PARCELS

This section provides information on public and non-profit owned lands of open space or recreation significance and identifies the location, ownership, managing agency, land use description, level of protection, public access, and acreage. And in the case of town-owned conservation and recreation properties, information is provided regarding managing agency, condition and recreation potential. For many parcels the condition is unknown. A more thorough assessment of condition is suggested as an action step for inclusion in future plans.

The Town of Grafton owns the majority of publicly owned open space. There are 62 municipally owned properties totaling over 1,000 acres. Sample Town owned open space includes: Fisher Park, Hennessey Conservation Area, and Pell Farm Conservation Area. Municipal lands under active use (schools, town halls, highway department facilities, police/fire facilities, etc.) are not generally considered permanently

protected. A public disposition process however, theoretically insures some level of protection. They cannot be sold without due process. The Grafton Conservation Commission, Town Forest Committee, and the Grafton School department manage the majority of municipally owned open space in Town. Please note that town-owned conservation and recreation properties are protected under Article 97.

Table 25 Publicly Owned Land in Grafton

Owner Name	Size (GIS Acres)	% of Total
Department of Fish and Game	98.51	4.55%
Grafton Hassanamesit Open Space Association Trust	31.57	1.46%
Grafton Land Trust	542.94	25.09%
Grafton Water District	12.67	0.59%
Greater Worcester Land Trust	4.29	0.20%
New England Forestry Foundation	5.69	0.26%
South Grafton Water District	2.88	0.13%
Town of Grafton	1,409.33	65.13%
Town of Grafton School Department	55.97	2.59%
Grand Total	2,163.85	100.00%

As shown in Tables 25 and 26, the Grafton Land Trust owns more land than any other Land Trust in the Town of Grafton. Properties owned by the Grafton Land Trust are displayed in Table 27.

Table 26 Lands owned by Land Trusts in Grafton

Owner Name	Size (GIS Acres)	% of Total
Grafton Hassanamesit Open Space Association Trust (GHOSA)	31.57	5.40%
Grafton Land Trust	542.94	92.89%
Greater Worcester Land Trust	4.29	0.73%
New England Forestry Foundation	5.69	0.97%
Grand Total	584.49	100.00%

It is noted that while included in Table 26, GHOSA is effectively a homeowner’s association. The Grafton Land Trust (GLT) is a non-profit, member-supported organization that preserves, maintains, and advocates for open space in Grafton and promotes environmental education and stewardship. It was founded in 1958 and has over 300 individual and family members from Grafton and surrounding towns. The GLT is governed by its charter and a membership-elected, volunteer Board of Directors.

The GLT currently protects about 880 acres of open space land in Grafton, made up of 584 acres directly owned and 297 acres of private and Town-owned land by conservation restriction. When considering conservation priorities and new opportunities, the GLT follows established guidelines published on its website. The GLT works with the Town and national conservation organizations such as the Trust for Public Land on Grafton-area conservation projects which have included the Webber, Hassanamesit Woods, Hennessey, Pell Farm, and Great Meadow Gateway purchases. The GLT does not have an endowment, but has occasionally raised funds for some purchases and contributed to some purchases

made by the Town (i.e. Hassanamesit Woods, \$500,000; Pell Farm, \$50,000; and Great Meadow Gateway, \$10,000). Most of the GLT properties are gifts from private individuals and families or grants from developers.

The GLT builds and maintains a network of trails on its properties and adjacent Town open space properties. It encourages passive recreation use such as walking, hiking, mountain biking, horseback riding, nature study, and legal hunting by permit.

GLT properties include a rich variety of forest, upland meadow, and wetlands – home to wildlife such as deer, coyote, and fox. The GLT has recorded a wide variety of fauna, including bobcat, fisher, and otter, in their natural settings with trail cameras. Several properties have vernal pools and/or special designations. For example, the Great Meadow complex along the headwaters of Miscoe Brook is designated an Area of Critical Environmental Concern (ACEC).

An informal trail use and parking survey was conducted by the GLT in 2018. The most popular trails tended to have designated parking: Williams Preserve, Hassanamesit Woods, Gummere Wood/ Marsters Preserve, and Potter Hill Meadows. Similarly, low visit counts for several “gem” properties with good parking identify a need for more publicity: the Hennessey property behind 46 Adams Rd, the Webber Conservation Area behind North Grafton Elementary School, Williams Woods on Brigham Hill Rd, the Mazza Farms trail to Fletcher Island, the Brigham Hill Wildlife Area’s parking area on Meadow Lane, and Pell Farm on Soap Hill Rd.

Parcels protected by GLT are dispersed across town. Several of the parcels or groups of adjacent parcels are larger than 24 acres. The largest parcel groups are 87, 109, and 260 acres. Many of the parcels abut Town-owned open space land, creating even larger protected spaces. All of the parcels are open to the public during daylight hours for all types of passive recreation. Most of the parcels are identified with a large identifying sign near a road, and trailheads and boundaries are marked with smaller signs.

Some of the areas are easily accessed and enjoyed like the Gummere Woods/ Marsters Preserve and the P&S Williams CR. Other areas are quite remote and wild, such as the Lambert Property and the Rita Martin Preserve. There are trail maps for most of these parcels available for home printing at www.graftonland.org. Access points and parking areas are noted on the maps. The trails on these and other Town open space parcels are increasingly available on smartphone trail apps that use the Open Street Maps database.

Many Town-owned, GLT-owned, and Chapter 61/61B open space properties are adjacent to open space properties owned by private individuals, and the trail networks sometimes cross over those private properties. These private owners are protected from any liability to the public by Massachusetts, General Law c. 21 sec. 17C, more commonly known as the "Recreational Use Statute". This law affords any owner who allows the public to use their land for recreation at no charge, relief from liability so long as the owner has not been willful, wanton or reckless. The statute provides that, so long as an owner does not do something that was so dangerous, and so obviously probable to cause serious bodily injury or death, they are shielded from liability to recreational users.

Table 27 Lands Owned by Grafton Land Trust

Properties	Size (GIS Acres)	% of Total
Brigham Hill Estates Conservation Area	94.75	17.45%
Potter Hill WCE	88.12	16.23%
Brigham Hill Wildlife Area	49.26	9.07%
Marsters Preserve	48.31	8.90%
Gummere Wood	42.26	7.78%
Parker Preserve	40.57	7.47%
Brookmeadow Village Preserve	38.16	7.03%
Williams Woods	26.60	4.90%
Forbush Sanctuary	24.90	4.59%
Lambert Conservation Area	24.49	4.51%
Anderson-Crosier Wood and Prescott Wildlife Sanctuary	18.61	3.43%
Platt Preserve	16.25	2.99%
Salisbury Preserve	14.52	2.67%
Fletcher Reservation	4.90	0.90%
Meadowbrook Road Conservation Area	4.06	0.75%
Merriam Road Conservation Area	3.73	0.69%
Miner Properties	1.98	0.37%
Gabelein Wood	1.01	0.19%
Gummere Wood - Parking Lot	0.47	0.09%
Grand Total	542.94	100.00%

A complete list of all open space parcels is included in Table 29 at the end of this section. The table includes Town-owned conservation and recreation properties with the following headers:

- Location
- Ownership
- Size
- Management Agency
- Current Use
- Condition
- Recreation Potential
- Type of grant (if any) used to purchase or renovate the property
- Public Access
- Zoning
- Degree of Protection

5C. PARKS AND RECREATIONAL FACILITIES AND USAGE

The Grafton Recreation Commission (“the Commission”) is made up of five (5) members along with two staff. This five-member Commission is appointed by the Select Board to three-year terms. The Commission works to serve the needs of every individual in Grafton by offering diverse and quality programs and services and continually monitoring the changing needs and desires of our growing town.

Overview

Grafton contains a rich diversity of cultural landscapes and destinations. These landscapes are evidenced through and can be enjoyed via extensive hiking trails throughout Town, boating opportunities, and historical sites such as the Willard Clock Museum. These landscapes reflect the strong history and character of Grafton and create a sense of community that resonates with many residents. In order to continue preserving these qualities, the Town should promote increased use of these sites for recreational purposes. The terms recreational open space or recreation refers to land used for active recreational purposes such as athletic fields. Land used for active recreation does not qualify technically as open space due to the fact that these parcels are often covered with paved surfaces such as that for tennis courts, basketball courts and parking lots. Active recreation includes those sports and activities that require the construction of specific recreation facilities such as soccer, baseball, basketball, tennis, hockey, and swimming (in a pool).



Figure 14 Playing Fields in Grafton

There are designated playgrounds throughout the Town of Grafton. These locations include: Airport Park, Fisher Park, Nelson Park, Norcross Park, Perry Hill Park, and Riverview Park. While these playgrounds are located throughout Town, they tend to be clustered west of Lake Ripple. Playground facilities offer a variety of play structures and swings. There are bike racks available at Airport Park and Perry Hill Park, increasing accessibility.

Sports fields and courts are located throughout Town as well, providing additional active recreation opportunities. Sports facilities are located at Airport Park, Brookmeadow Park, Ferry Street/Fisher Park, Grafton High School, Grafton Lions Club, Grafton Middle School, Millbury Street Elementary School, North Street Elementary School, North Grafton Elementary School, South Grafton Elementary School, Miner Field/Norcross Park, Nelson Park, and Riverview Park. The Recreation Department offers organized leagues for youth basketball and flag football. Non-profit groups in Town organize youth football and cheer, youth softball, lacrosse, men’s softball, women’s softball, youth baseball, youth soccer, men’s soccer and cricket.

Passive recreation encompasses those activities that can be done in a natural setting with little or no facility development. These activities include hiking, biking, boating, swimming in a lake or pond, walking, and bird watching. For example, the Town has an extensive trail network that provides for a variety of walking and hiking opportunities. As will be discussed below in [Section 7](#), preserving spaces for passive recreation is very important to Grafton Residents.



Figure 15 Silver lake

There are numerous accessible fishing and boating opportunities located throughout

Town. Snow Marsh is accessible from Ekblaw Landing offers an opportunity for those seeking calm canoeing and kayaking. Ekblaw Landing is a convenient boat launch for Quinsigamond River and Lake Ripple. It is located off 140/122 in Grafton. It had originally been a fruit stand, but deteriorated over time. After significant effort on the part of the Town, the landing was developed and then dedicated in 2006. Lake Ripple can also be accessed by boat from the Lake Ripple Conservation area located behind the Municipal Center. Located below the Lake Ripple Dam, Southern Reach offers an opportunity to experience a portion of the Quinsigamond River. The Riverview Park, located off of Providence Road, provides another put-in spot for boats. Boating access is also available at Fisherville Pond, along the Blackstone River south of the Main Street Bridge, and at Silver Lake. Silver Lake is operated by the Town Recreation Department, is open to residents and non-residents from late June to August. Silver Lake offers a variety of amenities including a lifeguarded beach, swimming lessons, kayak rentals, concession stand, grills, and fishing.

Limitations of Existing Facilities and Equity

While these facilities do provide access for adult and youth organized active recreation opportunities, their availability is often significantly limited. Many of the facilities listed above are located at Grafton Schools. For this reason, field space is often not available due to school programming that may take place during or after normal school hours. Grafton has identified access to gymnasiums as a specific issue as well. Gym space availability is limited significantly by school hours, making the space inaccessible during the day. The gym located at the Senior Center has similar constraints and is not available for use during the day. In order to meet current demand for use, additional gym space is needed by the Town. Increased availability during day-time hours would give the Recreation Department the ability to grow and expand its offerings to include daytime programming for adults and tots. Current demand for this type of programming is not being met. Increased gym space made available during night-time hours would significantly increase public year-round access as well as winter basketball leagues. Similarly, while the Grafton Lions Club does have available space, its access is limited and permission for groups and non-profit organizations to use the available facilities must be requested through the Lions Club.

In addition to increased gym space, the Town should look to developing a recreational facility that includes necessary classroom and programming space, a community meeting room, storage space, and room to

provide youth and teen services. Most programming is currently located at schools, which as noted, significantly limits availability. A dedicated recreation facility that includes adequate space for these uses would ensure that use is not restricted or in some cases eliminated by school-sponsored events. For this reason, the Town and Recreation Commission has identified that current and future needs demand two multipurpose fields, a replacement for the lost SuperPark, a gymnasium, and an athletic field open to the public and free of use by organized town leagues. Adding these facilities would reduce competition in securing field/gym space and ensure fair and adequate access for use. Many of the current fields lack irrigation, or have irrigation/water use and/or conservation restrictions which limits the care that these fields need to maintain their heavy use. And an additional three athletics fields are needed to handle the demand of use as well as give other fields an opportunity to rest or even been taken offline due to their conditions and restricted care they can be given. The Recreation Commission is currently not able to meet the demands of the town, or grow its programming levels, or service all the needs of the town including those of pre-school, adult and teen ages.

A long-term goal includes a large community park, a destination park, that would include a pavilion, walking paths, restrooms, open green space, picnic areas, open unstructured areas, a bike path, casual play areas such as volleyball, bocce, multi-purpose fields, and a playground and appropriate parking, following the model of a Dean Park in Shrewsbury and McAfee-Ellsworth in Northborough. A Recreation Facilities Master Plan was conducted in 2003 and a Recreation Fields Master Plan was conducted in 2005, both of which need to be updated.

It is also proposed that the Town look to acquire land as it comes out of the Chapter Lands Programs to be used for recreation purposes. Should the Town consider building additional playground facilities it might look to site these projects in the eastern portion of Town which currently does not have playground facilities. Adding playgrounds in this part of Town would increase accessibility to those living nearby and better serve families with young children in that area. As shown in **Map 2, Environmental Justice Map**, there is one environmental justice population located in the southern section of Grafton. Future efforts to expand active and passive recreation facilities should be made with this population in mind.

Table 28 Recreation Facilities in Grafton

Facility Name	Playground Features	Park and Field Features	Indoor Facilities Features
Airport Park	2 belts swings, 1 toddler swing, 1 handicapped swing, age 5-12 structure with 4 slides, single slide, climbing structures, 2 benches, picnic table	Basketball court, 2 baseball/softball fields, soccer field, bike rack	None
Brookmeadow	None	Baseball field, soccer field	None
Fisher/Ferry Street Park	2 belt swings, 2 toddler swings, age 2-5 structure with slide, age 5-12 structure with 3 slides, shade canopy with picnic table	Basketball court, tennis/pickleball court, 3 baseball/softball fields, small soccer field	None
Nelson Park	4 belt swings, 4 toddler swings, age 5-12 structure with slide, fire truck climbing structure, benches	3 softball fields, basketball court	None

Facility Name	Playground Features	Park and Field Features	Indoor Facilities Features
Norcross/ Miner Park	3 belt swings, 2 toddler swings, 1 handicapped swing, (2) age 5-12 structures with 3 slides, picnic tables	Baseball field, basketball court, open grass area, benches	None
Perry Hill Park	2 belt swings, 2 toddler swings, age 2-12 structure with 4 slides, multiple single structures, bike rack, benches, picnic table	None	None
Riverview Park	age 2-5 structure with 3 slides, age 5-12 structure with 2 slides and climbing wall, bench, picnic table	Soccer field, canoe launch	None
Grafton Common	None	Gazebo, benches	None
Grafton High School	None	2 turf fields, softball field, baseball field, 4 tennis courts, 2 basketball courts	Gymnasium, Basketball Court
Grafton Lions Club	None	Soccer field, pavilion, fishing, trails	None
Grafton Middle School	None	Basketball Court	Gymnasium, Basketball Court
Grafton Municipal Center	None	None	Gymnasium
Millbury Street Elementary	7 belt swings, 1 handicap swing, age 5-12 structure with 3 slides, age 5-12 structure with 2 slides	Soccer field, baseball field	Gymnasium
Mill Villages Park	None	Pavilion, benches, open grass area	
North Grafton Elementary	16 belt swings, 1 toddler swing, age 5-12 structure with slide and climbing structure, age 5-12 structure with slide and climbing features, 2 stand-alone slides	Baseball, small soccer, small baseball, sandbox, basketball court	Gymnasium
North Street Elementary	11 belt swings, 3 handicap swings, age 2-12 structure with 2 slides, multiple single structure	Fields: soccer, baseball, 1/2 basketball court	Gymnasium
Silver Lake Beach	None	Pavilion, picnic tables, grills, swimming, restrooms, kayaking/canoeing	None
South Grafton Elementary	12 belt swings, 4 toddler swings, 2 handicap swings, (2) age 5-12 structure with 3 slides	2 baseball, 1 small soccer, full soccer	Gymnasium

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Gabelein Wood	Grafton Forest & Land Conservation Trust	1.01	Town of Grafton Con Com	Conservation	Unknown	Perpetuity	Woods	Bird Watching, Hiking, Canoe/Kayak Launch	Limited accessibility, largely trail oriented.	R40	NA	No
Williams Woods	Grafton Land Trust	26.60	Grafton Land Trust	Conservation	Unknown	Perpetuity	Good	Hiking, Bird Watching, Horseback Riding, Biking, Hunting with Permission	Uncertain not Town Managed	A/R40	NA	No
Marsters Preserve	Grafton Land Trust	37.80	Grafton Land Trust	Conservation	Unknown	Perpetuity	Good	Hiking, Picnic, Canoe/Kayak Launch	Uncertain not Town Managed	R40/WSPO	NA	No
Miner Properties	Grafton Land Trust	1.98	Grafton Land Trust	Conservation	Unknown	Perpetuity	Wooded, SF House	Hiking	Uncertain not Town Managed	R20	NA	No
Anderson-Crosier Wood & Prescott Wildlife Sanctuary	Grafton Land Trust	17.79	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods, Streams	Hiking, Bird Watching, Biking, Horseback Riding, Hunting with Permission	Uncertain not Town Managed	R40/A	NA	No
Anderson-Crosier Wood & Prescott Wildlife Sanctuary	Grafton Land Trust	0.83	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods	Hiking, Bird Watching, Biking, Horseback Riding, Hunting with Permission	Uncertain not Town Managed	R40	NA	No
Platt Preserve	Grafton Land Trust	7.37	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods, Streams	Hiking, Biking, Horseback Riding, Bird Watching, Hunting with Permission	Uncertain not Town Managed	OLI	NA	No
Platt Preserve	Grafton Land Trust	8.89	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Biking, Horseback Riding, Bird Watching, Hunting with Permission	Uncertain not Town Managed	OLI	NA	No
Forbush Sanctuary	Grafton Land Trust	0.30	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Forbush Sanctuary	Grafton Land Trust	7.55	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Lambert Conservation Area	Grafton Land Trust	24.49	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	OLI/WSPO	NA	No
Forbush Sanctuary	Grafton Land Trust	6.91	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Forbush Sanctuary	Grafton Land Trust	10.14	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Gummere Wood	Grafton Land Trust	0.47	Grafton Land Trust	Conservation	Unknown	Perpetuity	Woods, Parking	Hiking, Bird Watching		R40	NA	
Brigham Hill Wildlife Area	Grafton Land Trust	49.26	Town of Grafton	Conservation	Full Public Access	Perpetuity	Wooded	Hiking, Bird Watching	Uncertain not Town Managed	R40	CR	Muni CR; Art 97
Gummere Wood	Grafton Land Trust	42.26	Grafton Land Trust	Conservation	Unknown	Perpetuity	Wooded	Bird Watching, Hiking, Canoe/Kayak Launch				
Salisbury Preserve	Grafton Land Trust	14.52	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Parker Preserve	Grafton Land Trust	40.57	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Fletcher Reservation	Grafton Land Trust	3.34	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Wet	Hiking, Bird Watching, Kayak/Canoe Launch	Uncertain not Town Managed	A	NA	No
Fletcher Reservation	Grafton Land Trust	1.56	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching, Kayak/Canoe Launch	Uncertain not Town Managed	A	NA	No
Potter Hill WCE	Grafton Land Trust	33.73	MA Dept of Fish & Game	Conservation	Full Public Access	Perpetuity	Open Fields	Hiking, Biking, Horseback Riding, Bird Watching, Hunting	Uncertain not Town Managed	R40	DFW	CR; Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Potter Hill WCE	Grafton Land Trust	54.38	MA Dept of Fish & Game	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Biking, Horseback Riding, Bird Watching, Hunting	Uncertain not Town Managed	R40	DFW	CR; Art 97
Brookmeadow Village Preserve	Grafton Land Trust	38.16	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Brigham Hill Estates Cons. Area	Grafton Land Trust	1.72	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	A	NA	No
Brigham Hill Estates Cons. Area	Grafton Land Trust	93.03	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods, Wet	Hiking, Bird Watching	Uncertain not Town Managed	A, R40, RMF	NA	No
Merriam Road Cons. Area	Grafton Land Trust	3.06	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Meadowbrook Road Cons. Area	Grafton Land Trust	4.06	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods, Wet	Hiking, Bird Watching	Uncertain not Town Managed	A	NA	No
Merriam Road Cons. Area	Grafton Land Trust	0.67	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Old North Street Orchard	Greater Worcester Land Trust	4.29	Greater Worcester Land Trust	Conservation	Full Public Access	Perpetuity	Woods, Field	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Anderson-Crosier Wood & Prescott Wildlife Sanctuary	New England Forestry Foundation	5.69	Grafton Land Trust	Conservation	Unknown	Perpetuity	Good	Hiking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Fisherville Water Supply Land	Grafton Water District	2.06	Grafton Water District	Water Supply	Unknown	Perpetuity	Well	Water Access	Uncertain not Town Managed	R20/WSPO	State	Art 97
Brigham Road Water Department Land	Grafton Water District	0.35	Grafton Water District	Water Supply	Unknown	Perpetuity	Open	Uncertain	Uncertain not Town Managed	A	NA	Art 97
Ferry Street Well Project	South Grafton Water District	2.88	South Grafton Water District	Water Supply	Unknown	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	VMUWSPO	DWSP	Art 97
Webber/Greene CR	Town of Grafton	25.28	Grafton Land Trust	Conservation	Limited Public Access	Perpetuity	Good	Hiking, Bird Watching	No	R20	NA	CR

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Pine Grove Cemetery	Town of Grafton	9.44	Town of Grafton Cemetery Dept	Historical/Cultural	Full Public Access	Limited	Good	Walking	Yes Generally Accessible	R20	NA	No
Grafton Water District	Town of Grafton	1.01	Grafton Water District	Water Supply	Full Public Access	Perpetuity	Building, Parking	None	Uncertain not Town Managed	R40/WSPO	NA	Art 97
Grafton High School Athletic Fields	Town of Grafton	21.28	Town of Grafton School Dept	Recreation	Full Public Access	Limited	Sports Fields	Soccer, Lacrosse, Field Hokey, Football, Shot Put & Ball Fields, Tennis & Pickle Ball Courts	Yes	R40	NA	No
Gatehouse Dam / Rita Martin Co	Town of Grafton	0.11	Town of Grafton Con Com	Recreation	Full Public Access	Perpetuity	Woods	Kayak, Canoe Launch	Limited accessibility.	R40	NA	Art 97
Pell Farm Cons. Area	Town of Grafton	2.22	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	62.92	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	1.83	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	4.08	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	8.58	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Pell Farm Cons. Area	Town of Grafton	25.37	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	1.83	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	1.86	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	18.00	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Pell Farm Cons. Area	Town of Grafton	1.84	Town of Grafton ConCom	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	LAND CR	Land Trust CR; Art 97
Water District Land	Town of Grafton	4.28	Grafton Water District	Water Supply	Unknown	Perpetuity	Water Tank, Woods	Bird Watching	Uncertain not Town Managed	R40	NA	Art 97
Water District Land	Town of Grafton	0.23	Grafton Water District	Water Supply	Unknown	Perpetuity	Water Stand Pipe	Bird Watching, Parking	Uncertain not Town Managed	R40	NA	Art 97
Maplevale Estates Cons. Area	Town of Grafton	18.36	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Streams	Hiking, Bird Watching	Limited; wooded; no trails.	R20	NA	Art 97
Maplevale Estates Cons. Area	Town of Grafton	6.69	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited; wooded; no trails.	R20	NA	Art 97
Maplevale Estates Cons. Area	Town of Grafton	5.08	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited; wooded; no trails.	R20	NA	Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Maplevale Estates Cons. Area	Town of Grafton	3.37	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited; wooded; no trails.	R20	NA	Art 97
Maplevale Estates Cons. Area	Town of Grafton	0.83	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited; wooded; no trails.	R20	NA	Art 97
Axtell Forest	Town of Grafton	17.32	Town of Grafton Town Forest Comte	Conservation	No Public Access	Perpetuity	Woods	Hiking, Bird Watching	No public access	I	NA	Unknown
Nelson Park	Town of Grafton	5.16	Nelson Park & Library Trustees	Recreation and Conservation	Unknown	Perpetuity	Good	Walking, Bird Watching, Picnic	Yes, with some limitations.	R40/ WSPO	NA	Unknown
Nelson Park	Town of Grafton	9.82	Nelson Park & Library Trustees	Recreation and Conservation	Unknown	Perpetuity	Sport Fields, Library	Ball Fields, Tennis Courts, Library	Yes, with some limitations.	R20/ WSPO	NA	Unknown
Nelson Park	Town of Grafton	20.75	Nelson Park & Library Trustees	Recreation and Conservation	Unknown	Perpetuity	Woods, Wet	Hiking, Bird Watching	Yes, with some limitations.	I/WSPO	NA	Unknown
North Grafton School	Town of Grafton	21.01	Town of Grafton School Dept	Recreation	Full Public Access	Limited	Building, Parking, Woods	Hiking, Bird Watching, Sport Fields	Yes	R20/ WSPO	NA	Unknown
Pine Grove Cemetery	Town of Grafton	0.40	Town of Grafton Cemetery Dept	Historical/Cultural	Full Public Access	Limited	Roadway	Canoe/Kayak Launch	Yes Generally Accessible	R20/WSPO	NA	No
Nelson Park	Town of Grafton	17.68	Town of Grafton Rec Com	Recreation and Conservation	Full Public Access	Perpetuity	Woods, Part Wet	Hiking, Bird Watching, Water Access	Yes, with some limitations.	R40	NA	Unknown
Flint Pond Conservation Area	Town of Grafton	1.24	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Wet	Bird Watching	Limited accessibility, largely trail oriented.	R40	NA	Art 97
Old Perry Hill School	Town of Grafton	0.77	Town of Grafton Rec Com	Recreation	Full Public Access	Limited	Vacant	Picnic, Cultural	Limited accessibility.	R40	NA	Unknown

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Whitney Park	Town of Grafton	0.78	Town of Grafton Rec Com	Historical/Cultural	Full Public Access	Perpetuity	Open	Picnic, Cultural	Yes	I/WSPO	NA	Art 97
Water District Land	Town of Grafton	2.65	Grafton Water District	Water Supply	Unknown	Perpetuity	Woods, Wet	Negligible	Uncertain not Town Managed	R20/WSPO	NA	Art 97
Off Snow Road	Town of Grafton	0.43	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R20/WSPO	NA	Art 97
Institute Road Forest	Town of Grafton	24.30	Town of Grafton Town Forest Comte	Conservation	No Public Access	Perpetuity	Woods	Negligible	No Public Access	R20	NA	Unknown
Hennessey Cons. Area	Town of Grafton	103.20	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Wet, Field	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	LWCF	Art 97
Merriam Road Cons. Area	Town of Grafton	52.62	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	SH	Art 97
Grafton Middle School	Town of Grafton	10.12	Town of Grafton School Dept	Recreation	Full Public Access	Limited	Building, Parking	Soccer, Ball Fields	Yes	R40	NA	No
Neighborhood Park	Town of Grafton	2.61	Town of Grafton	Recreation and Conservation	Full Public Access	Limited	Woods	Hiking	Limited accessibility, largely trail oriented.	R20	NA	Unknown
Suzanne Road Land	Town of Grafton	0.50	Town of Grafton	Conservation	Full Public Access	Limited	Poor	Affordable Housing	Limited accessibility, largely trail oriented.	R20/WSPO	NA	Unknown
Doris Drive Land	Town of Grafton	10.02	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Wet	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R20/WSPO	NA	Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Airport Park	Town of Grafton	28.93	Town of Grafton Rec Com	Recreation	Full Public Access	Perpetuity	Wooded, Ball Field	Baseball, Hiking, Bird Watching	Yes, with some limitations.	R20	SH	Art 97
Airport Park	Town of Grafton	5.99	Town of Grafton Rec Com	Recreation	Full Public Access	Perpetuity	Good	Baseball	Yes, with some limitations.	R20	SH; Article 97	Art 97
Suzanne Road Land	Town of Grafton	0.43	Town of Grafton	Conservation	Full Public Access	Limited	Poor	Affordable Housing	Limited accessibility, largely trail oriented.	R20/WSPO	NA	Unknown
Brigham Hill	Town of Grafton	10.70	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Wooded	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	RMF	NA	Art 97
Lions Club Of Grafton	Lions Club of Grafton	13.16	Lions Club of Grafton	Recreation	Full Public Access	Limited	Woods, Fields	Soccer field, pavilion, fishing, trails	Uncertain not Town Managed	R40	NA	
Norcross Annex	Town of Grafton	2.33	Town of Grafton Rec Com	Recreation	Full Public Access	Limited	Good, Open	Park	Yes	R20	NA	Unknown
Norcross Park	Town of Grafton	4.57	Town of Grafton Rec Com	Recreation	Full Public Access	Perpetuity	Ball Fields	Baseball/Softball Field, Hiking	Yes, with some limitations.	R40	NA	Art 97
Grafton Town Forest	Town of Grafton	21.64	Town of Grafton Town Forest Comte	Conservation	Full Public Access	Perpetuity	Woods, Part Wet	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	NA	Art 97
Grafton Town Common	Town of Grafton	0.92	Town of Grafton Hist Com	Historical/Cultural	Full Public Access	Perpetuity	Good	Park	Yes, with some limitations.	NB	NA	Art 97
Cider Millpond Cons. Area	Town of Grafton	6.86	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Water, Upland	Hiking, Bird Watching, Fishing	Limited accessibility, largely trail oriented.	A	SH	Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Grafton Water District	Town of Grafton	2.85	Grafton Water District	Water Supply	Full Public Access	Perpetuity	Building, Parking	Uncertain	Uncertain not Town Managed	R40	NA	Art 97
Riverside Cemetery	Town of Grafton	12.79	Town of Grafton Cemetery Dept	Historical/Cultural	Full Public Access	Limited	Open, Cemetery	Walking, Bird Watching	Yes Generally Accessible	R40	NA	No
Riverside Cemetery Expansion	Town of Grafton	20.93	Town of Grafton Cemetery Dept	Historical/Cultural	Full Public Access	Limited	Woods	Hiking, Bird Watching	Yes Generally Accessible	R40	NA	No
Fitzpatrick Road Parcel	Town of Grafton	7.44	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Wet	Bird Watching	Limited accessibility, largely trail oriented.	R40/WSPO	NA	Art 97
Conservation Area	Town of Grafton	2.43	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Wet	Bird Watching	Limited accessibility, largely trail oriented.	R40/WSPO	NA	Art 97
House Rock Cons. Area	Town of Grafton	3.47	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	NA	Art 97
Riverglen Estates Cons. Area	Town of Grafton	9.65	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Field, Wet	Hiking, Kayak/Canoe Launch	Limited accessibility, largely trail oriented.	R20	NA	Art 97
Quinsigamond River Access	Town of Grafton	2.57	Town of Grafton Rec Com	Recreation and Conservation	Full Public Access	Unknown	Woods, Wet	Water Access, Bird Watching	Limited accessibility, largely wooded, no trails.	R20	NA	Unknown
Power Line Road Play Area	Town of Grafton	3.76	Town of Grafton Rec Com	Recreation	Full Public Access	Unknown	Woods, Wet	Water Access, Park, Hiking, Bird Watching	Limited accessibility, largely wooded, no trails.	R20	NA	Unknown
Fisherville Pond Access	Town of Grafton	0.55	Town of Grafton Rec Com	Recreation	Full Public Access	Unknown	Woods	Water Access, Bird Watching	Limited accessibility,	R20	NA	Unknown

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
									largely wooded, no trails.			
Riverview Park	Town of Grafton	6.41	Town of Grafton Rec Com	Recreation	Full Public Access	Perpetuity	Soccer Fields	Water Access, Bird Watching, Playing Fields	Yes, with some limitations.	RMF	NA	Art 97
South Grafton School Fields	Town of Grafton	4.43	Town of Grafton School Dept	Recreation	Full Public Access	Limited	Baseball & Softball Fields	Ball Fields	Yes	R20	NA	No
Fisher Park	Town of Grafton	12.67	Town of Grafton Rec Com	Recreation	Full Public Access	Perpetuity	Sport Fields	Hiking, Ball Fields, Tennis Courts	Yes, with some limitations.	R20/VMU/W SPO	NA	Unknown
Fairview Cemetery	Town of Grafton	18.81	Town of Grafton Cemetery Dept	Historical/Cultural	Full Public Access	Limited	Cemetery	Walking, Bird Watching	Yes Generally Accessible	R20/WSPO	NA	No
Keith Hill Forest	Town of Grafton	20.01	Town of Grafton Town Forest Comte	Conservation	Full Public Access	Limited	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40/OLI	NA	Unknown
Hassanamesit Woods	Town of Grafton	176.66	Town of Grafton Con Com & Hist Com	Recreation, Conservation, Historical	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching, Hunting	Yes Generally Accessible; Assessment needed	R40/OLI	LWCF	CR/HPR; Art 97 (MA His Com)
Miscoe Brook Cons. Area	Town of Grafton	6.10	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Wet	Bird Watching	Limited accessibility, largely trail oriented.	A	NA	Art 97
Silver Lake and Beach	Town of Grafton	19.30	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Wet	Hiking, Bird Watching, Kayak/Canoe Launch	Yes, with some limitations.	A	SH	Art 97
Miscoe Brook Cons. Area	Town of Grafton	24.43	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Good	Hiking, Bird Watching, Kayak/Canoe Launch	Limited accessibility, largely trail oriented.	A	NA	Art 97

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Hassanamesit Woods	Town of Grafton	11.52	Town of Grafton Con Com & Hist Com	Recreation, Conservation, Historical	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Yes. Generally Accessible.	R40	LWCF	CR/HPR; Art 97 (MA His Com)
Mazza Farms Cons. Area	Town of Grafton	22.58	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Streams	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	CR	Land Trust CR; Art 97
Hubbard Field Cons. Area	Town of Grafton	8.75	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Conservation	Wet	Limited accessibility, largely trail oriented.	OLI	NA	Art 97
North Grafton Estates Cons. Area	Town of Grafton	22.00	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	NA	Art 97
Brookmeadow Village Cons. Area	Town of Grafton	3.22	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods, Wet	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40	NA	Art 97
Brookmeadow Village Cons. Area	Town of Grafton	25.69	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	R40/OLI	NA	Art 97
Brookmeadow Village Cons. Area	Town of Grafton	3.10	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking	Limited accessibility, largely trail oriented.	R40/OLI	NA	Art 97
Brookmeadow Village Cons. Area	Town of Grafton	8.75	Town of Grafton Con Com	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Limited accessibility, largely trail oriented.	A	NA	Art 97
Old Oak Street Burial Ground	Town of Grafton	4.06	Town of Grafton Hist Com	Historical/Cultural	Full Public Access	Perpetuity	Cemetery	Walking	Yes Generally Accessible	R20	NA	No

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
North Grafton Fish Game & Bird Club	North Grafton Fish Game & Bird Club	17.74	North Grafton Fish Game & Bird Club	Recreation	Limited Public Access	None	Good	Hiking, Bird Watching, Hunting	Uncertain not Town Managed	A	NA	No
Williams CR	Private Owner	16.70	Grafton Land Trust	Recreation and Conservation	Limited Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	A/R40	NA	CR
Brigham Hill Community Farm CR	Private Owner	9.16	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Good	Agriculture	Uncertain not Town Managed	R40	NA	CR
Brigham Hill Community Farm CR	Private Owner	3.77	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Good	Agriculture	Uncertain not Town Managed	R40	NA	CR
Williams CR	Private Owner	54.10	Grafton Land Trust	Recreation and Conservation	Limited Public Access	Perpetuity	Wooded	Hiking, Bird Watching	Uncertain not Town Managed	A, R40	NA	CR
Pell Farm CR	Private Owner	14.09	Town of Grafton ConCom	Conservation	Limited Public Access	Perpetuity	Good	Open Field, Pine Tree Farm	Limited accessibility, largely trail oriented.	A	LAND	Muni CR; Art 97
Screech Owl Acres CR	Private Owner	9.67	Town of Grafton Con Com	Conservation	Limited Public Access	Perpetuity	Good, Wet	Bird Watching, Hiking	Uncertain not Town Managed	R40	CR	CR; Art 97
Nourse Farm	Private Owner	19.07	Private Owner with MDAR	Agriculture	No Public Access	Perpetuity	Woods	Hiking, Bird Watching, Agricultural Education	Uncertain not Town Managed	R40	MDAR	APR; Art 97 (Westboro Con Com)
Nourse Farm	Private Owner	0.84	Private Owner with MDAR	Agriculture	No Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	MDAR	APR; Art 97 (Westboro Con Com)
English CR	Private Owner	2.81	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	CR	Land Trust CR
Williams CR	Private Owner	1.62	Grafton Land Trust	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	R40	CR	Land Trust CR
Conservation Area	Private Owner	13.03	Grafton Land Trust	Recreation and Conservation	Full Public Access	Perpetuity	Woods	Hiking	Uncertain not Town Managed	R40	CR	Land Trust CR

Table 29 – Inventory of Open Space

Site Name	Fee Owner	Size (Acres)	Managing Agency	Primary Purpose / Current Use	Public Access	Level of Protection	Condition	Rec Potential	Accessibility	Zoning	Grant Program	Deed Restrictions
Quinsigamond River CR	Private Owner	3.75	Town of Grafton Con Com	Conservation	Limited Public Access	Perpetuity	Woods	Water Access, Bird Watching	Uncertain not Town Managed	RMF	NA	Muni CR; Art 97
St Philips Cemetery	Roman Catholic Bishop of Worcester	30.17	St. Philips Parish	Historical/Cultural	Full Public Access	Limited	Wet, Open, Cemetery	Walking, Bird Watching	Uncertain not Town Managed	R40	NA	No
Quinsigamond River Access	MA Dept of Fish & Game	19.39	MA Dept of Fish & Game	Conservation	Full Public Access	Perpetuity	Woods, Field	Hiking, Bird Watching, Kayak/Canoe Launch	Uncertain not Town Managed	R20	DFW	Art 97
Quinsigamond Marsh Access	MA Dept of Fish & Game	55.77	MA Dept of Fish & Game	Conservation	Full Public Access	Perpetuity	Woods, Wet	Hiking, Bird Watching	Uncertain not Town Managed	R20/WSPO	DFW	Art 97
Martha Deering WMA	MA Dept of Fish & Game	23.35	MA Dept of Fish & Game	Conservation	Full Public Access	Perpetuity	Woods	Hiking, Bird Watching	Uncertain not Town Managed	A, R40, RMF	DFW	Art 97

SECTION 6: COMMUNITY GOALS

6A. DESCRIPTION OF PROCESS

The Grafton Open Space and Recreation Committee (Committee) sought to gauge the residents' priorities through two principal methods: a survey, conducted over the summer of 2017 and direct public outreach via open community forums. The survey allowed a chance for residents to answer detailed questions related to open space and recreation needs, while the public forum allowed residents and various other stakeholders to engage in a more nuanced dialogue. In addition to these two main public outreach efforts, the Committee has met regularly throughout the duration of the project in public meetings. Public meetings have typically been held on the first Wednesday of the month. These meetings were held at town hall and open to the general public. All meeting notifications and other news were posted on the Town of Grafton website, www.grafton-ma.gov. Public input is an integral part of this comprehensive planning process, and the Committee worked to develop and distribute survey questions that would provide significant insight into how the goals listed below should be defined.

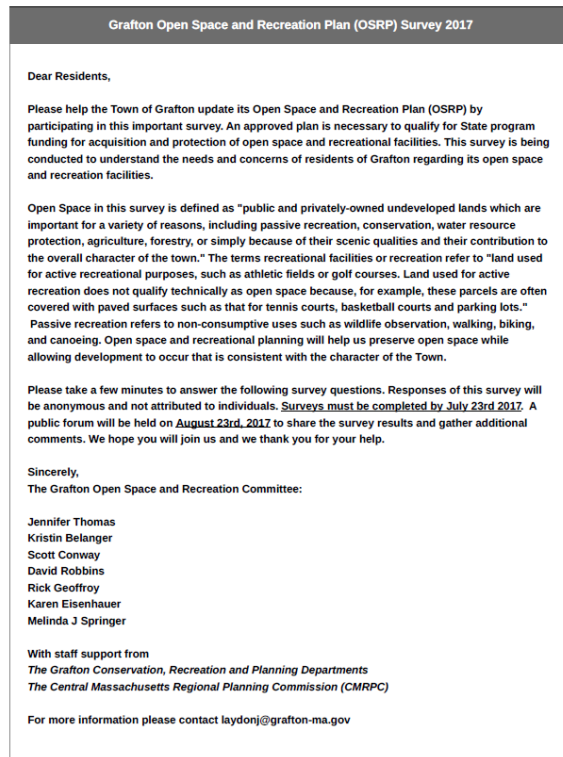


Figure 16 OSRP Survey Cover Page

The survey referenced above and described in more detail in [Section 7](#) was developed between March and June of 2017 during regular meetings held by the Committee. While creating the survey the Committee put considerable attention into the type of question and wording in order to elicit substantial input. A similar process was conducted when producing the 2007 OSRP. Questions from this previous survey were used as a starting point to develop questions for the updated plan. New questions were added and adjusted as needed based on input from the Committee and Town Administration. The survey was conducted online via the Survey Monkey platform. A few paper surveys were made available in the Town Hall and Public Library, but none were returned. The online survey received 689 responses or around 4% of the 2017 population.

A public forum was held in October 2017. As indicated, the public forum allowed for residents to meet with each other, Town staff, and CMRPC employees to discuss the direction of the plan and to refine data. The Town advertised the public forum through social media and through the town website. Email notifications were also sent to residents who provided an active email address when completing the survey. In total, emails were sent to a list of over 100 Grafton residents. The public forum was attended by over 20 residents. During this forum, participants were asked to identify important natural resources,

open spaces, recreation areas, and cultural landmarks in Grafton and then identify associated issues, conflicts, or opportunities. Based on this conversation, participants then identified their open space and recreational needs or desires for the community. The final exercise involved the reviewing draft goals and objectives including potential actions. The participants' comments were reviewed and incorporated into this plan. A more detailed description of the public forum and its process can be found below.

The meeting was broken into four (4) phases:

1. An icebreaker exercise,
2. Introductory presentations,
3. Small group discussions and
4. Report out and full group discussions.

Icebreaker Exercise: An icebreaker exercise was set up for participants as they were arriving. Posters were be placed around the room with featuring highlights from the survey and the goals and objectives from 2007. Participants were given a set of stickers upon arrival and asked to place sticker beside the goals and objectives from 2007 they thought the Town should continue to focus on. Post-it notes were made available for participants to add comments.

Presentations: presentations on the OSRP process were provided by Joe Laydon, Town Planner for Grafton and Ron Barron, Associate Planner at CMRPC. The presentations lasted around 20 minutes in total and reviewed the work done to date, as well as the ultimate goals and agenda for the evening.

Breakout Discussions: small groups were organized around major themes, which were informed by the survey responses and deliberations of the committee. The discussion themes were:

- Open Space: for recreation and preservation
- Scenic routes and spots
- Playgrounds, fields and rec facilities: what do we want more of; what parks need more attention; which facilities are working well; how can we apply what works elsewhere
- Connectivity: walking, hiking and bike to and between parcels

Each group was provided a table map that was used to guide the discussion. Participants were asked to discuss and identify their priorities in each of the four (4) topic areas. These discussions lasted around 40 minutes.

After the discussion period, each topic moderator was asked to review the key themes which emerged from the discussions. These themes were written on presentation pads and discussed with all participants. The main themes that were discussed included: playgrounds and recreation fields, scenic routes, conservation and preservation, and trails connectivity. Related to playgrounds and recreation fields, attendees noted that existing facilities could be expanded and built out to include additional features. Forum attendees also noted that shared parking could encourage a variety of uses at a single location. Additional picnic areas, spaces for informal gatherings, a hard pack trail and or path, arboretum, and bathrooms at Mill Villages Park were all discussed as items that would add use and value to existing facilities. Residents discussing this topic explored potential enhancement of the Riverview Park Path, a walking path along Lake Ripple, and improved access to the Milford Road playground.

Attendees that discussed topics related to conservation and preservation mirrored some of the items discussed related to playground and recreation facilities. Some of these converging topics included additional picnic areas and paved multi-use paths. Other items discussed included improving trail markings and signage, developing maintenance plans for outdoor recreation areas, identifying priority bridges and crossings, and continuing to protect Town-owned lands. Other items related to conservation and preservation discussed included developing a list of priority areas for habitat and biodiversity longevity. Particular emphasis was placed on prioritizing Estabrook, Merriam, Silver Lake, and Adams Road parcels. Attendees noted under this topic as well that it would be useful to have access to updated maps that included information such as trail difficulty for paths and hiking trails in Town.

Related to this last topic on trail maps, attendees discussed trails connectivity more generally, too. The group discussed: improving sidewalks with specific focus on sidewalks around schools, continued trail maintenance, improved trail markings, and improved biking opportunities. It was agreed that paths that have the most existing use should be prioritized as future sidewalk extensions or new trail projects.

Attention was also focused on scenic routes that might be pursued by the Town. These included Potter Hill Road, Fitzpatrick Road, South Street, and North Street. The Fisherville Historic District, which includes views of waterways and the village itself, was noted as an area that should be highlighted and pursued as a scenic road as well.

6B. STATEMENT OF OPEN SPACE AND RECREATION GOALS

This plan is an update from a previous 2007 OSRP. Therefore, the overall goal of this plan is to assess the relevance of goals created during that planning process, identify new goals as needed, and to set a roadmap for future work that will enhance recreation opportunities, ecological connectivity, and make Grafton a more vibrant place to live, work, and play in. Themes of the goals presented in this plan revolve around preserving and enhancing existing characteristics that provide ecological and recreation services to residents.

Additional recreational facilities may be needed to support the needs of the growing local population. A desire for better connectivity between existing and proposed open space resources will allow for critical linkages to continue to exist and provide benefits to wildlife and to residents. Based upon public input and feedback as described above, the Committee formulated the following goals for this updated OSRP:

- GOAL 1: Preserve and Enhance Grafton's Water Resources
- GOAL 2: Protect and Conserve Grafton's Land Resources
- GOAL 3: Preserve Grafton's Town Character
- GOAL 4: Enhance Grafton's Existing Recreation and Conservation Resources
- GOAL 5: Expand Grafton's Recreation and Conservation Resources
- GOAL 6: Connect Grafton's Recreation and Conservation Resources

While the new open space and recreation goals are very similar to the goals of the 2007 Open Space and Recreation Plan, the issues of land and water conservation, and the preservation of rural character are perennial concerns for Grafton residents. The Committee, through this plan, has developed a set of action items aimed at addressing the above goals (see the Action Plan presented in [Section 9](#) of this document).

SECTION 7: ANALYSIS OF NEEDS

The following chapter presents resource protection needs, community needs and management needs that were gathered through an examination of the data and trends presented in Sections Three through Five, the 2016 OSRP Survey, the Community Forum, and input from the Committee and staff. The section will provide an overview of resource protection needs, summarize community needs as indicated via several public outreach efforts, and will close by describing management needs and potential change of use. Much of the analysis described below is derived from survey results collected. Nearly all (99.04%) of survey respondents reported being 26 years or older. Thus, while needs of teens and children will be discussed it is noted that this demographic is not represented in the survey respondents. The first question on the survey asked residents to rank the goals from the 2007 plan on a scale of *Very Important* to *Very Unimportant*. Respondents to the survey noted protection of water resources and land resources as *Very Important*, nearly 10% more often than other goals, including the preservation of Town character. These responses helped to inform future goals and are a good baseline indication of what Town residents consider to be important needs related to open space and recreation opportunities in Grafton.

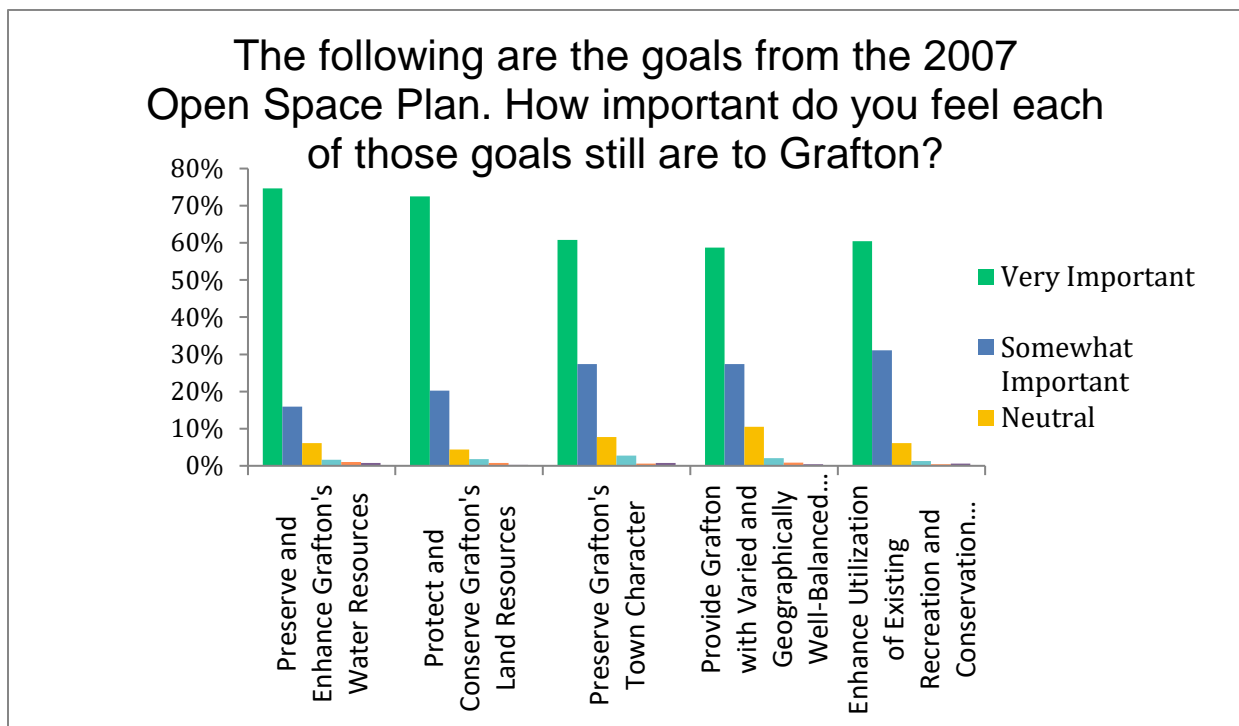


Figure 17 How Important are 2007 Goals

7A. SUMMARY OF RESOURCE PROTECTION NEEDS

Resource protection is based upon the need to preserve existing natural and cultural resources that are finite in quantity and otherwise irreplaceable. These resources include wetlands, rivers, streams, aquifers, farmland, historical resources and scenic views. Once these resources are lost they cannot be replaced. The preservation of these resources serves many purposes. First, the conservation of valuable natural systems provides habitat to a vast array of wildlife and endangered species. Secondly, the hydrological

networks associated with lakes, streams and underground aquifers provide storage capacity for floodwaters, natural purification for drinking water and provide a source of irrigation for farming. Preservation of aquifers provides protection of drinking water supply. As vital as these and other natural factors associated with open space preservation may be, it is equally important to recognize the many cultural factors associated with the preservation of important natural resources. As climate change continues to impact the local, regional, and global landscape, it is increasingly important to incorporate aspects of resource protection into planning efforts. Through its Municipal Vulnerability Preparedness (MVP) process, Hazard Mitigation Plan, and recent low impact development study, as well as other planning projects, the Town has made it clear that resource protection is in fact a priority.

In addition to providing critical ecosystem services, Grafton's open space areas establish a sense of place and are reminiscent of the Town's rural and historic legacy. This open space network also serves as the location for many of the Town's recreation facilities. These facilities further aid the Town in providing a high-quality of life for its residents. However, as discussed above in Section 5C and in the remainder of this chapter, there are areas in which recreation resources are lacking.

The survey results discussed below provide a look into what Grafton residents feel should or should not be protected when it comes to open space preservation and the availability of recreation facilities. The following analysis is divided into both a summary of Grafton's Resource Protection Needs, Community Needs and Management Needs. Specific opportunities or actions associated with this needs analysis can be found in the sections that follow, specifically [Section 8](#) (Goals and Objectives), and [Section 9](#) (Seven Year Action Plan).

Regional Resource Protection Needs

Regional and statewide open space and recreation needs were considered throughout this planning process. The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) served as the basis of this analysis. The SCORP seeks to address available recreational services throughout the Commonwealth and identify potential gaps in access, services, and needs accommodated. Much like this Town-specific OSRP, the SCORP relies heavily on public input in order to develop actionable goals and objectives. The goals identified in the 2017 SCORP include:

1. Providing access for underserved populations
2. Supporting the statewide trails initiative
3. Increasing the availability of water-based recreation
4. Supporting the creation and renovation of neighborhood parks

These guiding goals are reflected in part in the action items identified for Grafton later in this document. In coordination with the Statewide Comprehensive Outdoor Recreation Plan, this plan seeks to invest in recreation and conservation areas that are closer to home and to create recreation areas that are suitable for a more racially, economically, and age diverse population. For a complete list of this plan's goals and objectives see [Section 9](#).

Preservation and Protection of Open Space

Throughout the public process residents expressed the need to protect land—farmland and other natural areas—from development. Protecting these areas will be challenging as Grafton continues to add new housing units and population grows. Much of this new development will occur on former farmland as it has already. When surveyed, 74% of residents reported that preserving open space and natural areas in Town was “very important” to them. Survey results illustrate that Grafton residents are most interested in preserving open space for water supply protection, habitat protection, and for passive recreation opportunities such as hiking and walking trails.

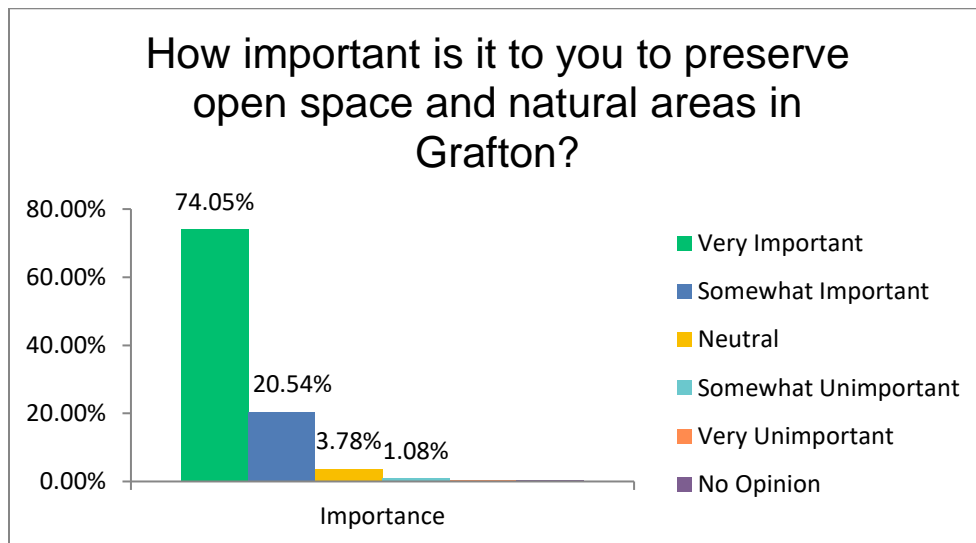


Figure 18 How Important is it to preserve open space and natural areas

Grafton has several methods to aid open space protection in place already. The Town of Grafton has already made certain provisions in the Zoning Bylaws which will aid efforts to continue to preserve open space parcels via its Flexible Development option, which allows for certain reductions in residential density in exchange for a permanent set-aside of open space. This is based on the principles of cluster developments and requires “not less than 40% in the R-20 District, 40% in the R-40 District, and 50% in the Agricultural District of the total area of the tract of land to be developed as a Flexible Development,” to be set aside for common open space. The Planning Board routinely reviews these bylaws with the assistance of outside consultants to ensure that they balance the need for development with the desire for publicly accessible open space. The Planning Board, working in conjunction with other town boards/committees/staff, independent consultants, and the public, when appropriate, should continue to review the residential Flexible Development bylaws regularly to promote open space dedication with emphasis on public access and connectivity.

Survey respondents were asked to rank their top reasons for preserving open space. When asked, survey respondents indicated that preserving open space for water supply protection was the most important aspect in Town to work to preserve. Preserving open space for passive recreation opportunities and for habitat ranked very highly as well. Less than half of survey respondents indicated that additional facilities for active recreation opportunities were very important to them.

When asked how they might be willing to preserve additional open space in Grafton, survey respondents indicated that they would be willing to support several specific initiatives. Some 82% would support a requirement for all new residential developments to include conservation/open space areas; 79% would vote to allocate town funds to acquire or otherwise conserve more open space; 76% would support the Town of Grafton acquiring land and allowing just enough development to off-set cost of acquisition while preserving remainder of land (a.k.a. Limited Development); and 63% would favor zoning that provides for increases in density in existing developed areas in exchange for open space in less developed or environmentally sensitive areas. Based on this information, Town officials are able to discern what options might be most viable for preserving additional open space in Grafton.

When asked about accessibility, less than a third of respondents indicated that having designated parking spaces near open space and recreation facilities was “very important” to them. Slightly less than half of respondents (48%) reported that having designated parking areas for these activities is somewhat important to them. Meanwhile, the same percentage (48%) reported that being able to access these resources via walking or biking trails was “very important.” As a follow up question, survey respondents were asked to rank their level of satisfaction with a variety of items related to open space and recreation facilities in Town. Nearly 18% of respondents reported being “very unsatisfied” with the condition of existing bike paths, while nearly 30% reported being “very unsatisfied” with the condition of existing sidewalks. Thus, while residents clearly value being able to access spaces by alternative means there is desire to increase ability to do so.

The survey and forum showed that residents also value Grafton’s historic character as well. Farmland and other conservation areas that include a historic resource and are not already under APR or another form of permanent protection should be evaluated for possible enrollment in the APR program or protected through a creative use of local funds. The town should identify historic properties that have not been already surveyed and cataloged with the Grafton Historical Commission. Community Preservation Act (CPA) can also offer additional funding opportunities for recreation projects and open space purchases. Grafton has been a CPA community since 2002. The Town should continue to explore avenues for applying CPA funds to the expansion of the Town’s open space resources.

Town staff and boards should also continually promote state programs such as APR and the Chapter Program. A further objective of preserving farmland through programs such as APR is to ensure the community has land available to grow its own food should food security become an issue and to make available local products to encourage healthy eating. Food security and obesity prevention are also priorities of the state and federal government and they have invested resources in these areas. Indirectly, the development of solar energy generation facilities has temporarily preserved the fields of former farms in town. More study should be conducted to determine if the structures that cover these former fields will result in negative environmental impact.

Protection of Natural Habitats and Landscapes

As indicate above, protecting open space for habitat protection and water supply ranked very highly based on survey results. Currently there are a number of core habitats and critical natural landscapes that are not permanently protected areas or have temporary protection that could be saved as open space and wildlife corridors within town. The protection of these habitats and landscapes is also a regional and statewide priority and the State has invested in mapping and associated data to help communities identify

the most critically important wildlife habitat to protect. Some of these areas connect to adjacent communities and extend these corridors even further. These areas are identified in *BioMap2* included in Appendix E. These corridors, be they for wildlife or for people, are the natural links that are most vulnerable to development. They need to be protected to help conserve the integrity of the bioregion, to conserve biological diversity and to provide natural pathways for quality recreation experience. As Grafton proceeds in acquiring additional open space attention should be paid to increase linkages and corridors between spaces that are already protected.

Open Space Priorities

Previous planning efforts done via the 495 / MetroWest Development Compact Plan identified several priority preservation areas in Grafton. The Compact includes The Town of Grafton and 36 neighboring communities. While not all 37 communities may be located adjacent to I-495, these communities are characterized as seeing impacts related to population, employment, housing, and travel patterns that are largely based on proximity to I-495.

Priority Preservation Areas (PPAs) are areas within a city or town that deserve special protection due to the presence of significant environmental factors and natural features, such as endangered species habitats or areas critical to drinking water supply, scenic vistas, areas important to a cultural landscape, or areas of historical significance. In general, existing parks or new park facilities do not fall within this category. It is important to remember that PPAs are identified on lands not currently permanently protected, such as those that might be currently, but temporarily, protected by Chapter 61, a conservation restriction that has not been approved under an appropriate section of Chapter 184, by virtue of ownership by a land trust, etc. The plan identified three priority preservation areas in Grafton. These parcels include: Land off of Old Upton Road, the Knowlton Property off Estabrook Avenue, and a second parcel off of Old Upton Road.

The Conservation Assessment and Prioritization System (CAPS) is an ecosystem-based (coarse-filter) approach for assessing the ecological integrity of lands and waters and subsequently identifying and prioritizing land for habitat and biodiversity conservation. Ecological integrity is defined as the ability of an area to support biodiversity and the ecosystem processes necessary to sustain biodiversity over the long term. CAPS is a computer software program and an approach to prioritizing land for conservation based on the assessment of ecological integrity for various ecological communities (e.g., forest, shrub swamp, headwater stream) within an area. This process results in an Index of Ecological Integrity (IEI) for each point in the landscape based on models constructed separately for each ecological community.

There are a number of contiguous areas that score an IEI above the 50th percentile for forestland, shrublands, and freshwater and aquatic wetlands in Grafton. Notable areas with high IEI include forest, shrublands, and wetlands located proximal to Brigham Hill and Lazy Hill extending west into Millbury; a large parcel of forest land located east of Keith Hill Road, which has potential to create a large wildlife corridor through Upton; and a large contiguous forested area east of George Hill Road extending into Upton. Numerous other locations with high IEI can be viewed in the associated **Map 9 CAPS Index of Ecological Integrity** (IEI). Some of the areas highlighted through the CAPS report have been conserved through various means. However, areas that are highlighted in the CAPS report and have not been acquired may be considered priorities.

7B. SUMMARY OF COMMUNITY'S NEEDS

When completing the survey residents were asked to indicate what they considered to be the largest and smallest unmet needs related open space and recreation facilities in Grafton. As indicated in the data presented below, water supply protection, children’s playgrounds, wildlife habitat areas, and large park with many facilities ranked most highly as being the most needed facilities or areas currently lacking in Town. Other recreation facilities that ranked highly as being current unmet needs include: a town swimming pool, paved multi-use trails, bike lanes, a recreation center building, local neighborhood parks, and improvements to the Town Common. Additional hunting space, tennis, and basketball courts receive the least amount of attention as being large unmet needs in Town.

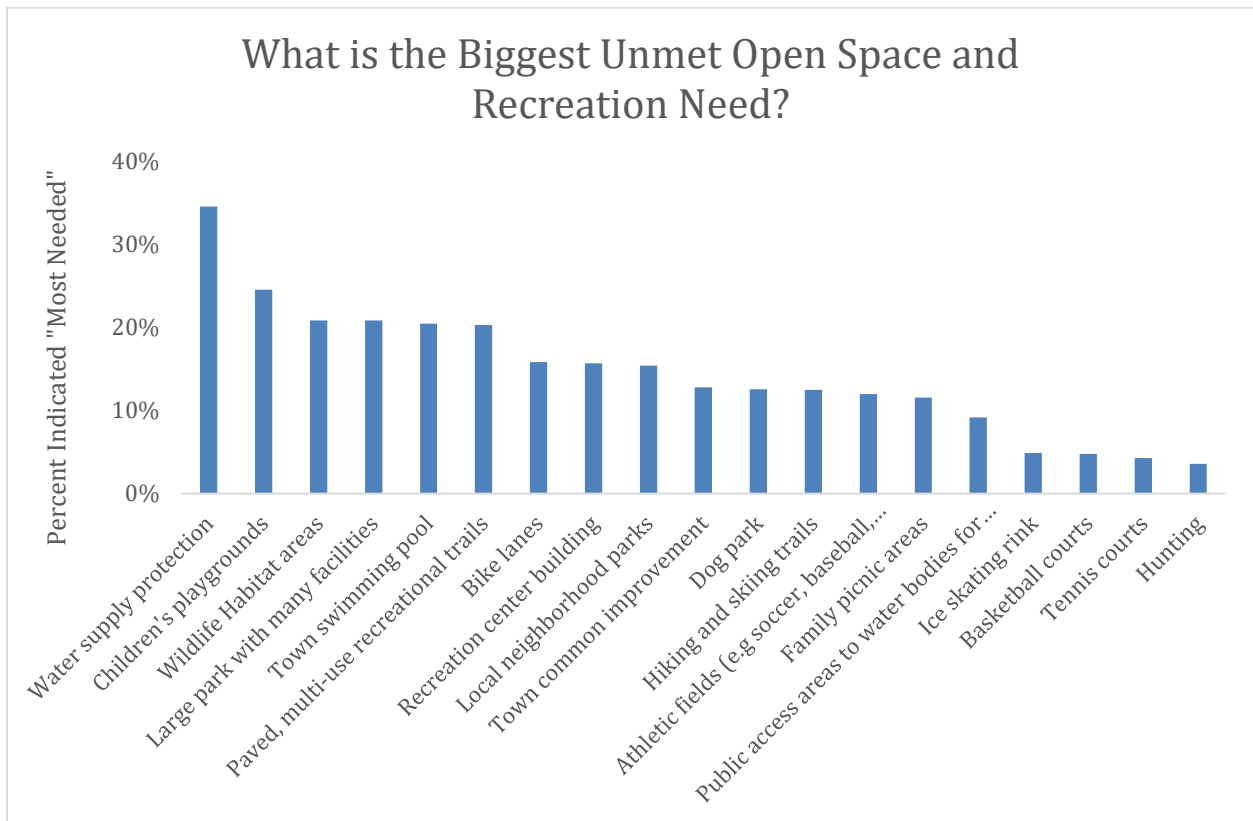


Figure 19 Unmet open space and recreation needs

While existing facilities do provide access for adult and youth organized active recreation opportunities, their availability is often significantly limited. Many of the facilities listed above are located at Grafton Schools. For this reason, field space is often not available due to school programming that may take place during or after normal school hours. The Town has identified access to gymnasiums as a specific issue as well. Gym space availability is limited significantly by school hours, making the space inaccessible during the day. The gym located at the Senior Center has similar constraints and is not available for use during the day. In order to meet current demand for use, additional gym space is needed by the Town. Increased availability during day-time hours would give the Recreation Department the ability to grow and expand its offerings to include daytime programming for adults and tots. Current demand for this type of

programming is not being met. Increased gym space made available during night-time hours would significantly increase public year-round access as well as winter basketball leagues. Similarly, while the Grafton Lions Club does have available space, its access is limited and permission for groups and non-profit organizations to use the available facilities must be requested through the Lions Club. Facilities are available to non-profit groups at no cost, and to for-profit groups at a cost of \$50 per day

In addition to increased gym space, the Town should look to developing a recreational facility that includes necessary classroom and programming space, a community meeting room, storage space, and room to provide youth and teen services. Most programming is currently located at schools, which as noted, significantly limits availability. A dedicated recreation facility that includes adequate space for these uses would ensure that use is not restricted or in some cases eliminated by school-sponsored events. For this reason, the Town and Recreation Committee have conducted a fields needs analysis. To date the Committee has identified that current and future needs demand two multipurpose fields, a replacement for the lost SuperPark, and a gymnasium. Adding these facilities would reduce competition in securing field/gym space and ensure fair and adequate access for use. It is also proposed that the Town look to acquire land as it comes out of Chapter Lands Programs to be used for recreation purposes. Should the Town consider building additional playground facilities it might look to site these projects in the eastern portion of Town which currently does not have playground facilities. Adding playgrounds in this part of Town would increase accessibility to those living nearby and better serve families with young children in that area. As shown in **Map 2, Environmental Justice**, there is one environmental justice population located in the southern section of Grafton. Future efforts to expand active and passive recreation facilities should be made with this population in mind.

Question 7 on the survey asked respondents to rate their level of satisfaction with the variety and condition of existing open space opportunities. Respondents expressed positive opinions regarding, “The variety and/or number of existing outdoor recreational facilities,” around 42% of the time, and around 44% of the time when asked about the condition of outdoor fields. Further, Question 10 asked respondents how often they utilized open space for a variety of purposes. Around 58% reported having never participated in a formal adult sports league and only 33% reported participating in or watching a youth sports league. The most common usages reported were hiking, biking, passive visitation, and walking/jogging. These figures should be taken into account when considering adding additional programming efforts and capacity. One of the most significant management needs for the Town’s active recreation areas is ensuring that all facilities are handicapped accessible. All of Grafton’s recreation facilities have been evaluated for handicapped accessibility and the results of this evaluation can be found in Appendix F.

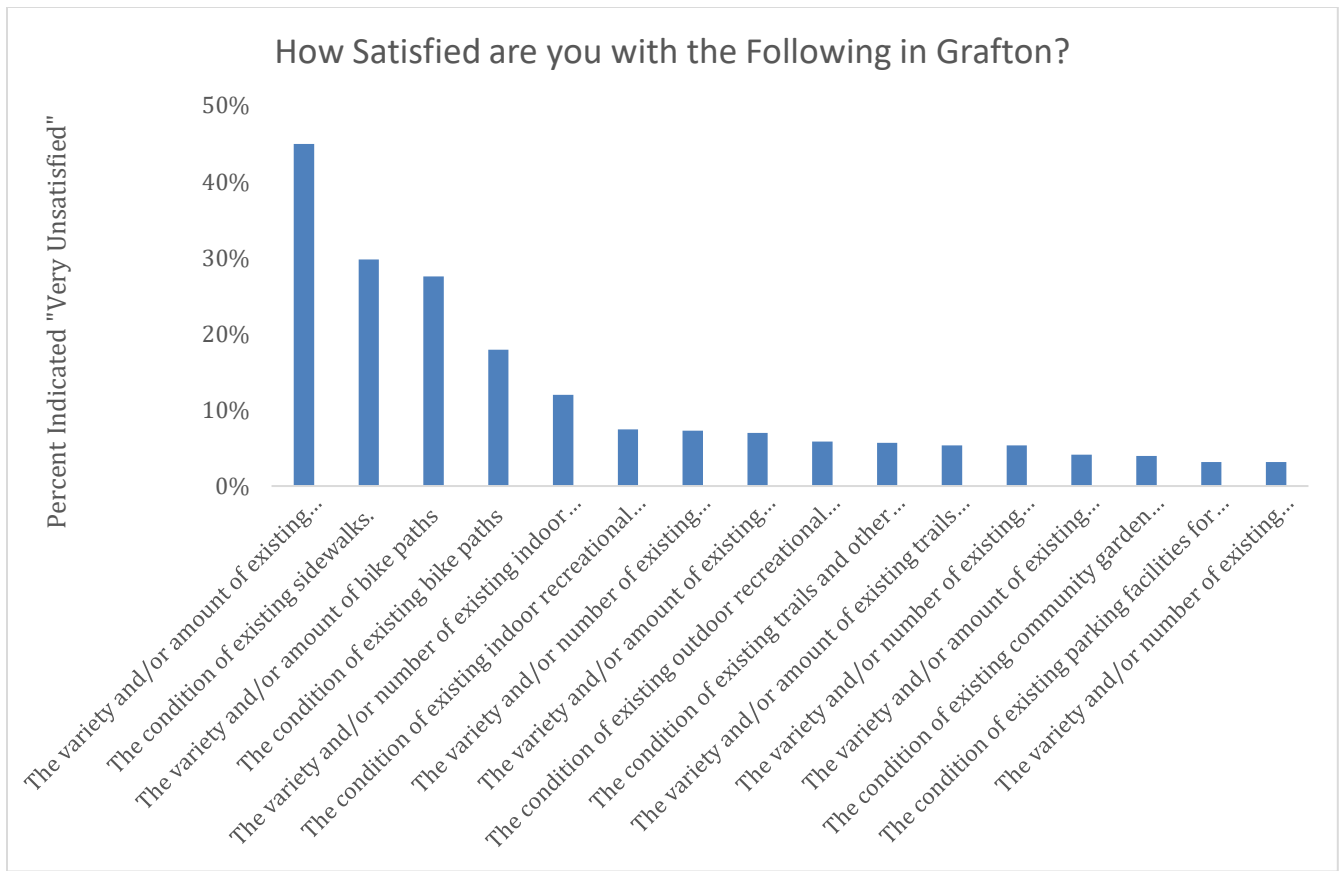


Figure 20 How satisfied are you with current offerings

The Town will need to prioritize its open space and recreation needs on an ongoing basis. Communities acquiring land for open space, recreation and conservation purposes frequently attempt to devise a method to compare or prioritize land for acquisition. These systems often list locations of threatened or endangered plant or animal species as among the highest priority land to buy or protect. Also, usually highly ranked is water supply protection land. Agricultural land, particularly productive land, ranks high as does keeping open land undeveloped in more densely settled areas without open space at present. Land that connects existing open space areas and/or creates buffers between sensitive natural resources may rank high as well. It is proposed that land for acquisition should protect present or future water supplies, sensitive natural resource areas, provide public access to natural resources, connect existing open space land, or provide recreational facilities, particularly to those neighborhoods that do not have such facilities within walking distance. Land that achieves more than one of these objectives would be highly ranked.

7C. MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

Like many Massachusetts towns, funding and available staff time are likely the two most limiting factors related to open space and recreation needs in Grafton. The actionable goals included in this plan will require high levels involvement from staff, board members, and volunteers. The Town should continue to work to recruit dedicated, passionate citizens to its boards to serve in these important roles. In addition

to recruiting new volunteers, the Open Space and Recreation Committee must remain active. Should the Open Space and Recreation Committee lapse and meet irregularly, Grafton risks failing to meet any number of goals and objectives. The Town should actively seek to work with various land trusts and watershed associations as well as it seeks to improve the integrity of open space in Grafton.

With limited municipal funding available, it is informative for the Town to identify alternative ways in which future work related to open space and recreation might be funded. Several questions included in the survey sought to gauge residents’ interest in supporting select programs that may provide additional funding opportunities which could lead to upgrades to existing parcels or potentially acquiring new parcels for conservation or recreation purposes. While these responses to these questions are not indicative of whether or not there would be town-wide support for select items, they do provide initial insight as to whether or not the town might be successful in pursuing any one option. Table 30 presented below indicates support of additional methods to support Grafton as it seeks to adapt to additional costs associated with changing needs.

Results presented in Table 30 below show that Grafton residents are in favor of supporting select initiatives to preserve additional open space in Grafton. In 2002, the Town of Grafton voted to adopt the Community Preservation Act (CPA) as well. The Towns may use CPA funds in order to acquire, create, and preserve additional open space and recreation facilities. The continued use of CPA funds should also be considered in addition to the items presented in the table below.

Table 30 In Order to Preserve Open Spaces in Grafton Would You Be Willing to

Description of Action	Yes	No	No opinion
Vote to allocate town funds to acquire or otherwise conserve more open space?	80.76%	11.38%	7.86%
Favor zoning that provides for increases in density in existing developed areas in exchange for open space in less developed or environmentally sensitive areas?	61.14%	22.28%	16.58%
Support the Town of Grafton acquiring land and allowing just enough development to off-set cost of acquisition while preserving remainder of land (a.k.a. Limited Development)	76.63%	13.04%	10.33%
Support a requirement for all new residential developments to include conservation/open space areas	81.84%	10.30%	7.86%

SECTION 8: GOALS AND OBJECTIVES

The residents of Grafton value their open space and recreational resources. The Town is fortunate to have located within its boundaries such important regional recreational features as the Blackstone River Bikeway; as well as many farms including the Community Harvest Project; waterbodies including Blackstone River, Fisherville Pond, Silver Lake, and Flint Pond; local parks and fields including the Mill Village Park, the Riverview Park, the Grafton Town Common; and unique resources including the Hassanamisco Indian Reservation and the Massachusetts State Police Museum and Learning Center. Each of these types of features has a corresponding set of goals that seeks to accomplish the following:

1. Fully understand its place in the community,
2. Preserve, conserve, and maintain;
3. Improve to a level that meets town needs and aspirations, and
4. Promote and foster improved appreciation, understanding and connection.

This open space planning process has set forth six (6) primary goals with between three (3) and six (6) objectives each in such a way that the community leaders, town officials, board, commissions, parents, seniors, youth, volunteers, non-profit agencies and other related stakeholders and residents are aware of the big picture and how their particular interest fits with the overall plan.

While the Goals and objectives presented in this section may seem general and non-specific, they provide direction to participating stakeholders in such a manner that as circumstances, such as economy, town governance, resources, funding change, the direction will still be constant. [Section 9](#) will provide more specific guidance with regard to actions that can be taken given by who, with what, and with what priority given the resources that are available currently and in the foreseeable future.

Goal 1:

Water resources are the life blood of Grafton, giving rise to many aspects of its history. The Waters of Grafton, however, have much to offer its future and should not only be preserved, and restored, but improved in such way to continue supporting the entire community, its residents, its economy, and its health and well-being.

Goals 2 and 3

Grafton's land use and development patterns have created an impressive mosaic of farms, villages, open spaces, bio habitats, business and residential areas that have attracted many to the area. A close monitoring of these is crucial not to tip the balance too far in one direction and lose that very special characteristic that so many appreciate.

Goal 4 and 5

The open spaces, parks, and recreation opportunities create balance not only in Grafton as a community but also in its residents as healthy and happy individuals. These assets give community's the chance to come together and engage with each other, to celebrate and to connect. Silver Lake Beach, the baseball fields at Grafton High School, the bike path, the cemeteries, the trails of the Grafton Land Trust offer special experiences that make Grafton a great Town.

Goal 6

Grafton is a critical part of the Blackstone Valley subregion, of Worcester County and of the Commonwealth of Massachusetts. Building stronger connections from Grafton to these areas is important as they have open space and recreation resources that are also exciting and special. However, connecting the resources within Grafton is a tremendous goal. Connect the bikeway to nearby assets; create connections from one trail system to another, encourage walkability throughout town.

The goals and objectives are presented below. The plan also clearly describes objectives that help to define actionable steps to meet each goal. [Section 9](#) provides additional detail via the Seven Year Action Plan.

GOAL 1: Preserve and Enhance Grafton's Water Resources

- Objective 1.1 Continue to support regional efforts to improve and maintain the quality of the Blackstone River and its watershed in order to maximize its use
- Objective 1.2 Manage, protect and improve public access to water resources vital for the sustainability of the community
- Objective 1.3 Secure additional protection for groundwater resources
- Objective 1.4 Protect and restore significant wetland areas
- Objective 1.5 Take measures to improve the quality of Grafton's surface waters

GOAL 2: Protect and Conserve Grafton's Land Resources

- Objective 2.1 Permanently protect those Town owned open space resources necessary for provision of recreation opportunities and/or preservation of natural/visual/cultural/historic resources
- Objective 2.2 Protect ecologically sensitive lands
- Objective 2.3 Protect Grafton's farms
- Objective 2.4 Protect land resources vital for the community

GOAL 3: Preserve Grafton's Town Character

- Objective 3.1 Encourage a holistic approach to protecting and preserving Grafton's historic, cultural, scenic landscape resources and other "special places"
- Objective 3.2 Encourage the use of both Grafton's, the BHC Inc.'s and Historic Commission's design guidelines
- Objective 3.3 Encourage the continuation of Grafton's historic patterns of development where they are discernible

GOAL 4: Enhance Grafton’s Existing Recreation and Conservation Resources

- Objective 4.1 Improve the maintenance of Grafton’s active and passive recreation areas and facilities
- Objective 4.2 Provide citizens and visitors with information regarding Grafton’s recreation/conservation/ cultural/ historic resources
- Objective 4.3 Improve access for all age and user groups within the population
- Objective 4.4 Support Blackstone Bikeway
- Objective 4.5 Plan for year-round, active and passive recreational use of public space
- Objective 4.6 Improve fishing, hunting, and trapping opportunities

GOAL 5: Expand Grafton’s Recreation and Conservation Resources

- Objective 5.1 Identify and target new priority land acquisitions that will connect to existing town recreation and conservation resources.
- Objective 5.2 Expand facilities and opportunities into underserved areas to ensure equitable access for all residents
- Objective 5.3 Work with boards, organizations and other entities in the Town of Grafton to coordinate conservation efforts
- Objective 5.4 Establish an Open Space and Recreation Site Committee to review Town-owned land and prioritize parcels that could be used for conservation and recreation purposes

GOAL 6: Connect Grafton’s Recreation and Conservation Resources

- Objective 6.1 Improve and expand the system of Town-wide trails to provide a variety of recreational opportunities, such as hiking, jogging, skiing, biking, and horseback riding
- Objective 6.2 Improve public access to and connectivity between Grafton’s active and passive recreation areas, facilities, conservation lands and points of interest
- Objective 6.3 Work with neighboring communities to create inter-municipal connections
- Objective 6.4 Secure Green Belt along waterbodies in Grafton

SECTION 9: SEVEN-YEAR ACTION PLAN

The action plan is the part of this document that should be actively used. The more individuals, boards, commissions, agencies, non-profits, that play a role in this action plan, the more likely it will be for the Town to move in the direction of the goals articulated in [Section 8](#).

Real and lasting progress will only come if action is coordinated by transparent and thoughtful communication by all parties. There are many stakeholders that may play a role in the actions identified in this plan. While many of the parties identified are town boards, town commissions or town employees, several actions will involve other stakeholders. The following are just a few examples of how a broader set of stakeholders can be engaged.

- Town athletic leagues (Little League, recreational or corporate league users of the ballfields) can assist in advisory capacity with regard to usage, maintenance needs, and even fundraising.
- The Grafton Land Trust should be consulted regularly with regard to potential cooperative access agreements between the Town and the Land Trust.
- The Blackstone River Valley Heritage Corridor and the Blackstone Valley Chamber of Commerce have great educational programs that can be cross promoted by the Town.
- Town boards, and commissions and agencies should meet periodically to consider collaboration that will make progress on action items. For instance, the Senior Center, the Parks and Recreation Commission, the Community Preservation Committee and the DPW can consider accessibility needs to improve access for all ages.
- Tufts University may have resources to provide with regard to community events.
- State agencies such as the Department of Conservation and Recreation, Office of Ecological Restoration, the Bureau of Water Resources, the Massachusetts Council on Aging, or the Massachusetts Department of Transportation, and the Central Massachusetts Regional Planning Commission have opportunities (land acquisition funds, park improvement funds, signage and other resources) that should be reviewed regularly. This plan will lay much of the ground work from which to develop applications for resources and project funding.

And finally, as this plan nears its expiration date in seven (7) years, the engaged stakeholders will be ready to review the plan for completed tasks and will develop a new updated plan.

GOAL 1: Preserve and Enhance Grafton's Water Resources					
Objective		Action		Responsible Party	Timing
1.1	Continue to support regional efforts to improve and maintain the quality of the Blackstone River and its watershed in order to maximize its use	1.1-A	<i>Continue to support efforts to work with the Blackstone River Watershed Council and other organizations by establishing points of contact, developing working relationships, participating in regional conferences and other activities.</i>	Conservation, Planning, Select Board	Ongoing
1.2	Manage, protect and improve public access to water resources vital for the sustainability of the community	1.2-A	<i>Prioritize land acquisitions to protect drinking water supply and surface water resources.</i>	Select Board, Conservation	Long
		1.2-B	<i>Review and update water supply protection overlay district at regular intervals.</i>	Planning	Ongoing
		1.2-C	<i>Reconcile town stormwater regulations with the Grafton Subdivision Rules and Regulations to ensure consistency and enhance protection of land and water resources.</i>	Planning, Conservation	Short
1.3	Secure additional protection for groundwater resources	1.3-A	<i>Concentrate educational efforts to address nonconforming uses within well recharge areas.</i>	Conservation, Planning, Building	Medium
		1.3-B	<i>Conduct outreach efforts to homeowners and business owners regarding nonpoint source pollution reduction practices.</i>	Conservation, Dept of Public Works	Ongoing
		1.3-C	<i>Encourage monitoring and repair of individual septic systems by property owners through education actions.</i>	Health, Conservation	Ongoing*
		1.3-D	<i>Inspect sewer system and identify contingency plans for spills and leaks.</i>	DPW, Sewer	Ongoing
1.4	Protect and restore significant wetland areas	1.4-A	<i>Review and update the regulations of the Grafton Wetland Protection Bylaw at regular intervals.</i>	Conservation	Medium
1.5	Take measures to improve the quality of Grafton's surface waters	1.5-A	<i>Ensure there is a water quality plan in place for all of town water bodies that is actively maintained and implemented.</i>	Conservation, Select Board	Short

GOAL 2: Protect and Conserve Grafton's Land Resources					
Objective		Action		Responsible Party	Timing
2.1	Permanently protect those Town owned open space resources necessary for provision of recreation opportunities and/or preservation of natural/visual/cultural/historic resources	2.1-A	<i>Amend Grafton Subdivision Rules and Regulations so that they require the retention of open space for wildlife corridors on all parcels located between or adjacent to open space.</i>	Planning	Short
		2.1-B	<i>Provide information to landowners regarding available mechanisms to permanently protect open space parcels.</i>	Assessor, Conservation, Planning, Select Board	Medium
		2.1-C	<i>Proactively monitor and audit existing conservation lands to prevent encroachment and ensure conservation restrictions are having their intended effect.</i>	Conservation	Medium
		2.1-D	<i>Develop enforcement protocol for encroachment.</i>	Conservation, Select Board, Police	Medium
2.2	Protect ecologically sensitive lands	2.2-A	<i>Prioritize land acquisitions to protect ecologically sensitive lands and establish Open Space Corridors.</i>	Conservation	Ongoing
		2.2-B	<i>Secure conservation easements for the town owned open space properties where protection is appropriate.</i>	Conservation	Long
2.3	Protect Grafton's farms	2.3-A	<i>Work closely with the agricultural commission to explore and develop mechanisms for the protection and maintenance of working farms in Grafton.</i>	Conservation, Assessors, Select Board	Long
		2.3-B	<i>Develop programs to support the vital role Grafton's farmers play in the local economy.</i>	Select Board, Econ. Dev., Planning	Short

GOAL 2: Protect and Conserve Grafton's Land Resources					
Objective		Action		Responsible Party	Timing
2.4	Protect land resources vital for the community	2.4-A	<i>Strengthen low impact development (LID) requirement language in town bylaws.</i>	Conservation, Planning	Short
		2.4-B	<i>Implement recommendations of the BRVHC's Natural Resources Inventory and Assessment. BRVHC's Natural Resources Inventory and Assessment recommendations can be found at https://www.nps.gov/blac/learn/nature/upload/NRIRecommend.pdf.</i>	Conservation, Planning	Medium
		2.4-C	<i>Maintain partnerships with key open space protection allies such as DCR, Trust for Public Lands, the Blackstone Heritage Corridor, Inc., Grafton Land Trust and Sudbury Valley Trustees.</i>	Conservation, Select Board, Planning	Ongoing

GOAL 3: Preserve Grafton's Town Character					
Objective		Action		Responsible Party	Timing
3.1	Encourage a holistic approach to protecting and preserving Grafton's historic, cultural, scenic landscape resources and other "special places"	3.1-A	<i>Work with Town officials to update the Town of Grafton master plan.</i>	Planning, Select Board	Short
		3.1-B	<i>Revise and/or update Open Space and Recreation Plan prior to expiration.</i>	Recreation, Conservation, Planning, Select Board	Medium
		3.1-C	<i>Update and maintain Town inventory of scenic lands and special places.</i>	Planning, Historical Commission	Medium
		3.1-D	<i>Coordinate with the Historic Commission and other relevant organizations to help build awareness of the historical significance of Grafton's historical and cultural places.</i>	Planning, Conservation, Select Board	Long
3.2	Encourage the use of both Grafton's, the BHC Inc. and Historic Commission's design guidelines	3.2-A	<i>Ensure Grafton's design guidelines reflect most up-to-date recommendations of the BVHC, Historic Commission and other local/regional organizations.</i>	Planning	Medium
3.3	Encourage the continuation of Grafton's historic patterns of development where they are discernible	3.3-A	<i>Explore Zoning Bylaw Amendments and other land use policies and programs that encourage the preservation of the character of Grafton's historic districts.</i>	Planning, Historical Commission	Medium

GOAL 4: Enhance Grafton’s Existing Recreation and Conservation Resources					
Objective		Action		Responsible Party	Timing
4.1	Improve the maintenance of Grafton’s active and passive recreation areas and facilities	4.1-A	<i>Create Trails Subcommittee via Conservation Commission.</i>	Conservation	Short
		4.1-B	<i>Develop a 5-year Capital Improvements plan for all recreation facilities under the Recreation Commission's jurisdiction.</i>	Recreation	Ongoing
		4.1-C	<i>Develop a multi-year funding plan to finance better management of conservation and recreation lands.</i>	Con., Rec., Select Board	Medium
4.2	Provide citizens and visitors with information regarding Grafton’s recreation/conservation/ cultural/ historic resources	4.2-A	<i>Improve signage and other wayfinding, identifying the location/access points for all conservation lands that are open to the public.</i>	Conservation	Medium
		4.2-B	<i>Prepare paper and digital resources detailing the town's recreation facilities, public open spaces, trail systems, and other resources to publicize Grafton's special places to new residents and visitors.</i>	Conservation, Recreation, Select Board	Short
		4.2-C	<i>Develop a plan to ensure coordination between land trust and other agencies/organizations to make data on trails publicly available on the same platforms and in the same formats.</i>	Conservation	Short
4.3	Improve access for all age and user groups within the population	4.3-A	<i>Increase available parking space and improve condition of parking at conservation properties.</i>	Conservation, Select Board, DPW	Medium
		4.3-B	<i>Inventory and map all open space trails identifying their current condition, maintenance needed.</i>	Conservation, Trail Committee	Medium
		4.3-C	<i>Increase recreation opportunities for a variety of user groups and special populations including teenagers and handicapped persons.</i>	Conservation, Recreation	Long
		4.3-D	<i>Develop plan to ensure all coordinated trails data is made available to emergency services personnel.</i>	Conservation, Select Board	Medium

GOAL 4: Enhance Grafton's Existing Recreation and Conservation Resources					
Objective		Action		Responsible Party	Timing
4.4	**Support Blackstone Bikeway	4.4-A	Continue to support the Blackstone Valley Heritage Corridor, Inc. and DCR's goals for the Blackstone River and Canal by facilitating the development of park lands and recreational opportunities in their vicinity.	Planning, Recreation Conservation	Long
4.5	Plan for year-round, active and passive recreational use of public space	4.5-A	<i>Develop management plans for Grafton's conservation lands and active recreational facilities.</i>	Conservation, Recreation	Short
4.6	Improve fishing, hunting, and trapping opportunities	4.6-A	<i>Coordinate with DCR with stocking at Cronin and Miscoe Brooks.</i>	Select Board, Conservation	Ongoing
		4.6-B	<i>Develop plan to make all publicly available data on hunting, trapping and fishing opportunities on Grafton's conservation lands available through the Town's website.</i>	Conservation	Long

GOAL 5: Expand Grafton’s Recreation and Conservation Resources					
Objective		Action		Responsible Party	Timing
5.1	Identify and target new priority land acquisitions that will connect to existing town recreation and conservation resources.	5.1-A	<i>Develop priority list of parcels for immediate and future acquisition of land to expand and connect existing resources, based on risk, proximity to existing resources and other factors.</i>	Conservation, Planning, Select Board	Short
		5.1-B	<i>Develop an outreach program when planning the town-wide trails to secure cooperation of affected landowners.</i>	Conservation, Trail Committee	Medium
		5.1-C	<i>Annually Evaluate existing tax title properties and where appropriate, seek to place under the jurisdiction of the Conservation Commission.</i>	Conservation, Assessors, Planning, Select Board	Ongoing
5.2	Expand facilities and opportunities into underserved areas to ensure equitable access for all residents	5.2-A	<i>Identify gaps in trail network that might be filled with new land acquisitions.</i>	Conservation, Trail Committee	Medium
		5.2-B	<i>Develop and promote programs for all age groups and user groups within the population.</i>	Conservation, Recreation	Medium
		5.2-C	<i>Develop a map or other tool that identifies and prioritizes areas underserved by recreation facilities and other gaps.</i>	Recreation	Medium
		5.2-D	<i>Create a Grafton Trail Loop and Layout preferred location and begin securing trail easements with affected property owners.</i>	Conservation, Trail Comm, Recreation	Long

GOAL 5: Expand Grafton’s Recreation and Conservation Resources					
Objective		Action		Responsible Party	Timing
5.3	Work with boards, organizations and other entities in the Town of Grafton to coordinate conservation efforts.	5.3-A	<i>Evaluate Transfer of Development Rights for possible adoption.</i>	Planning, Ag Comm, Conservation	Long
		5.3-B	<i>Work with Grafton’s working farmers and agricultural land owners to encourage the continued preservation of the Town’s remaining agricultural resources.</i>	Ag Commission, Conservation, Economic Development, Planning	Medium
		5.3-C	<i>Amend flexible development rules in Grafton Subdivision Rules and Regulations to require developers to clearly and permanently mark open spaces in subdivisions through the installation of signage or other permanent method.</i>	Planning, Conservation	Short
5.4	Establish an Open Space and Recreation Site Committee to review Town-owned land and prioritize parcels that could be used for conservation and recreation purposes.	5.4-A	<i>Work to establish a committee to review Town-owned land for updated uses related to open space and recreation needs. Committee would specifically focus on lands emerging out of Chapter Lands programs.</i>	Conservation, Recreation, Planning, Select Board, Assessors	Medium

GOAL 6: Connect Grafton's Recreation and Conservation Resources				
	<u>Objective</u>	<u>Action</u>	<u>Responsible Party</u>	<u>Timing</u>
6.1	Improve and expand the system of Town-wide trails to provide a variety of recreational opportunities, such as hiking, jogging, skiing, biking, and horseback riding	6.1-A <i>Explore options for use of Grafton-Upton Railroad ROW from Snow Road intersection in the North to the Upton border in the South for a multi-use trail. The section South of the Town Common will be a key component of a walking path from the Common to Silver Lake.</i>	Conservation, Select Board	Long
6.2	Improve public access to and connectivity between Grafton's active and passive recreation areas, facilities, conservation lands and points of interest	6.2-A <i>Restore and maintain the waterway identification signs at road crossings.</i>	Conservation, Dept of Public Works	Ongoing
		6.2-B <i>Develop and maintain up-to-date inventory of sidewalks, including current condition, to promote timely repair and improvement of sidewalk network.</i>	Dept of Public Works, Select Board	Short
		6.2-C <i>Prioritize land acquisitions to purchase parcels that increase connectivity.</i>	Select Board, Conservation, Planning	Short
		6.2-D <i>Explore opportunities for development of a Town Trolley or other circulator to connect popular cultural and open space destinations.</i>	Select Board, Recreation	Long
6.3	Work with neighboring communities to create inter-municipal connections	6.3-A <i>Cooperate with the development of the Worcester to Providence bikeway.</i>	Select Board, Planning	Long
		6.3-B <i>Work with relevant town and regional organizations to develop a map of existing trails and proposed routes and destinations.</i>	Conservation, Planning	Long
		6.3-C <i>Work with neighboring communities to develop trail, bikeway and other connections between communities.</i>	Planning, Conservation	Long

GOAL 6: Connect Grafton's Recreation and Conservation Resources					
	<u>Objective</u>	<u>Action</u>	<u>Responsible Party</u>	<u>Timing</u>	
6.4	Secure Green Belt along waterbodies in Grafton	6.4-A	<i>Develop Grafton Trail Loop, Green Belt Master Plan laying out possible easement routes, identifying publicly and privately-owned parcels and developing a strategy for securing easements, funding sources and other logistics</i>	Planning, Conservation, Select Board, Recreation	Long
		6.4-B	<i>Secure land along Silver Lake shoreline, Quinsigamond River, Blackstone River and Fisherville Mill Pond toward the development of a comprehensive Green Belt.</i>	Conservation, Planning, Recreation, Select Board	Medium
		6.4-C	<i>Pursue development of trails along parcels along lands already owned by the Town, Land Trust or other public agency.</i>	Conservation, Trails Committee	Medium
		6.4-D	<i>Pursue policies to encourage private developers grant easements as part of any new developments along Green Belt route.</i>	Conservation, Planning Select Board	Long

SECTION 10: PUBLIC COMMENTS

Multiple draft versions of this update of the Open Space and Recreation Plan were distributed to the Planning Board, Select Board, Town Administrator, Conservation Commission, and the Central Massachusetts Regional Planning Commission (CMRPC). [Section 2B. Planning Process and Public Participation](#) discusses the public participation process that was followed to gain municipal and public input. The following required letters of support are attached:

- Central Massachusetts Regional Planning Commission (CMRPC)
- Grafton Select Board
- Grafton Planning Board



1 Mercantile Street – Suite 520
Worcester, MA 01608
508.756.7717 P
508.792.6818 F
www.cmrpc.org

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge St., Ste. 900
Boston, MA 02114

August 29, 2019

RE: Town of Grafton 2018 Open Space and Recreation Plan

Dear Ms. Cryan;

The Central Massachusetts Regional Planning Commission (CMRPC) is writing this letter in support of the Town of Grafton and its recently completed 2019 Open Space & Recreation Plan. The Town and its Open Space and Recreation Committee (Committee) are to be commended for their hard work putting this Plan together.

The Committee and its consultant, the CMRPC, have done a very thorough job and the final document appears compliant with the standards for such plans as promulgated by your office. This plan highlights how Grafton continues to be a desirable place to live and examines the demand and pressures associated with residential development. Grafton has recognized the need to balance new development with the need to protect open space and enhance recreation opportunities. In particular, this Plan documents the continued public interest and municipal action to create a safe and comfortable environment for walkers, runners, and bikers.

Grafton's Open Space and Recreation Plan will provide the Town with the specific guidance and action steps needed to accomplish its goals and objectives. These goals and objectives, which have been informed by significant community input, are clearly laid out in this plan. This Plan also recognizes the need for partnerships with public and private entities to make its goals and objectives a reality. To this end, several local groups, such as land trusts and private land owners, are included in the plan and referenced in several objectives. Many of these partnerships are currently being pursued by the Conservation Commission and Planning Board. The Town of Grafton will be well-served by having a State-approved Open Space and Recreation Plan in order to plan for its recreation facilities and programs, as well as to preserve and protect its valuable open spaces and natural resources.

Please consider this letter to be a demonstration of CMRPC's support for the Plan and the process used to develop it. We find Grafton's Plan to be fully consistent with the goals and objectives outlined in the Town's recent comprehensive planning projects, CMRPC's Regional Open Space and Recreation Plan, our 2020 Growth Strategy for Central Massachusetts (2000), its 2004 Update, and the Massachusetts



1 Mercantile Street – Suite 520
Worcester, MA 01608
508.756.7717 P
508.792.6818 F
www.cmrpc.org

Statewide Comprehensive Outdoor Recreation Plan. While these plans are helpful in providing Grafton with a comprehensive

analysis of the larger region, this OSRP will significantly help the Town due to the amount of local knowledge that it includes.

Sincerely,

Trish Settles, AICP
Regional Collaboration and Community Planning Manager

Cc: Grafton Open Space and Recreation Committee
Grafton Planning Board
Grafton Board of Selectmen

SECTION 11: REFERENCES

- Central Massachusetts Regional Planning Commission, Employment and Population Projections, 2014.
- Central Massachusetts Regional Planning Commission, 2016 Long Range Transportation Plan.
- Central Massachusetts Regional Planning Commission, 2012 Blackstone Valley Prioritization Plan.
- Milesi, C., et al. (2005). Mapping and modeling the biogeochemical cycling of turf grass in the United States. *Environmental Management* 36:426-438.
- Massachusetts Conservation Restriction Handbook, <http://atfiles.org/files/pdf/MAconsrestrict08.pdf>
- Massachusetts Department of Environmental Protection. Downloadable Site Lists of Cleanup Sites and Locations, <http://www.mass.gov/eea/agencies/massdep/cleanup/sites/>
- Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife, Natural Heritage Endangered Species Program (NHESP), <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/>
- Massachusetts Department of Labor and Workforce Development, Employment and Wages (ES-202), <http://www.mass.gov/lwd/economic-data/>
- Massachusetts Department of Transportation (MassDOT) Road Inventory File, <http://gis.massdot.state.ma.us/maptemplate/roadinventory>
- Massachusetts Division of Watershed Management Watershed Planning Program, Massachusetts Year 2014 Integrated List of Waters Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act, December 2015, <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
- Massachusetts Division of Watershed Management Watershed Planning Program, Massachusetts Year 2012 Integrated List of Waters Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act, March 2013, <http://www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf>
- Massachusetts Executive Office of Energy & Environmental Affairs, Open Space Planners Workbook, Revised 2008.
- Massachusetts Executive Office of Energy and Environmental Affairs, Massachusetts Statewide Comprehensive Outdoor Recreation Plan, 2017.
- Massachusetts Historical Commission, Massachusetts Cultural Resource Information System (MACRIS), accessed December 2017.
- Massachusetts Office of Geographic Information (MassGIS)
- Massachusetts Urban and Community Forestry, MassGIS, <http://maps.massgis.state.ma.us/dcr/forestry/forestry23.html>
- US Census Bureau, 1990, 2000, 2010 Decennial Censuses
- US Census Bureau, American Community Survey, 2012-2016
- US Census Bureau, Survey of Business Owners, 2012

U.S. Department of Agriculture (USDA) USDA Soil Conservation Service, Central Massachusetts Regional Planning District, General Soil Areas Central Massachusetts Regional Planning District, 1965

U.S. Geological Survey (USGS) National Gap Analysis Program,
https://gis1.usgs.gov/csas/gap/viewer/land_cover/Map.aspx