

ORANGE OPEN SPACE AND RECREATION PLAN



2016 - 2023

PREPARED BY:
ORANGE OPEN SPACE AND RECREATION UPDATE COMMITTEE
AND
FRANKLIN REGIONAL COUNCIL OF GOVERNMENTS
PLANNING DEPARTMENT

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SECTION 1

PLAN SUMMARY

The purpose of the Orange Open Space and Recreation Plan (OSRP) is to identify the town's unique agricultural, historical, recreational, natural and scenic resources and to provide a framework for the town's future decisions regarding land conservation and development.

The OSRP recognizes the strong connection between Orange's sense of place and the town's large areas of forest, small parks and playgrounds, hillsides, farmland, rivers, lakes, ponds and wetlands, agricultural lands, scenic views, and significant historical structures and landscapes. The OSRP also illustrates the role that undeveloped lands have in providing wildlife habitat, ensuring the integrity of drinking water supplies, and contributing to the local economy. Finally, the plan outlines the role that the Town's parks, playgrounds, trails, and public open spaces play in supporting overall community health and revitalization.

The Plan highlights the town's natural and recreational resources, including:

- Large forest areas and contiguous forest blocks;
- Prime farmland soils;
- Undeveloped ridgelines and monadnocks, such as Tully Mountain;
- Riverfront Park, Butterfield Park, and other recreational facilities/areas;
- Critical habitat lands;
- Wetlands;
- High-quality ground and surface waters, including aquifers, the Millers and Tully Rivers, Lake Mattawa, and Lake Rohunta/Eagleville Pond; and
- Scenic and historic landscapes, corridors and roads.

The Seven-Year Action Plan gives concrete substance to the goals and objectives that the Open Space and Recreation Planning Committee developed using the results of a public survey, input provided at a public forum, findings of recent Town planning efforts such as the 2015 Downtown Orange Riverfront Revitalization Study, and community members' understanding of their town's significant yet vulnerable natural resource base. The goals of the 2016 Orange Open Space and Recreation Plan are:

- Preserve the rural and historic character of Orange, improve air and water quality and natural habitat, and support working farms and forests through the conservation of locally and regionally important natural and cultural resources.
- Improve the quality, quantity, and accessibility of recreational resources in Orange for current and future generations.

- Support the redevelopment and revitalization of downtown Orange by investing in infrastructure improvements and cultural, recreational, and open space assets that will benefit residents and businesses while attracting tourists and new businesses to town.

SECTION 2

INTRODUCTION

A. STATEMENT OF PURPOSE

The purpose of this Open Space and Recreation Plan is to provide an accurate and thorough basis for decision-making involving the current and future open space and recreation needs of the residents of Orange. The update of the 2008 Plan represents consensus on the most important recreation and natural resource needs in town and on the best solutions for addressing them. The Seven-Year Action plan identifies steps which, when carried out by an Open Space Committee and other town boards and commissions, will move Orange closer towards successfully achieving its open space and recreation goals and objectives.

B. PLANNING PROCESS AND PUBLIC PARTICIPATION

The planning process for this update of the 2008 Open Space and Recreation Plan included the development of an Open Space and Recreation Planning Committee, a series of working group meetings to develop the draft plan, a public survey to gain input into the open space and recreation priorities and needs of the community, and a public forum where the draft action plan was presented for comment.

The Open Space and Recreation Planning Committee was formed in 2014 to work on the update with assistance from the Franklin Regional Council of Governments (FRCOG) staff. Committee members included the Community Development Director, two members of the Conservation Commission, a Planning Board member, and two interested residents. The Committee and FRCOG staff met a total of 12 times between November 2014 and June 2016 to review draft sections and maps, and to plan for the public outreach components of the process.

In 2015 the Committee developed the Orange Open Space and Recreation Survey, which was available at Town Hall, Wheeler Memorial Library, Moore-Leland Library, the Police Station, Trail Head Outfitters, and the Riverfront Park Boathouse, and available on the Town's website. Three of these locations are within Environmental Justice areas. In addition, the survey was distributed to low-income residents through the Orange Housing Authority and the Franklin County Housing and Redevelopment Authority. The survey was publicized in the local newspapers, on the Town's website, and at a Park(ing) Day event in downtown Orange. A total of 88 responses were collected. The survey and results are located in the appendix.

On Monday, June 27, 2016 a public forum was held at the Town Hall to present the draft Open Space and Recreation goals, objectives, and action items, and to gather feedback on priorities for

the next seven years. The forum was advertised in the local newspapers, on the Town's website, and via flyers handed out at the Orange Annual Town Meeting, which took place one week prior to the forum. Approximately 27 people attended the forum. Input from the forum was used to identify priorities in the Seven-Year Action Plan. Comments expressed at the public forum were recorded and included in Section 10: Public Comments. The draft plan was available on the Town website after the forum for public review.

C. ENHANCED OUTREACH AND PUBLIC PARTICIPATION

Orange includes two environmental justice areas where median household incomes are less than 65% of the statewide median household income (\$62,072 in 2010). In order to ensure meaningful participation from residents within these areas of town, the public participation elements of the 2016 Open Space and Recreation Plan update process made efforts to reach residents in these neighborhoods. Specifically, the public survey was made available at three locations within the EJ areas: the Town Hall, Trail Head Outfitters, and the Police Station. In addition, surveys were distributed to Orange Housing Authority and the Franklin County Housing and Redevelopment Authority tenants living in Orange. Paper surveys were also available in the community room at the Red Brook Lane affordable senior housing development.

SECTION 3

COMMUNITY SETTING

The Town of Orange contains both rural and urban landscapes that have been established, developed, and affected by its human inhabitants over the past several hundred years. Planning for open space in Orange must account for the complex relationships between people and the open spaces and natural resources upon which they depend. Continued growth without consideration of the natural systems that need to be protected, such as drinking water supplies, will reduce the quality of life for future generations.

The information provided in this section, *Community Setting*, inventories and assesses the human and land use components of the landscape, moving from the present, to the past, and then to the potential future based on current development trends. The *Regional Context* gives a snapshot of Orange today, and identifies the ways in which the location of the Town within the region has affected its growth and quality of open space and recreational resources. *History of the Community* looks back at the manner in which human inhabitants settled and developed the landscape. Next, using statistical information and analysis, *Population Characteristics* shows the reader who the people of Orange are today and how population and economic trends may affect the Town in the future. Finally, *Growth and Development Patterns* describes specifically how the Town of Orange has developed over time and potential impacts that the current zoning could have on open space, drinking water supplies, and municipal services.

A. REGIONAL CONTEXT

Regional Context concentrates on the location of the Town of Orange relative to natural and socio-economic resources in the region and State and demonstrates the significant influence a physical location can have on community characteristics including the quality and quantity of open space and recreational resources. It also considers the impact that different land uses, located within the Town of Orange and surrounding communities, have on regional open space and recreational resources. Finally, it offers possible regional strategies for environmental and open space protection.

The Town of Orange, Massachusetts is located in the north central region of the State, at the eastern extreme of Franklin County less than three and a half miles from the New Hampshire State line. Orange borders the towns of Warwick, Wendell, Erving, and New Salem in Franklin County and the towns of Athol and Royalston in Worcester County. While Franklin County is the most rural county in the State, Orange, which is less than five miles west of Athol, has the third highest population in the County. It is a regional employment center for surrounding communities.

A.1 Regional Plan Context: *Sustainable Franklin County*

In 2011, the Franklin Regional Council of Governments (FRCOG) partnered with several regional organizations and towns to obtain a Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development. The partner organizations form the Sustainable Communities Consortium and include: Community Action, Franklin County Regional Housing and Redevelopment Authority (HRA), North Quabbin Community Coalition (NQCC), Franklin County Community Development Corporation (FCCDC), and the towns of Greenfield, Deerfield, Montague, and Orange. In addition to this Consortium group, a larger Steering Committee was formed to provide a variety of perspectives on the wide-ranging topic of sustainability. The Steering Committee was composed of regional organizations, non-profits, municipal officials, and residents from the region. This grant allowed the FRCOG to conduct a comprehensive regional planning process in order to create the first sustainability plan for Franklin County.

In 2013, *Sustainable Franklin County: Franklin County's Regional Plan for Sustainable Development* (RPSD) was completed. The RPSD is a long term guide for Franklin County municipal governments, regional organizations, businesses, non-profits, and individuals. Through extensive public participation, individual residents and representatives of many organizations contributed to the creation of the plan. The plan identifies issues and constraints, goals, and recommendations and strategies in seven subject areas: housing, transportation, economic development, energy, natural resources, cultural resources, and land use and infrastructure. The overall sustainable development goals that came out of the public participation process are as follows:

- Increase and improve the housing stock, while focusing on affordability;
- Provide additional options for alternative transportation;
- Encourage economic development, by redeveloping vacant sites;
- Promote energy conservation and efficiency;
- Protect natural resources, including farmland and drinking supplies;
- Foster the growth of arts and culture;
- Concentrate new growth near town centers and focus on infill development; and
- Improve infrastructure, particularly broadband.

The plan notes that the predominant residential development patterns in the county are converting farms and forests to residential lots, and fragmenting the remaining farmland and forestland. The Approval Not Required (ANR) provision of the Subdivision Control Law allows for residential development along existing roads without Planning Board approval when frontage and access requirements are met. Combined with large lot zoning in many towns, which can require anywhere from one to four acres of land per home, the result is continual residential development spaced along town roadways, away from town centers. New subdivisions, while less common than ANR development, are also often located outside of existing town centers, further fragmenting the land and converting green spaces to development.

The plan identifies proposed priority development areas and emerging development areas in the county where the majority of future development ideally would be located, reversing the current

development trends. Downtown Orange was one of five priority development areas identified where infill development and redevelopment should be encouraged, including a mix of residential, commercial, and light industrial uses. The plan notes that impacts from climate change, particularly a projected increase in flooding, may create challenges to infill and redevelopment in areas along rivers and in floodplains. Additionally, the age of water and sewer infrastructure poses a challenge to increased development in some of the priority areas. In Orange, sewer capacity is currently a major issue to redevelopment and new development in the downtown that will be discussed further in Section D. Growth and Development Patterns.

A.2 Natural Resources Context

In order to plan for open space and natural resource protection, the Town of Orange should consider valuable regional natural resources like the Quabbin Reservoir and the Millers River Watershed. These are two major natural resources that present both opportunities and challenges to open space planning. There are also natural resources that are located within the Town of Orange that contribute greatly to the region, including Lake Mattawa, Tully and Packard Ponds, and the large, mainly contiguous, forested areas in Chestnut Hill, West and North Orange. These resources are inventoried in Section 4, *Environmental Inventory and Analysis*.

The Quabbin Reservoir is a major regional recreation and wilderness area located directly south of Orange. The thirty-seven (37) square mile Quabbin watershed, covering portions of three counties, supplies water to the Boston Metropolitan Area and communities in Hamden County, and is protected from commercial and industrial development. The value of the Quabbin as wildlife habitat and as a recreational resource can be enhanced through strengthening its physical link to an existing network of permanently protected open space, with Orange as a central hub to the region for recreational activities. The presence of large, mostly contiguous, forested areas in West Orange, on Chestnut Hill, and in North Orange, contributes to the habitat, recreation, and scenic values of the region.

Orange is located in the western portion of the Millers River watershed, which includes portions of sixteen Massachusetts communities and four towns in New Hampshire. The Millers River watershed is located in north central Massachusetts and southwestern New Hampshire. It borders the Nashua River watershed on its east, the Chicopee River watershed on its south, and is one of 38 major tributaries to the Connecticut River. From its headwater tributaries in New Hampshire, the Millers River flows south, then gradually west flowing into the Connecticut River. The Millers River drains a regional landscape that is three hundred and ninety-two (392) square miles in size, three hundred and twenty (320) of which are in Massachusetts.¹ The total river length is fifty-one (51) miles, forty-four (44) of which are in Massachusetts.

The sub-basins of two tributaries represent large portions of the Millers River Basin: Tully River (74.0 square miles) and the Otter River (60.4 square miles). The West Branch of the Tully River begins in northern Orange at the confluence of Tully and Fish Brooks. The Otter River runs northwest out of Gardner, through Baldwinville to the confluence with the Millers River in Winchendon. Although the Millers River fluctuates between sluggish and rapid flows there is an

¹ Massachusetts Department of Environmental Protection (DEP) website: <http://www.mass.gov/eea/waste-mgmt-recycling/water-resources/preserving-water-resources/mass-watersheds/millers-river-watershed.html>.

average drop of twenty-two feet per mile. This feature has made the Millers River and its main tributaries a magnet for manufacturing and hydroelectric power generation, which spawned industrial development in Orange in the late 1700s and early 1800s.

All the town centers between Erving and Winchendon are located along the Millers River, or on one of its main tributaries. The presence of growing industries, dense residential development, and the use of the river as a means of waste water disposal all contributed to serious pollution problems in the past. Many of the point sources of pollution have been regulated and as a result, the Millers River is much cleaner today. However, the continued presence of dangerous levels of poly-chlorinated biphenyls (PCB's) found in fish tissue, fecal coliform, and phosphorus means that the river's ability to support recreation can be compromised. For example, fish flesh has been found to contain PCBs at levels that have motivated the Massachusetts Department of Public Health to initiate public health warnings against consuming fish caught in the Millers River. The full extent of the PCB contamination under continued study by the Massachusetts Department of Environmental Protection.

The ability for the Millers River to safely support primary and secondary contact recreation has not been assessed by the DEP, however regular testing is conducted by the Millers River Watershed Council at the Orange Riverfront Park and in West Orange, which has shown that the Millers River generally supports primary and secondary recreation, except after heavy rain events, when bacteria levels can exceed standards for primary contact. Section 4: Environmental Inventory and Analysis has more detailed information on water quality in the Millers River watershed.

Water resources in Orange provide the public with many recreational opportunities. Access to the Millers River for fishing and boating is available in downtown at the Riverfront Park and further down on East River Street. Many of the brooks in Orange are excellent for fishing, some of which are stocked with trout. Lake Mattawa and Lake Rohunta both have public boat ramps, and a public swimming area is available at Lake Mattawa. Other ponds in town are also used for boating and fishing, but may not be easily accessible to the public.

Orange, like the greater Franklin County and North Quabbin regions, has abundant forest resources. Approximately 72 percent of Orange is forested.² Between 1971 and 1999, Orange experienced a 7% decrease in forest land use, representing a loss of approximately 1,285 acres. Forests may have been cleared for development, as well as for other purposes, such as farming or to support certain types of wildlife habitat. During that same period, small lot (less than half an acre) residential development increased by 186 acres, and large lot (greater than half an acre) residential development increased by 451 acres. Commercial and industrial land uses also increased in total acreage in town by 119 acres. In recent years, new residential development has been built both within the downtown area and in the rural areas of town, either as Approval Not Required lots along existing roads, or within new subdivisions.

In 2014, Harvard Forest published *Changes to the Land: Four Scenarios for the Future of the Massachusetts Landscape*,³ an evaluation of the consequences of four different trajectories for

² 2005 MassGIS Land Use data.

³ <http://harvardforest.fas.harvard.edu/changes-to-the-land>.

how land use could change in the state over the next 50 years, with a specific focus on the impacts to the region's forests. The scenarios reflect different amounts and intensities of land development, timber harvesting, farmland expansion, and forest conservation.

The four scenarios are as follows:

- *Scenario #1: Recent Trends* – Represents a future in which recent patterns of forest conversion to development, agriculture, land conservation, and timber harvest resemble land use during the period from 1999 to 2005.
- *Scenario #2: Opportunistic Growth* – Represents rapid economic growth and new development with little environmental regulatory controls, no land use planning, and management of natural resources is directed by economic opportunity with little public oversight.
- *Scenario #3: Regional Self-Reliance* – Represents a future in which the region's reliance on oil, growing energy demands, and soaring food prices drive up interest in biomass harvesting for energy and clearing of forests for agricultural production to meet the food and energy needs of the region.
- *Scenario #4: Forests as Infrastructure* – Represents a future in which the forested landscape is actively managed and protected from development as valuable living infrastructure. As growth and development continue, emphasis is given to retaining forests for carbon storage, renewable energy, local wood products, clean water, and habitat.

Key findings from the study show that the Forest as Infrastructure scenario ranked first in terms of benefits to people and nature. Under this scenario, accelerated land conservation targeted to areas of priority habitat would protect more than half a million acres of priority habitat by 2060. Widespread adoption of "improvement forestry" would maintain critical forest benefits while increasing local wood production. The majority of new development would be clustered and concentrated near existing cities and towns to minimize forest loss and reduce the impact of growth on water resources and forest habitat.

Finally, the study found that the loss of forests to development has more immediate and pronounced impacts on carbon storage and water quality than gradual forest changes associated with climate change. The report emphasizes how local land-use decisions can greatly influence the ability of the state's forests to offset greenhouse gas emissions and moderate the effects of climate change. The overarching policy implications from the study are that there is much to gain by conserving forests and managing them well by:

- 1) Recommitting to land conservation,
- 2) Redoubling land-use policy and smart-growth efforts⁴ through local and state zoning reform that supports transit-friendly, walkable communities where new growth uses land efficiently and limits impacts on natural resources, and
- 3) Promoting sustainable forestry in the Commonwealth.

⁴ To learn more about Smart Growth, see the Massachusetts Executive Office of Energy and Environmental Affairs' Smart Growth/Smart Energy Toolkit at http://www.mass.gov/envir/smart_growth_toolkit/.

Farmland and prime agricultural soils are another natural resource of regional significance that is impacted by development. Currently approximately 5 percent of the land in Orange is actively being farmed. A recent study shows that Franklin County could have enough active farmland to grow all its own food if needed. Complete food self-sufficiency is not necessarily practical, but Franklin County could strive for food self-reliance, in which all its own vegetables, dairy and meat, and much of its grain and fruits could be grown locally. Protecting farmland and keeping it affordable is a key strategy to help ensure the region's sustainability. Currently, only 25% of the region's farmland is permanently protected.⁵

A.3 Socio-Economic Context

The Town of Orange is a regional employment center for surrounding towns. Waterpower, manufacturing, the railroad, and Route 2, all have influenced the development and growth of the Town of Orange and the region. Like many communities along the major waterways in the region, Orange has experienced a significant economic decline since its manufacturing heyday. As will be described in the next section, Orange's manufacturing center developed due to the harnessing of the hydroelectric power of the Millers River and the presence of a vast forest resource base. Then later in the 1840's, the railroad linked Boston with Mechanicsville, New York through Orange Center. This spurred further industrial and dense residential development in Orange Center. However, manufacturing declined across the region during the latter half of the 20th Century. After the Interstate highways (I-90 and I-91) were developed, Orange and other communities in the eastern portion of Franklin County failed to see the levels of population growth that were exhibited in the 1970's and 1980's in other areas of Massachusetts. In recent years larger commercial activity has moved east from Orange Center down Route 2A, providing an opportunity for revitalization in Orange Center based on cultural and small-scale business development.

The Town of Orange currently has moderate population growth but poor traditional economic indicators including high unemployment rates as compared to other communities in the region. However, Orange's rural and urban nature, ongoing safety improvements being implemented for Route 2, such as intersection and climbing lane improvements, the development of a second industrial park in 2000, and the presence of the municipal airport could create job opportunities and as a result, population growth in the future.

An estimated 14.3% of Orange's residents live in poverty.⁶ Poverty is determined by annual income based on the size of a household and the number of children within the household. For example, the poverty threshold for a one-person household in 2012 was \$11,720. The poverty threshold for a four person household with two children was \$23,283.⁷ In addition, the estimated 2012 median household income in town of \$42,780 was much lower than the county median. An estimated 62.2% of individuals that live in Orange qualify under HUD's definition of Low-Moderate Income based on 2013 data provided by the Department of Housing and Community Development. Low-Moderate Income is defined as households earning less than 80% of an

⁵ *Sustainable Franklin County: Franklin County's Regional Plan for Sustainable Development*. Franklin Regional Council of Governments, 2013. www.frcog.org.

⁶ U.S. Census 2008-2012 American Community Survey Five-Year Estimates.

⁷ U.S. Census Bureau poverty thresholds. <https://www.census.gov/hhes/www/poverty/data/threshld/index.html>.

area's median income, based on household size. In Orange, 80% of the Area Median Income⁸ in 2013 was \$50,240.

Poverty is known to create barriers to access (to health services, quality education, healthy food, housing, and other basic needs and opportunities) and to contribute to poor health status generally. Franklin County's poverty rate is estimated to be slightly above the Massachusetts average. According to the Massachusetts Department of Public Health (DPH), in 2012, the Ralph C. Mahar school district, which includes Orange, had the highest percentage (20.7%) of students considered overweight, and one of the highest percentages (36.6%) of students considered overweight or obese, in Franklin County.⁹ Orange also has one of the highest percentages of adults who are obese compared to other communities in the state, according to the DPH. The prevalence of lack of physical activity among adults in Orange was also reported at a higher rate than other communities in the state.¹⁰

In 2008, Governor Patrick released a Call to Action, which documents the extent of the obesity epidemic in Massachusetts, its consequences, and efforts to tackle it. To help address this significant public health problem, the Massachusetts Department of Public Health launched the Mass in Motion (MiM) program in January 2009. The program includes technical assistance and grants to cities and towns to help them build policies, systems and environments that promote wellness and healthy living. Mass in Motion emphasizes the link between how a community is designed, including access to parks, healthy food, and transportation options, and public health. The program focuses on helping cities and towns design healthier communities by:

- Conducting Health Impact Assessments (HIAs) to understand how community projects, plans, or policies can affect us and our health
- Following "Complete Streets" policies that make roads safe and enjoyable for all users by installing safe bike lanes, bike racks, easy-to-follow signage, and safe crosswalks
- Preserving open space and developing recreational space and community centers where people can gather and socialize
- Improving and cleaning up existing green space and parks¹¹

In 2013 the Massachusetts Department of Transportation (MassDOT) issued the Healthy Transportation Policy Directive, ensuring that all MassDOT projects are designed and implemented in a way that provides for safe and healthy transportation options for the public, including walking, biking, and transit. The policy is a result of the Healthy Transportation Compact, a requirement of the 2009 transportation reform legislation. The compact is an inter-agency initiative between state transportation, public health, energy and environment, and housing and economic development agencies, designed to facilitate transportation decisions that

⁸ Median income for Franklin County, excluding the Town of Sunderland.

⁹ Baystate Franklin Medical Center Community Health Needs Assessment, 2013. Data from the Massachusetts Department of Public Health, 2012.

¹⁰ MA Department of Public Health.

¹¹ <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion/community/municipal-program/>.

balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment and create stronger communities.¹²

In 2015, MassDOT launched the Complete Streets program, which encourages communities to adopt a complete streets policy. Adopting a policy commits towns to work to integrate the needs of all users of the public right of way into street and roadway projects. An objective of the Complete Streets program is to “facilitate better pedestrian, bicycle, and transit travel for users of all ages and abilities by addressing critical gaps in pedestrian, bicycle, and transit infrastructure, and safety.” Through the program, communities with a state-approved policy and a prioritized list of projects are eligible for construction funding up to \$400,000 for FY 2016 and 2017.

Compared to communities closer to Interstate 495, there has not been much development pressure in Orange. However, Orange’s population increased between 2000 and 2010 while the population of Franklin County and many towns remained stable or decreased. Generally the towns in the eastern portion of Franklin County experienced population increases during this time period. Furthermore, the recently completed 2013 Franklin County Housing Study revealed a tight housing market in the county with very low homeowner vacancy rates, signifying a demand for new housing. As the economy continues to move out of the recession, new housing development may begin to increase, and this is a good time to anticipate what that growth might look like and how the town can grow its open space and recreational resources to both attract a stable range of residential and commercial development, and to accommodate that growth in the form of healthy, livable neighborhoods and accessible commercial areas. With property values still low following the recession, this may be an opportune time for the town and local land trusts to protect open space through purchase of land or development rights.

A.4 Regional Open Space and Recreation Opportunities and Issues

Along the northern, western, and southern boundaries of the Town of Orange, parcels of land have been permanently protected from development. A parcel of land that is permanently protected from development can create real value for a community by being a potential site for recreational activities, conserving habitat for wildlife and fisheries, and protecting the integrity of first and second order streams, which are the most extensive and vulnerable water resources within the Millers River Watershed. If the parcel of land is located within the recharge areas of the public water supplies it can also contribute to protecting the wells and reservoirs from contamination by point and non-point source pollution. When abutting parcels of land are permanently protected over time, based on a plan, the result can be a network of open spaces that can cover thousands of acres. When land is protected to link the open spaces of each community, together this can create a regional greenway.

Currently, Orange is part of just such a regional greenway. There is a circular belt of permanently protected open space that stretches northwest from the 60,000-acre Quabbin Reservation through New Salem, Wendell, and western Orange into Warwick. According to the Mount Grace Land Conservation Trust, these lands together are the single largest continuous tract of protected land in southern New England. The eastern half of the circular belt continues up to the state line through Royalston, and then extends south to Tully Mountain in North

¹² <http://www.massdot.state.ma.us/GreenDOT/HealthyTransportationCompact.aspx>.

Orange, Tully Lake, Birch Hill and Harvard Forest in Petersham. Another network connects the western part of the belt in Erving and western Orange through Wendell, Montague, and Sunderland to the Connecticut River. Within these networks of open spaces there are eleven (11) state forests or reservations that are popular for camping, fishing, hiking, and swimming. Specifically, the Orange State Forest, the Erving and Wendell State Forests are within a few miles west of Town.

Other protected open space and natural resources in the region, which Orange residents can take advantage of, include the New England National Scenic Trail (NET), a 215 mile trail long trail stretching from the Long Island Sound in Connecticut to the Massachusetts and New Hampshire border, which crosses some of the region's most interesting scenery, including the summit of Mt. Grace and the Millers River.¹³ Lake Mattawa and Tully Mountain located within Orange are considered to be valuable sites for recreational fishing and hiking by outdoor enthusiasts throughout the region and the State. Laurel Lake, Tully Lake, and the Northfield Mountain Recreation Area are other nearby regional attractions. Some natural and recreational resources can only be conserved through permanent protection of land across town boundaries. In addition, the presence of this potential greenway provides more opportunities for the Town of Orange to protect key parcels that add to this regional resource.

The development of the Orange Riverfront Park on the bank of the Millers River in downtown Orange has been an effort of many groups resulting in a key downtown recreational resource for Orange and the broader North Quabbin region. The Park serves multiple users for various activities, and is an anchor for downtown open space and recreation activities. The site identified for the park had once been a gas station, and later was the location of the town highway garage. In the 1990's, the garage was moved to the Orange Airport, and funding from the Franklin Regional Council of Government's (FRCOG) Brownfields Clean-up Revolving Loan Fund was used to clean the site of contaminants. The FRCOG then assisted the town with securing grants for the final design and construction of Phase I of the park. This phase, completed in 2006, included a public boat ramp and gardens, walkways, and grassed areas utilizing Low Impact Development (LID) techniques to manage stormwater runoff and protect the Millers River from pollutants.

The public boat launch is a well-used resource from early spring to late fall. The annual River Rat Race from Athol to Orange attracts hundreds of participants and thousands of visitors each year. Along the same stretch of river is the Millers River Blue Trail, a six-mile water trail created by the Millers River Watershed Council (MRWC) and inaugurated in 2011. Paddlers of all ages can use this flat water section of the river, and MRWC hosts fun paddles, which attract from 10 to 25 people and river clean-up paddles, which attract from 8 to 15 people, several times a year. The MRWC is working on establishing volunteers to help manage basic trail care along the Blue Trail, and is planning additional Blue Trail segments and potentially adding more trail access points.

¹³ New England Trail website: <http://www.newenglandtrail.org/>.



Left: The boat house and public boat ramp at the Orange Riverfront Park. Right: Participants in the Peak Expeditions Outdoor Leadership Program, 2013.

In summer 2013, Peak Expeditions began operating kayak, canoe, and paddleboard rentals from the boat house. In 2016 operation of the boathouse transitioned to Peak North America LLC. In addition to providing rentals and instruction, the company runs an Adventure Day Camp in the summer youth 9-17 years of age, with priority given to students in the Orange and Ralph C. Mahar regional school districts. Scholarship aid is available to Orange students to attend the Adventure Day Camp.

The Town is interested in continuing to expand public access and recreation opportunities along the riverfront as an economic development strategy to draw more residents and visitors downtown. In 2014 Orange received a Massachusetts Parkland Acquisitions and Renovations for Communities (PARC) grant to complete improvements to Butterfield Park, including renovations to the ball field, new sidewalks, and new playground equipment. Future plans also involve moving the Highway Department's salt shed, which is located adjacent to the river and across from Butterfield Park, to open up additional riverfront space, and exploring the feasibility of attracting a whitewater rafting park to locate just below the dam in downtown. Greenworks, a non-profit group focused on promoting sustainable economic development in the North Quabbin region, is working on the redevelopment of a seven- acre riverfront parcel owned by the Erving Paper Company. Greenworks is leasing the parcel long-term for the purposes of creating a public park, outdoor recreation and potentially indoor recreation attractions. The parcel is bounded by Roche and Hamilton Avenues, West River Street and the Millers River, and is adjacent to land where the Town is hoping to develop a riverwalk from downtown.¹⁴ A Millers River Greenway project, which would create a bicycle route between the Riverfront Park and downtown Athol, has been in the works for over 20 years, and has recently received renewed attention. The project is currently in the conceptual design phase. The Town has submitted the project to the Massachusetts Department of Transportation for inclusion in the Transportation Improvement Program (TIP), which would fund construction of the project.

¹⁴ "Orange: Bikes, boats, and fun at river." Chris Curtis, *The Recorder*, December 12, 2014.

The Franklin County Bikeway is a regional resource that includes routes through Orange. The Franklin Regional Council of Governments (FRCOG) is implementing the Bikeway with the aim to provide a biking network, with both on-road and off-road facilities, throughout Franklin County, linking employment, recreational, and educational destinations. Installation of Bikeway and Share the Road signs along all routes is ongoing. Maps are available on the FRCOG website (www.FRCOG.org) and for free at local bike shops and sporting goods stores.

The Commonwealth has completed the 2012 Statewide Comprehensive Outdoor Recreation Plan (SCORP), an update of the SCORP 2006, five-year plan. SCORP plans are developed by individual states to be eligible for federal Land and Water Conservation Fund (LWCF) grants and serve as a tool for states to use in planning for future needs and uses of outdoor resources for public recreation and relaxation.

The SCORP also provides information about use of and demand for outdoor recreational resources in the state that may be relevant to Orange's open space and recreational planning efforts. The planning process utilized statewide public meetings, a phone survey, and a youth survey to gather information on current supply and demand for outdoor recreational resources. Running, jogging, and walking were the most popular activities cited by residents that they currently partake in. Other popular activities were hiking, road biking, gardening, and swimming. Hiking was more popular among residents of central and western Massachusetts than eastern Massachusetts residents. Youth responses were similar to adults, with running, jogging, walking, and swimming mentioned most frequently. Youths were more likely to participate in team sports than adults, which is not surprising given the number of organized youth athletic leagues in the state.

Demand is strongest for more trails that are close to where people live, such as town-wide trail systems that are accessible to most residents without having to drive to them. Residents in central and western Massachusetts more often mentioned hiking trails than residents in other regions as facilities they would like to see more of. Bike paths and making roads more bicycle friendly was another need identified. Increased access to water, for both swimming and boating, was often cited as a need. Forty-three percent of youth respondents stated they would like to try to canoe, kayak, and go rafting or tubing, and camp more frequently in the next five years.

Historically, regional and local transportation and manufacturing were located in sensitive natural resource areas that are most vulnerable to contamination. Regional transportation corridors including Routes 2, 2A, and 202, and the railroad can negatively affect the natural, recreational, and open space resources in Orange and surrounding communities directly and by their associated land uses. For example, Route 2 travels across both of Orange's Department of Environmental Protection Approved Zone II recharge areas for drinking water supplies. Runoff and spills of hazardous materials transported via Routes 2, 2A, and 202 have the potential for contaminating these aquifers.

In addition, the layout of regional and local transportation resources encourages sprawl development. The municipal airport, the industrial park at the junction of Routes 2 and 202, and the newer Randall's Pond Industrial Park at the junction of Routes 2 and 122 – although close spatially – are reached from different roads. This contributes to industrial development pressures

along each of these routes. In addition, there has been much commercial development along Route 2A and residential development along these and the community's other main roads.

A land use map of Orange shows intensive urban uses within the riparian corridor of the Millers River. Here, where the river is slow running, Orange has much of its current industrial and waste disposal uses within a half-mile of the Millers River. Future cleanup efforts for the Millers River will largely focus on non-point sources of pollution. Permitted point sources of pollution are represented by the many municipal and industrial wastewater treatment plants, which use the Millers River to dispose of their effluent. Non-point sources include storm water runoff that can carry pollutants from roads, roofs, and heavily fertilized lawns into streams and rivers and are much more difficult to address. Where continued use of developed areas near the Millers River is necessary, shifting the types of uses and decreasing the percentage of impervious surfaces could be accomplished over time through the adoption of appropriate changes to the local zoning bylaws. The Orange Planning Board is currently exploring potential zoning changes to encourage the use of Low Impact Development (LID) stormwater management techniques in new development and redevelopment in town to help decrease non-point source pollution to waterways.

A.5 Regional Strategies for the Protection of Open Space, Natural, and Recreational Resources

Actions at different political levels need to take place to affect the quality of open space, natural, and recreational resources in Orange and surrounding communities. At stake is the future of the region's wildlife, fisheries, drinking water, recreational, and scenic resources and all the values associated with them. Regional efforts may be more effective than local efforts because regional planning agencies, land trusts, and watershed/landscape planning groups together can attract political and funding resources that individual towns may not be able to. Towns on the other hand have the power to implement changes in land use patterns directly through zoning and open space protection.

The main regional issues developed in this first part of Section 3, Regional Context include:

- 1) Continued clean-up of the Millers River for both environmental and recreational benefits;
- 2) continued protection of open space and the retention of actively managed forests and farmland;
- 3) Planning for growth that helps to improve the downtown areas' economic viability and appeal
- 4) Promotion of healthy lifestyles for the townspeople through the design and creation of healthy neighborhoods, accessible recreational resources and improved regional transportation; and
- 5) Further promotion of the region's recreational resources as a means of economic development for the community

The Millers River Watershed Council (MRWC), a nonprofit organization dedicated to the protection and clean-up of the River, serves to facilitate communication among towns, organizations and agencies working to clean up the River and to coordinate water quality

improvement efforts throughout the watershed. Most recently, the MRWC has partnered with the Franklin Regional Council of Governments (FRCOG) on the Western Millers River Watershed Low Impact Development (LID) project. Funded through the EPA's Section 319 Nonpoint Source Pollution Grant Program, the two organizations are working with seven towns in the Franklin County portion of the watershed to provide LID education and technical assistance to develop LID bylaws and ordinances. The goal of the project is to mitigate the impacts of stormwater runoff in urban areas like downtown Orange, and to encourage development that incorporates LID to protect the sensitive areas in the more rural areas of the watershed.

LID is a group of land use development techniques that capture water and rainfall on site, filter it through vegetation and let it soak into the ground before entering the water table. In rural areas, LID strategies use careful site design and decentralized stormwater management to reduce the environmental footprint of new growth. New homes are sited where they will create the least

impact on natural hydrology and other ecological, scenic, or historic resources. Stormwater is managed in small decentralized structures such as grass swales and rain gardens that may be more consistent with the rural character than traditional "pipe and pond" systems. The width of roads and the amount of impervious surfaces are kept to a minimum to reduce stormwater runoff.



Example of a retrofitted planting strip designed to treat stormwater runoff from the sidewalk and street. Source: Green Streets Fact Sheet, Portland, Oregon.

The same decentralized stormwater management approach can be applied in urban areas, along with additional techniques to retrofit traditional stormwater management systems. Pervious pavement or permeable pavement, which allows water to flow through it, can be used to reduce impervious surfaces in parking lots and

sidewalks. Planting strips between sidewalks and curbs can be added or retrofitted to collect and treat stormwater along roadways and in parking areas. Through this project, Orange is seeking to better incorporate LID into Town projects when feasible.

Significant land protection opportunities exist within the Town of Orange and the region as a whole because of two factors: low property values and the presence of large blocks and corridors of protected open space in close proximity to the Quabbin Reservoir. Regional groups like the North Quabbin Regional Landscape Partnership (NQRLP) have the attention of state conservation agencies like the Department of Conservation and Recreation, because NQRLP represents many local constituencies, and the region currently is one of the last areas in the State with large contiguous forested blocks with significant biodiversity. According to the Mount Grace Land Conservation Trust, the Nature Conservancy has identified the North Quabbin as one of two areas in Massachusetts most suitable for designation as a large-scale priority region within

which land protection at the landscape scale could be accomplished. Land protection on Tully Mountain and the trail networking projects that have taken place are in part due to the efforts of the NQRLP. The Town of Orange should continue to work with the Partnership and others to identify and sponsor land protection efforts that conserve open space and recreation resources in Orange and the region as a whole.

State and Federal funding programs are available to help conserve forests and farmland on a landscape scale. The Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) Landscape Partnership Program seeks to preserve large, un-fragmented, high-value conservation landscapes including working forests and farms. The program offers competitive grants to municipalities, non-profit organizations, and EOEEA agencies acting cooperatively to permanently protect a minimum of 500 acres of land. The USDA Forest Service's Forest Legacy Program provides funding to private property owners to place conservation restrictions on their land, in conjunction with a management plan. The Program is only available to properties within designated areas of the state. Orange and the North Quabbin Region are within the designated areas.

The Tully Valley Private Forest Lands Initiative is one example of a land protection effort in Orange. In December of 2000, the Mount Grace Land Conservation Trust coordinated a regional land protection project, which would build upon the existing circular belt of protected land mentioned above. The Tully Valley Private Forest Lands Initiative was a pilot conservation project sponsored by the Massachusetts EOEEA. The purpose of the project was to protect a mosaic of forest and farmland under various ownerships thereby safeguarding important ecological processes and values, which occur at the landscape scale as well as access to the Tully Trail. The Department of Conservation and Recreation and the Department of Fish and Game purchased conservation restrictions from willing landowners, helping to keep the land in private ownership. Their focus areas for protection were in North Orange near Tully Mountain and surrounding areas. Several other state agencies and land trusts were involved including the Massachusetts Division of Fisheries and Wildlife, the Department of Conservation and Recreation, the Department of Food and Agriculture (now Department of Agricultural Resources) and the New England Forestry Foundation (NEFF). All together the Initiative protected over 9,000 acres of land in Orange and surrounding towns.

In December of 2001, the NEFF, which is a regional forest land conservation organization, agreed to act as the facilitator of the Chestnut Hill Project, which was organized by local landowners of contiguous acreage who are interested in the long-term protection of the portions of Chestnut Hill not already protected by the Orange State Forest. Massachusetts EOEEA provided Orange with a \$275,000 Self Help Grant to administer the project and protect land. Thirteen landowners in Orange and New Salem participated in the project with the NEFF, Department of Conservation and Recreation, and Department of Fish and Game. Approximately 1,000 acres were protected.

Recently the Mount Grace Land Conservation Trust has expanded its role in land protection by partnering with the North Quabbin Community Co-op to support the opening of Quabbin Harvest, the Co-op's retail store, in downtown Orange. In 2014, Mount Grace purchased the former Workers' Credit Union building in downtown Orange and is leasing it to the Co-op,

which features local produce and products from area farms and businesses in the store. “Mount Grace sees this partnership with the Co-op as a strategic farmland conservation tool to address the gaps in our local food system and keep our region’s farmers on the land,” said Mount Grace Executive Director Leigh Youngblood. “Increasingly, land trusts are becoming aware that land conservation alone is only part of the solution to keep our farms in production. Increasing access to affordable farmland, processing and storage infrastructure, local markets, and distribution networks is just as important.”¹⁵

Finally, planning for the protection of critical natural resource systems including underground public drinking water supplies, called aquifers, which are vulnerable to above ground land uses requires both regional and local planning. Through the FRCOG, Orange has access to regional transportation planning and MassDOT personnel. Town Officials should work with MassDOT to strengthen emergency management planning for State highways in and around the community public water supplies that DEP has approved as Zone II recharge areas.

B. HISTORY OF THE COMMUNITY

B.1 Contact Period (1500-1620)

Although there are no reported native Contact period sites, occupation probably occurred primarily on the lowlands adjacent to the Millers River, particularly in the vicinity of the villages of West Orange and Orange along the river's southern bank. Additional sites were likely on the lowlands adjacent to Tully River, and on the current sites of Tully and Packard Ponds. Upland sites may have been located on the relatively level summit of Temple Hill. Due to the terrain of the area, which is generally hilly surrounded by marshy lowlands, any native horticultural tracts would have been limited to the Millers River floodplain. This would have also been the probable location of the areas main hunting and fishing grounds as well. By the early 17th Century, this area may have been the rough dividing point between the territories of the Pocumtuck-related settlements of the Connecticut River Valley and the Nipmucs of central and central western Massachusetts.

B.2 Plantation Period (1620-1675)

The primary east-west trail was along the Millers River with the north-south route traversing the lands between Lake Mattawa and Tully Pond via an Orange Center ford way. During this time, Orange probably still had a moderate sized native population since colonial settlement wouldn't occur until the mid-18th Century. The lack of early colonial settlement in Orange is thought to be due to both the large supply of higher quality farmland in the Connecticut River Valley and the area's vulnerability to native attacks.

¹⁵ Mount Grace Land Conservation Trust website: <http://www.mountgrace.org/creating-new-market-local-farms>.

B.3 Colonial Period (1675-1775)

Orange and neighboring towns were first settled as small villages separated by acres of farmland and woods. The oldest recorded colonial settlement in Orange was on West Pequoiaq Hill in what is now North Orange.

Settlers practiced subsistence farming, as well as the grazing and hay production that were more appropriate for the shallow, stony soils and steep slopes. The average farmstead was one hundred acres and included a house, barn, small garden, and orchard. Overall eighty percent (80%) of the forested land was cleared for pastures and fields (Franklin County Commission, 1992). Homes tended to be dispersed across the hilly terrain and along its waterways, following the natural lay of the land, forming village centers like North Orange, Tully, and West Orange (Franklin County Commission, 1992).

The early economic base in Orange was clearly farm-based. Cloth and woolens were generally made in the home. Soap, cheese, honey and sausages were produced seasonally. Maple sugar production had been introduced by the Native Americans and was continued by the colonists, who planted sugar maples along the edges of roads that were widened to accommodate wagons and coaches traveling to surrounding towns. Applesauce and cider production became important products because the climate, slope orientation, and soils proved to be ideal for apple orchards. The only documented industrial facilities at the time were a sawmill and a tannery that were established by Nathan Goddard in c.1760. The Colonial Period settlement in Orange was an outgrowth of the primary settlement established in Athol. Local settlers relied heavily on Athol for supplies because of Orange's limited economic base.

B.4 Federal Period (1775-1830)

By 1783 a district had formed from portions of the surrounding towns of Athol, Royalston, Warwick, and Ervingshire. The Town's first meetinghouse was established in North Orange in 1783 and this area served as the civic center. A mill village was also located at Tully Pond. Lowland farming centered around North Pond (Lake Mattawa) while upland agriculture extended to the limits of cultivation along Tully Meadow. In 1790, the first dam was built on the Millers River and attracted new settlement and industries to the riverside area of Orange Center. A sawmill and a gristmill were the first of several prosperous industries to make use of waterpower there, even while agriculture was still the predominant land use. Soon, the change from agriculture and grazing to commercial and industrial employment would radically transform the social, economic, and physical shape of the Town.

While agricultural land was abandoned in the outlying areas of Town, new housing was built in dense clusters along the Millers River. A gridiron street system was adopted for the downtown and neighborhoods developed in dense clusters. Civic and institutional buildings were erected to accommodate the growing industrial population. Stagecoach lines carried mail and passengers to different points around Town and tollhouses dotted the landscape. New roads and turnpikes linked the Town to the region for trade opportunities.

Early manufacturing in Orange included a scythe shop (1803) and forest products from nearby cleared land. These included pails, bedsteads, and boxes. Other products of Orange's early manufacturing base were cloth, woolens, hides, bricks, earthenware, caned chairs, and iron works such as fireplace fixtures and candlesticks. Factories requiring raw materials were built directly on the river's edge and the need for new transportation systems increased (Franklin County Commission, 1992). Roadways now extended throughout the growing Town to provide access for new settlers. The landscape now consisted of clusters of settlement with industrial and residential buildings surrounded by outlying areas of meadows and recovering woodlands.

B.5 Early Industrial Period (1830-1870)

With the introduction of the railroad in the 1840's, infrastructure developed along the edge of the Millers River and came to symbolize the inventiveness and prosperity of the industrial era. Portions of New Salem and Erving were annexed in 1837 to make South Orange (now Orange Center) the geographic and commercial center. Several rail lines connected Orange to other regions. The major east-west rail link from Boston to Mechanicville, New York passed through Orange Center. A trolley line between Athol and Orange led to the Town of Fitchburg where passengers connected to the "Rabbit Railroad" for Springfield and points south. Finally, the Vermont and Massachusetts Railroad at Millers Falls traveled to Brattleboro. With its proximity to Greenfield, the transportation center at that time, Orange became a major hub for the distribution and trade of raw materials and locally manufactured goods.

New technology also improved farming techniques and made domestic chores easier. With the promise of new jobs, and the comforts of town life, immigrants from England and Sweden arrived, eager to work. These new settlers and the others that followed contributed to the richness and success of the Town. Soon clusters of new worker housing began to radiate out from the Town, north of Millers River, interspersed with areas of open land.

Many new industries located by the Millers River for its waterpower in this period. These included a strong woodworking and furniture industry as well as important machine shops that also needed access to the improved railroad system. In the 1840's, palm-leaf hats were manufactured in Orange. In 1845, a third of all the boots and shoes produced in Franklin County were made in Orange. In 1865, chair manufacturing employed one hundred (100) men and women and represented the dominant manufacturing industry. Some smaller mills were absorbed into larger industries, like the "New Home" sewing machine company, which moved into an abandoned wooden pail mill in 1867. Company founder John Wheeler was regarded as the Towns' most prominent industrialist once these new machines became a home necessity.

The civic focus of North Orange began to relocate to Orange Center's economic center on Millers River around 1848. Rapid expansion of industrial development followed the opening of regional railroad connections in 1848 and later the development of Civil War sewing machine factories in 1863. During this period an affluent suburban district developed along Prospect Street with a commercial district along East Main Street. Dairy farming maintained settlement along Tully Meadows and around North Pond

B.6 Late Industrial Period (1870-1915)

Between 1870 and 1915, Orange grew by 157% to a total of 5,379 people. This was due to the expansion of local industries, namely New Home Sewing Machine, Rodney Hunt, and Chase Turbine.

Orange Center continued to expand as the center of economic and civic activity with a primary industrial corridor along the Millers River Railroad line. The commercial district remained along East Main Street with multiple story blocks along North-South Main Streets. The civic focus centered on Prospect Street hill. Later in the period there was considerable expansion of industrial development along River Street with secondary residential development along South Main Street and Walnut Hill Street. To the north of the river, a more modest residential district developed with multiple-family housing along Mechanic Street and West Main that extends to a secondary village at West Orange.

For most of this period, Orange's manufacturing economy was dominated by (in order of value of product sold) the New Home Sewing Machine Company, Rodney Hunt Machine Company, (founded in 1873 to manufacture machinery and turbine parts), Chase (turbine parts) and a cluster of furniture manufacturing firms. Beginning in the late 1880's the Town began to attract a large group of new industries. These included a modern box factory, a shoe factory in 1887 (employed 250 people by 1892), the Leavitt Machine Company in 1890, the Whitman Grocery Company in 1894 (which made Tapioca), and two tool plants, in 1903 and 1908. Another new company was the Grout Automobile plant, which was established in 1899, and produced one car a day. This early steam-powered machine was road tested on inclines like Walnut Hill and upper Mechanic Street, and reached speeds of thirty (30) miles per hour. It received a gold medal award for steam engine design at the Philadelphia Automobile show.

The town's major institutional buildings were all built during the Late Industrial Period, including Town Hall (c. 1900), Center School (c. 1890), Center Congregational Church (c. 1900), Putnam Opera House (c. 1877), Orange Savings Bank (c. 1874), Mann Block (c. 1892-1954) and Memorial Hall (c. 1892- 996). Other surviving buildings from this period include three or more churches, Wheeler Memorial Library (c. 1912), Wheeler Mansion (c. 1910), and most of the commercial buildings on East Main Street. The finest complex of three and four-story brick buildings in Orange Center are at 50 and 58 South Main Street, formerly a portion of the New Home Sewing Machine complex (c.1885).

B.7 Early Modern Period (1915-1940)

By the early 20th century, the Town's period of major growth had passed even though there were growth spurts in the late 1920's and 1930's. By this period, thousands of acres of abandoned farmland throughout the Town had reforested naturally. The Orange State Forest was set aside for hunting and recreation on three tracts of land at the Town's western edge. Public parks like Butterfield Park were integrated into residential neighborhoods to alleviate the density of worker housing. Interest in the rural landscape was growing along with industrialization, and people were attracted to places like Orange for recreation. The railroads and newly established scenic

auto routes showed off the natural beauty of the Town, and seasonal cabins were built at Lake Mattawa, Packard Pond, and in surrounding forest areas.

B.8 Late Modern Period (1940-present)

By the mid-20th century, agriculture was no longer a primary industry. The Town's growth and economic stability continued to depend on manufacturing industries like the Rodney Hunt. Later in the 1920's and '30's, the Minute Tapioca Company was a leading employer manufacturing this mass-produced dessert food for worldwide distribution. Another important firm was NRG Industries (formerly the Orange foundry), which produced rough iron castings, wood burning stoves, and accessories.

However, the manufacturing base in towns like Orange had declined from their highpoint earlier in the century. As roadways and auto travel competed with the rail system, small, regional industries gave way to larger, centrally located plants in other parts of the country. Trucking moved goods efficiently over long distances. People retreated to their private automobiles for commuting to new job centers, and for vacationing and recreation. Regional highways were expanded and improved. Passenger rail service in Orange ended in the late 1950's. Downtown Orange continued to expand for a time, but soon housing began to spread to subdivisions on former agricultural land across the landscape.

C. POPULATION CHARACTERISTICS

In this section, Orange's needs for open space and recreational resources are assessed based on an analysis of demographic and employment statistics. The demographic information includes changes in total population, changes in the different age groups in Orange and changes in the density of development across Town. Employment statistics describe one of the most important factors in the growth of a community, the status of its economic base and labor force. In particular it is important to understand who the major employers are in Orange, whether the Town is likely to attract new businesses or will be able to aid the expansion of existing businesses, and where the best locations for economic development will be in the future.

Orange continues to grow in population, despite a slight decline in the County population as of the 2010 U.S. Census. The Town is projected to grow at a similar rate as the County over the next 25 years. The percentage of its elderly population is projected to grow to encompass almost a quarter of the population, while the percentage of residents making up the workforce – ages 16 through 64 – is projected to decrease. Per capita and median household income in Orange continues to lag behind County and State incomes, and the Town has a higher rate of residents living below the poverty line than the County and State.

C.1 Demographic Information

According to the 2010 U.S. Census, Orange has a population of 7,839, the third most populated town in Franklin County, after Greenfield and Montague. The Town has a population density of 218 persons per square mile. The historic trends show that despite the economic downturn over

the past fifty-years in Orange, the community's population has grown steadily. According to the U.S. Census, the population in Orange grew by just under 3 percent (2.8%) from 1990 to 2000, and by over 4 percent (4.3%) between 2000 and 2010, a greater rate than the County or State (see Table 3-1).

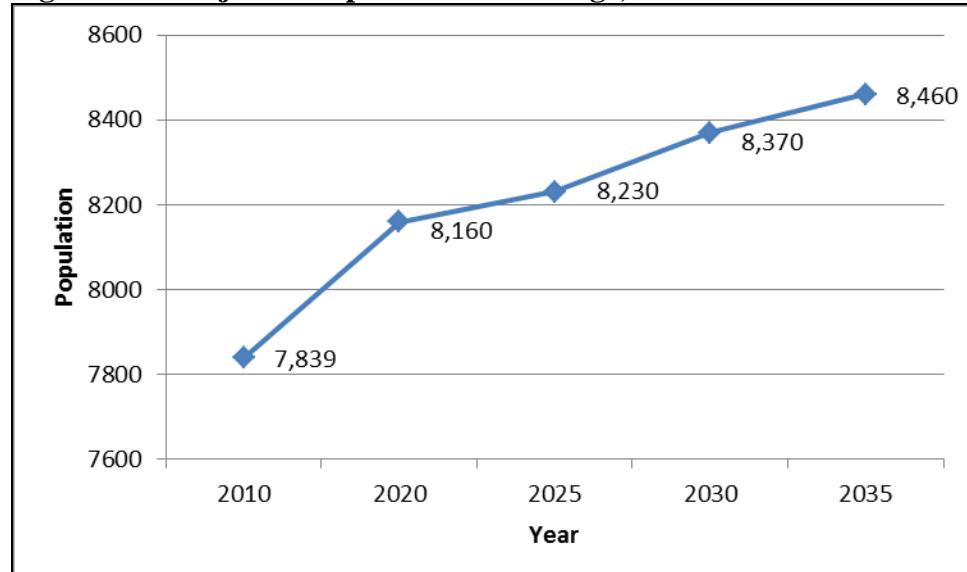
Table 3-1: Population Change, 1990 to 2010

Geography	1990	2000	2010	Percent Change 1990-2000	Percent Change 2000-2010
Orange	7,312	7,518	7,839	2.8%	4.3%
Franklin County	70092	71535	71372	2.1%	-0.2%
Massachusetts	6,016,425	6,349,097	6,547,629	5.5%	3.1%

Source: U.S. Decennial Census, 1990, 2000, 2010

According to the FRCOG and Massachusetts Executive Office of Transportation (EOT), the Town of Orange will have an estimated 8,460 residents by 2035; an increase of 621 people or roughly 8 percent (see Figure 3-1 below). This local growth rate is on par with Franklin County's projected growth rate of 8 percent during the same period. If Orange were to increase in population as projected, this would result in an estimated 269 new households needing homes to live in.

Figure 3-1: Projected Population for Orange, 2010 - 2035



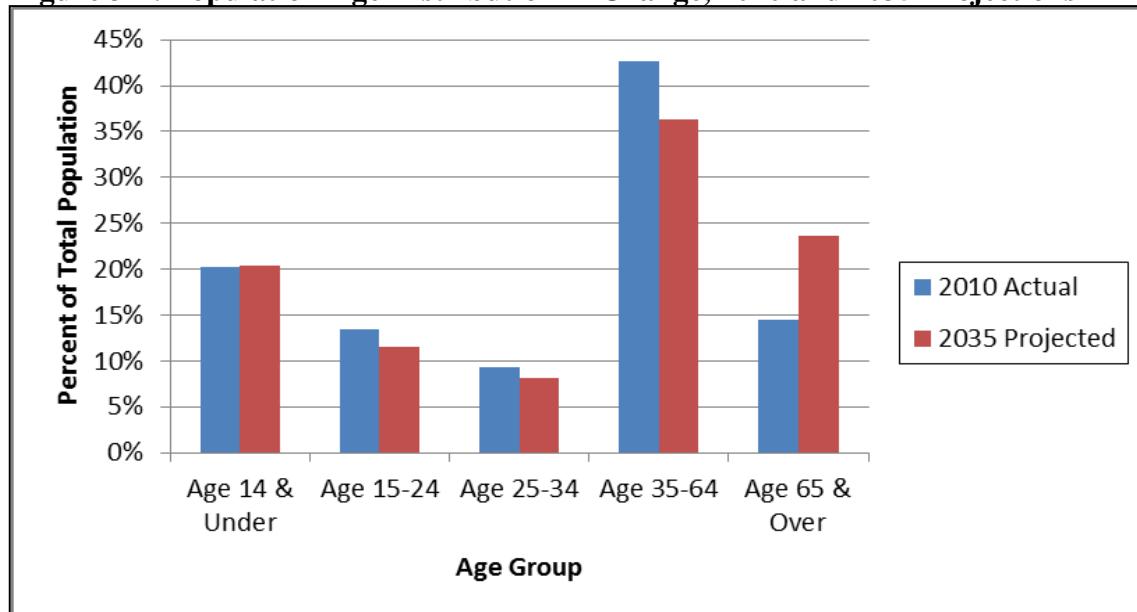
Source: MA Department of Transportation, Office of Transportation Planning, April 2011

If we assume that the Town of Orange will experience an 8 percent rate of growth in its population (an additional 621 residents) between 2010 and 2035, how will this translate into demand for open space and recreational resources? Will these additional residents be young, middle aged, or elderly? Will they live in apartments in downtown or in houses in rural outlying areas?

According to the U.S. Census, Orange had a relatively youthful population in 2010, compared to the State and County. In 2010, approximately 20 percent of the population in Orange was age 14 or under, compared to 17 percent in the County and 18 percent in the State. However, Orange also had a smaller percentage of residents aged 15-24 (13%) and 25 to 34 (9%), than the County and State, and had a slightly higher percentage of residents aged 65 and older (15%).

Figure 3-2 displays the age make-up of the population in Orange in 2010, and projections for 2035. As can be seen, the percent of residents aged 65 and over is expected to increase greatly, from 15 percent of the population to 24 percent of the population. The youngest age group of residents 14 and under is expected to remain at about 20 percent of the population, while all other age groups are projected to decline. These projections are similar to the County.

Figure 3-2: Population Age Distribution in Orange, 2010 and 2035 Projections



Source: 2010 U.S. Census and Massachusetts Department of Transportation, Office of Transportation Planning, April 2011.

As the town's population grows and ages, recreation resources will need to be available for all residents with varying abilities and interests. Providing recreational programming and facilities for older residents in particular will be a continued need over the course of the next two decades.

Recreation and exercise are becoming more and more important to peoples' lives. The Town should consider upgrading and expanding fields and playgrounds for the under twenty crowd; increasing the number of hiking and biking trails for the twenty to sixty year olds; and building other parks that are convenient and accessible for less mobile elderly and disabled individuals. Adding open space and recreational amenities will make Orange more livable for its residents and add to its appeal to attract visitors and new business. For example, the areas surrounding East and North Main Streets in Orange Center have no open play areas today. Many youngsters live in apartments that have little or no yard space, and Butterfield Park is too far away for the younger children. In Section 7, Analysis of Needs, recommendations are presented to address this problem.

The Town is in the process of making significant upgrades to Butterfield Park, and is continuing to work to promote the riverfront in downtown for recreation. These projects are discussed in more detail in Section 5, Inventory of Lands of Conservation and Recreation Interest, and in Section 7, Analysis of Needs.

As Town officials consider where to facilitate the development of new open space and recreation resources, they would do well to consider where population growth will occur and which parts of the local citizenry require specific needs. As will be seen in the fourth part of Section 3, *Growth and Development Patterns*, future growth will depend in large part on zoning and development trends.

There is room for additional residential development in Orange Center. This is a good time for Town officials to identify key parcels that might be future parks and portions of pedestrian walkways that are close to current housing and/or areas that would be developed later for residential uses. Officials also can be looking for opportunities to conserve lands in Orange that protect valuable scenic and natural resources as well as provide public access to the trail networks and open spaces that Orange residents appreciate so much. Finally, sports fields should be located close to village centers where the density of future growth will be highest.

The ability of the citizenry to pay for recreation resources and programs and access to open spaces is an important consideration. Sections of Orange qualify as Environmental Justice Population areas, where median household incomes are below 50% of the state median household income according to the 2010 U.S. Census (see the Recreation Resources map). By three measurements, per capita income, median household income, and the percent of residents living below the poverty level,¹⁶ Orange residents as a whole appear to have fewer earnings to spend on recreation and land protection than those across the County and State (Table 3-3). Franklin County has among the lowest per capita income of all the counties in the State. As such, Town Officials should seek to provide low cost or free, convenient, and easily accessible, recreational programs, parks, and conservation lands for the benefit of Orange residents. Section 5 provides more information about access to open space and recreation areas in town, and in particular considers access within the Environmental Justice areas in town.

Table: 3-3: 2012 Estimated Per Capita Income, Median Household Income, and Percent below Poverty Level for Orange, Franklin County, and Massachusetts

City/Town	Per Capita Income	Median Household Income	% Below Poverty Level
Orange	\$21,362	\$42,780	14.3%
Franklin County	\$28,841	\$53,298	11.9%
Massachusetts	\$35,485	\$66,658	11.0%

Source: U.S. Census 2008-2012 American Community Survey five-year estimates.

¹⁶ Per Capita Income - Average obtained by dividing aggregate income by total population of an area. Median Income - The median income divides the income distribution into two equal groups, one having incomes above the median, and other having incomes below the median. Poverty - The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family (and every individual in it) or unrelated individual is considered in poverty.

C.2 Major Employer and Employment Statistics

Understanding the characteristics of Orange's major employers and employment trends is important for two reasons. First, the economic health of the major employers and their associated industry sectors including service, retail, and manufacturing will impact the numbers of people employed in Orange. As employment expands an unintended result may be increases in the rates of residential development as people move to Orange to be closer to their jobs. The second reason to analyze economic trends, specifically major employers and employment, is to determine their need for additional infrastructure and land for future economic development.

In 2013 Orange had a labor force of 3,745, with an unemployment rate of 9.1, compared to 6.6 in Franklin County and 7.1 in Massachusetts.¹⁷ In 2012, there were on average 1,961 people employed (residents and non-residents) in Orange by a total of 225 employers.¹⁸

Knowing the health of Orange's major employers is very important for residents. If employment were to increase in Orange, the benefits the community would receive would vary depending on whether the jobs were full-time or part time, include benefits, and the wages paid. Although a diversity of employment opportunities is important, part-time jobs are rarely secure or long-term and they may not include benefits. The manufacturing industry usually has a higher percentage of full-time employment while service and retail often provide part-time employment. Second, manufacturing jobs are unique in that they often produce expansion in service and retail industries as well, which could produce additional demand for housing. The major employers (companies with at least fifty (50) employees) in Orange in terms of number of employees are listed in Table 3-4.

Table 3-4: Major Employers in Orange

Employer Name	Estimated Range of Employees *	Industry Sector
MBW, Inc.	100 - 249	Manufacturing
Balance Staffing	100 - 249	Administrative and Support Services
Ralph C. Mahar Reg. School Dist.	100 - 249	Education
Rodney Hunt Company	100 - 249	Manufacturing
Town of Orange **	100 - 249	Public Admin.; Education
Wal-Mart	100 - 249	Retail Trade

* Includes full-time, part-time and per diem employees.

** Estimated employment includes municipal department and school employees

Source: MA Department of Workforce Development 2014 Largest Employers by Area; FRCOG 2012 Franklin County Regional Transportation Plan.

In 2012, twenty-six percent of employment in town, or 517 jobs, was provided by manufacturing businesses, the largest employment sector in town. Two of the six major employers are manufacturing firms, which are more likely to provide full-time jobs. In addition, this group represents a large share of the industrial property that provides tax revenues. These major

¹⁷ Massachusetts Department of Labor and Workforce Development Labor Force and Unemployment data.

¹⁸ Employment and Wages (ES-202), MA Department of Workforce Development.

employers should receive support from the Town of Orange so that they remain in Town and expand locally.

In July of 2007, the Orange branch of Thomas & Betts, which manufactures electrical, electronic, mechanical, and utility products, closed. Overall, 150 jobs were lost. Although it was not possible to ascertain the share of total jobs lost by Orange residents, any job lost impacts local businesses that sell goods and services to these employees. The Rodney Hunt Corporation has been a cornerstone of employment for the Town of Orange, located in its downtown along the Millers River. In 2014 Rodney Hunt took a step back in its employment by decreasing its number of employees from about 260 to about 220. In March 2016, the company announced that it will completely close by the end of the year, for a loss of over 200 jobs to the community.

Over 200 small businesses provide employment in town. After manufacturing, retail trade is the second largest employment sector in town, providing approximately 22 percent of total employment in Orange. Education services provides 15 percent of total employment in town, while other services (excluding public administration), and accommodations and food services, provide 9 percent and 7 percent of all employment in town, respectively. These businesses provide basic services and commerce for the community and visitors to the area. Their vitality is representative of the economic health of Orange as a whole, so the Town needs to support them. For example, improving the streetscape and increasing the number of parks in Orange center as part of a main street revitalization effort would improve the appearance and livability of the downtown, and add amenities that local small business could utilize to attract qualified employees to the area.

In 2013 the Franklin Regional Council of Governments (FRCOG) conducted a market assessment for downtown Orange to help determine what demand exists for different types of businesses, and to find out what improvements residents, building owners, and businesses feel would help the downtown become a more vibrant place. A survey was developed and received 337 responses. Based upon the survey responses, there were four consistent areas identified for support:

- Improve the appearance of Downtown buildings and encourage the redevelopment of vacant or under-utilized properties.
- Increase the number and mix of restaurants and shops in Downtown.
- Enhance government services that, in particular, provide public safety and maintain the Downtown area.
- Strengthen the sense of community by creating events and developing facilities that bring people Downtown.¹⁹

The construction of the sixty-seven (67) acre Randall Pond industrial park west of the municipal airport has provided needed space for expansion of existing industries as well as sites for up-and-coming small businesses. It would be important to encourage businesses that provide value without direct and indirect negative impacts. These would include the minimizing of hazardous

¹⁹ *Downtown Orange Market Assessment: A Project to Attract and Keep Businesses in Downtown Orange*. Franklin Regional Council of Governments, 2013. <http://frcog.org/wp-content/uploads/2014/02/Downtown-Orange-Market-Assessment.pdf>.

materials use and storage, minimizing sewage production, minimizing drinking water use, minimizing traffic generation, and maximizing the ratio of property value and jobs created to space required. These requirements are all included in the Industrial Standards identified in the Orange Economic Development and Industrial Corporation's (OEDIC) report on the Randall Pond Industrial Park.

The quality of natural resources and open spaces should be important considerations when siting new commercial and industrial development and when redirecting localized expansions of existing development. The industrial park was located near the airport to take advantage of a regional transportation resource. When planning the park, the OEDIC considered potential future expansion onto properties located between the park and the airport. According to an analysis of the area's geology, there are glacial tills and clays, which in effect produce a barrier between the Randall Pond Industrial Park and the aquifer. However, most of the parcels of land currently used for industrial purposes in Orange Center are located within close proximity to the Millers River. This is mostly due to the historical use of the river for hydroelectric power, and the railroad line being located alongside the river. All future industrial development and current businesses within existing industrial sites should adopt best management practices. These new developments should also be required to refrain from using any materials that could jeopardize the quality of the river or of the groundwater. The Water Resource District in the Orange Zoning Bylaws prohibits certain land uses within the Zone I and II aquifer recharge areas for the Town's three public water wells in order to prevent contamination of the ground and surface water resources. Town Officials should also consider zoning measures that exclude those uses from the 100-year floodplain.

D. GROWTH AND DEVELOPMENT PATTERNS

D.1 Patterns and Trends

The Town of Orange developed from a sparsely populated agricultural community with its civic center in the northern highlands to a red brick downtown based on manufacturing powered by the river with transportation access provided by the railroad. This resulted in small lot housing to the north of the Main Streets, suburban neighborhoods to the south, and large lot single family residential uses along all the main roads. Like many communities across New England, Orange's pattern of development over the past one hundred and fifty-years has been one of attraction to and exodus from the Town Center. People were attracted away from farming in the highlands to manufacturing in the village center. Much later this was followed by an exodus of residents from the failing manufacturing centers to the ample open spaces of rural residential districts by way of suburban subdivisions and approval-not-required developments.

Table 3-5 shows the changes in land use in Orange between 1971 and 1999. The major changes were a loss of approximately 1,285 acres of forest and 99 acres of land in active agricultural production, and an increase of 451 acres of large lot (larger than half an acre) residential development, 336 acres of wetlands, 223 acres of open land, and 186 acres of small lot (less than half an acre) residential development.

Table 3-5: Land Use Change in Orange, 1971 - 1999

Land Use	1971	1999	1971-1999 Acreage Change
Forest	18,007	16,723	-1,285
Water and Wetlands	877	1,213	336
Agriculture	1,582	1,483	-99
Small Lot Residential (< .5 acre)	724	910	186
Large Lot Residential (> .5 acre)	817	1,268	451
Commercial	89	123	34
Industrial	64	149	85
Recreation	77	80	3
Urban Open Land*	119	190	71
Open Land**	154	377	223
Other (transportation, waste disposal, mining)	533	529	-4

* Open areas in the process of being developed from one land use to another (if the future land use is at all uncertain).

** Vacant land, idle agriculture, rock outcrops, and barren areas. Vacant land is not maintained for any evident purpose and it does not support large plant growth.

Source: 1971 and 1999 MassGIS Land Use data.

The most recent land use data for Orange and Massachusetts was collected in 2005 using new technology and a new methodology. Unfortunately this means it is not possible to compare the older land use data, presented above, to the most recent data. In the future it will be possible to compare 2005 data to new land use data as it is collected. Table 3-6 shows the acreage and percent of total land area in Orange for different land uses. Forest continues to be the largest land use in town (16,688 acres), followed by water and wetlands (1,904 acres), residential (1,788 acres when small lot and large lot residential uses are added together), and agriculture (1,260 acres).

Table 3-6: 2005 Land Use in Orange

Land Use	Acres	Percent of Total
Forest	16,688	72.5%
Water and Wetlands	1,904	8.3%
Agriculture	1,260	5.5%
Small Lot Residential (< .5 acre)	571	2.5%
Large Lot Residential (> .5 acre)	1,216	5.3%
Commercial	165	0.7%
Industrial	133	0.6%
Recreation	97	0.4%
Urban Open Land	33	0.1%
Open Land	288	1.2%
Other	674	2.9%
Total	23,029	100.0%

Source: 2005 MassGIS Land Use data.

Between 1971 and 2014 the predominant land use change in the Town of Orange has been the construction of residential development on frontage lots and in subdivisions. Most of the residential development is in the form of approval-not-required lots that have occurred in the village districts as well as the more rural districts. From 1990 to 2003, there had not been a single subdivision approved. However, in recent years (since 2004), the Town has approved three subdivisions – Evergreen Acres (thirty-one building lots off Tully Road in the northern part of Town, not yet built out as of 2014), Doubleday Fields (nineteen lots on South Main Street), and Pioneer Place (thirty-two duplexes) on New Athol Road (Route 2A). A fourth subdivision, Millers Landing on East River Street, was approved but has not been built due to bankruptcy. This subdivision was planned for fifty-one building lots. Additionally, an Open Space ANR development at the Farm School resulted in five new building lots while preserving a significant amount of open space.

Between 2000 and 2015 a total of 312 new residential housing units were permitted in Orange. It represented a nine percent increase in all the housing units in Orange since 2000. Table 3-7 shows permits issued by year and by type - single family or two-family. No multi-family housing units were permitted during this time. Figure 3-3 illustrates the trends in building permit activity from 2000 to 2015. The mid-2000s saw a sharp peak in building permit activity, followed by a steep decline at the onset of the Great Recession in 2007. In 2014 there was a slight increase in the number of permits issued for single family homes; however, in 2015 only one permit was issued.

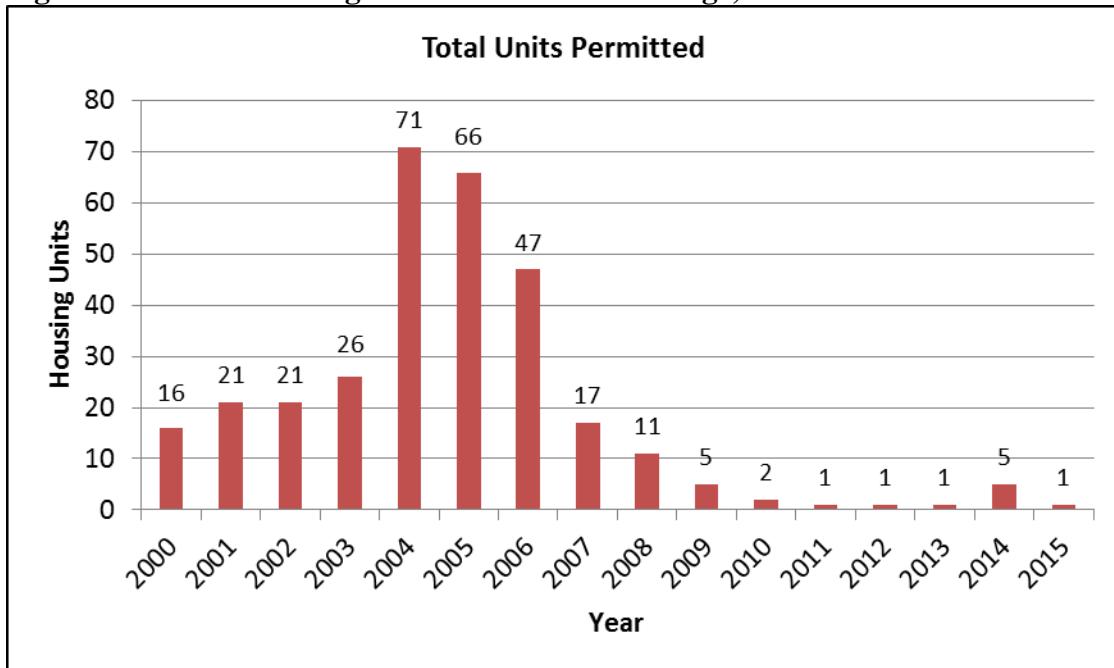
Table 3-7: Residential Building Permits Issued in Orange, 2000 - 2013

Year	Single Family	Two-Family	Total Units
2000	16		16
2001	21		21
2002	21		21
2003	26		26
2004	57	7	71
2005	56	5	66
2006	33	7	47
2007	15	1	17
2008	11		11
2009	5		5
2010	2		2
2011	1		1
2012	1		1
2013	1		1
2014	5		5
2015	1		1
Total			312

Source: U.S. Census Bureau annual building permit data, as reported by municipalities.

<http://censtats.census.gov/bldg/bldgprmt.shtml>.

Figure 3-3: Total Housing Units Permitted in Orange, 2000 - 2015



Source: U.S. Census Bureau annual building permit data, as reported by municipalities.
<http://censtats.census.gov/bldg/bldgprmt.shtml>.

A healthy housing market is generally considered to have vacancy rates between 2% to 3% for owner-occupied homes and 4% to 5% for rental properties. Franklin County currently has vacancy rates of 1.2% for owner-occupied housing units and 2.6% for rental housing units. These low vacancy rates indicate a demand for housing in the County.²⁰ As the economy improves new housing development will likely increase to meet the current demand.

D.2 Infrastructure

Infrastructure plays a vital role in current and future development patterns. Changes in regional and local transportation infrastructure in the past provided for both the rise and decline of the economic base in Orange. Drinking water supplies may be the new constraint to future growth. Orange residents should be seeking to conserve both the quantity and the quality of the drinking water within their groundwater and aquifers. The capacity of the waste water treatment plant and the location of the sewer collection system also play an important role in determining the location of dense residential development and future industrial and commercial development. Extending sewer lines without careful planning can increase residential development, reduce farming and forest acreage, and increase hydraulic flows to the wastewater treatment facility due to both.

D.2.1 Transportation Systems

Orange is located along highways that connect different portions of the north central Massachusetts to other regions. Route 2 is the major east/west highway in Northern

²⁰ 2013 Franklin County Regional Housing Study. Franklin Regional Council of Governments. <http://frcog.org>.

Massachusetts. The road is going through a significant upgrade both to improve safety and access for commercial and industrial users. When this project is completed, it could have major implications for land use in Orange.

Route 2A connects the Town centers of Orange and Athol, which are less than five miles apart. Orange and Athol are destination points for Routes 202 (via 122) and 32, two main north and south state routes that bridge the gap in central Massachusetts. These routes run along the western and eastern highlands surrounding the Quabbin Reservoir.

The main rail line of the Boston and Maine Corporation connects New England to the Midwest, serving Orange-based companies like Rodney Hunt and the Leavitt Machine Company. There is no passenger rail service at this time though there is interest in adding this service. As of 2014, construction is underway for a 4.5 mile westward extension of the Fitchburg commuter train to Boston. The new Wachusett Station will be located just off of Route 2 and Route 31 in west Fitchburg, and will have a parking lot with roughly 360 parking spaces and a bus drop off area. Track improvements are also under construction to accommodate the extension and improve commuter times along the route. The new station will make it more convenient for commuters and travelers from west of Fitchburg to access the train without having to travel into downtown Fitchburg. The project is scheduled to be complete by the end of 2014.

North-south passenger rail service is returning to Franklin County in early 2015, at the John W. Olver Transit Center in downtown Greenfield. The Amtrak Vermonter service from St. Albans, Vermont, to Washington, D.C., via Hartford, New Haven, New York, and Philadelphia, will run twice a day, with plans to add to the number of trips in the future. A connection to Montreal is also planned for the future.

The Orange Regional Airport covers four hundred and eighty (480) acres in the southern portion of town in between the town's two industrial parks. The airport, originally named Orange-Athol Airport, was created in 1929 on the site of an existing private landing site. During World War II the U.S. Civil Aeronautics Administration expanded the airport from what was originally only the front field to its current 480 acres and constructed three 5,000 foot runways to upgrade the airport for military use as an alternate landing site to Westover Air Force Base.

The airport provides a transportation benefit to the local community in several ways. The airport provides the local community with access to the national air transportation system, and likewise, the airport provides communities and businesses throughout the United States with access to Orange. In fact, the location of an airport is one of the most important considerations in locating a major business. A survey conducted by the Dow Jones Company found that local air transportation access is the single most important attribute in selecting a location for corporate headquarters, and research and development facilities.

The airport enhances the well being of the community, maintains environmental resources, supports law enforcement, transports goods and supplies, provides emergency medical transportation, and is used extensively by area businesses. The airport is a valuable economic development resource for the area and is self sufficient.

The airport also provides many recreational opportunities to the community. The front field area is available to the public and is frequently used by local residents for various activities including youth sports, dog walking, kite flying, and picnic lunches. The North Quabbin Dog Park, opened in October 2013, is also located at the airport and is open to the public free of charge. The Jumpton skydiving facility provides thrill seekers with state of the art parachute instruction for the novice as well as the advanced jump enthusiast. Jumpton and the airport both sponsor several events throughout the year which are enjoyed by spectators from near and far.

Although the airport is still utilized largely for recreational purposes, recent trends have changed the airport's role much more toward corporate use. The airport currently has about 40,000 annual aircraft operations. About 65 percent of all aircraft operations at the airport are corporate in nature.²¹

The Franklin Regional Transit Authority (FRTA) provides fixed route transit service between the John W. Olver Transit Center in downtown Greenfield and Orange. Route 32 makes seven runs per weekday from roughly 5:00 a.m. to 7:00 p.m. A transfer can be made at Hannaford's to the Montachusett Regional Transit Authority bus to Athol and Gardner. Demand response door-to-door transit service for seniors and the disabled is also provided by the FRTA. Community Transit Services (CTS) provides a public dial-a-ride service in the Athol and Orange area. Transportation is provided for work, medical appointments, shopping, education and other quality of life services. CTS also provide a feeder service to the fixed route bus system.

Orange is part of the Franklin County Bikeway, a network of on and off-road bicycling routes throughout the county. Portions of the Bikeway are located in Orange along Route 78, Route 2A from Orange Center heading west, Moss Brook Road, West River Street, and Holtshire Road. The Millers River Greenway project would create a bicycle route between the Riverfront Park and downtown Athol, and has been in the works for over 20 years. The project recently received renewed attention and is currently in the conceptual design phase. The Town has submitted the project to the Massachusetts Department of Transportation for inclusion in the Transportation Improvement Program (TIP), which would fund construction of the project. Sidewalks in Orange are located in downtown and surrounding neighborhoods. The Seven-Year Action Plan identifies a number of actions to improve pedestrian and bicycle infrastructure and connections in town, including the adoption of a Complete Streets policy (see page 3-8 for more information on Complete Streets).

Orange's transportation resources give the Town the characteristics of a hub that has yet to be fully utilized. Routes 2, 2A, and 202, the railroad, and the airport are resources that are available to support development, and will continue to affect development patterns in town. Marketing Orange as a hub in north central Massachusetts that is accessible to good transportation resources and great outdoor and recreational opportunities could be a way to attract new business and improve the economy of the Town.

²¹ FRCOG email communication with Orange Municipal Airport staff, July 2, 2014.

D.2.2 Water Supply Systems

The Town water supply is currently adequate, with three municipal wells classified as active. These ground sources are supported by two, one million gallon storage tanks. Three of the wells had their Zone II and Zone III recharge areas delineated and mapped in 1994. That same year the safe yields were calculated for each well and the entire system's permitted withdrawal volume was established. The permit is for twenty years with reviews of the water withdrawal data occurring every five years by the Department of Environmental Protection. It is expected that the permitted withdrawal volume will increase over time as the community's population and demand for water increases.

Currently the average daily use is approximately 400,000 gallons per day or 0.4 million gallons per day (MGD). The current permitted withdrawal volume is 960,000 gallons per day (0.96 MGD). The safe yield of the three wells combined is equal to 1,717,000 GPD (1.72 MGD), which exceeds current demand under normal operating conditions. The safe yield is the amount of water that can be withdrawn on a continuous basis during an extended dry period without adverse hydrological or ecological impacts (Skiba, DEP, personal communication; 1999). It appears as if there is enough drinking water for current demand.

However, Well #1 is aging and inefficient, and has poor water quality. Neither well #1 nor #2 is capable of backing up Well #3 under high demand situations. The Orange Water Department recently rehabilitated Well #2 and Well #3, and has plans to either replace Well #1 or develop a new source of drinking water elsewhere in town.²² According to the *2014 Orange Multi-Hazard Mitigation Plan*, the three water main crossings along the Millers River are potentially vulnerable to flooding. These large diameter water pipes supply water to the section of town north of the Millers River. If one or more of these pipes were wiped out due to a flood along the Millers River, water would quickly drain into the river, depleting the town's drinking water for an extended period of time. There would also be the possibility of water from the river draining into the pipes and contaminating the town's drinking water. Two options to reduce this vulnerability would be to either bury one or more of the water main crossings under the bed of the Millers River, rather than having the pipes exposed on top of the bed, or to find a source of water on the north side of the river that could be used in the event that distribution is cut off.

Orange Town Officials are considering the long-term protection of both the quantity and quality of the public drinking water supplies. The public water supply wells' Zone II and III recharge areas are now part of the Town's zoning bylaws and are considered as Water Resource Districts. Within these districts land uses that are commonly associated with the use, production and storage of materials that could contaminate the water within the aquifers are prohibited.

Water supplies and the reach of their delivery systems could limit growth in the future. A watershed can only supply a certain volume of water before its plants and animals suffer. This is theoretically the basis for having registered withdrawal volumes and for the calculation of safe yield figures. Because drinking water is a finite natural resource that is heavily regulated in Massachusetts, Town Officials should consider use of the water mains as a boundary to new

²² 2013 Franklin County Water and Sewer Survey. Franklin Regional Council of Governments.

growth in the future. At some point in the future, demand for water could exceed both drinking water and fire protection supplies.

The Quabbin Reservoir, Boston's water supply, is a unique resource which is located southeast of Orange and which could have a significant impact on the availability of water. Quabbin is part of the Chicopee River watershed, some of which is located in Orange, and is a major tributary to the larger Connecticut River. The Millers River is also a major tributary of the Connecticut.²³ As the number of cities and towns with access to the Quabbin Reservoir increase, so does the risk of shortages in supply when periodic droughts occur. The same is true of cities to the south in the Connecticut River watershed – Springfield, Massachusetts and Hartford, Connecticut – which would want to protect flows upstream from rivers like the Millers and Chicopee Rivers. This is an issue that communities such as Orange need to consider and to present to the Commonwealth and the Massachusetts Water Resources Authority as they consider growth and change in the eastern portion of the State.

D.2.3 Wastewater Treatment and Sewer Systems

The Town's sewer system includes one wastewater treatment plant and a collection system that dates back to the 1890's. Orange upgraded the treatment facility in the late 1990's. These improvements included increasing the capacity of the pumps, a new fine bubble aeration system, and upgrades to the return activated sludge controls. The design capacity of the plant for handling hydraulic flow, which is the water entering the plant, is 1.1 million gallons per day (MGD). Currently the average annual daily flow into the plant is 1.05 MGD; however this fluctuates throughout the year and is greatly impacted by infiltration and inflow (I & I) into the wastewater treatment plant.²⁴ The age of the sewer pipes has contributed to problems of I & I. Infiltration is groundwater entering cracked pipes and inflow is storm water getting into the pipes from cracked manholes and other sources. Fixing I & I problems can be an expensive proposition. A number of pipes have been replaced over the last ten years to help address the issue. One main section of pipe was repaired and according to the Chief Operator, Ed Billiel, the wastewater treatment plant has seen a significant reduction in hydraulic flow. Currently, it is estimated that 75% of the average flow into the wastewater treatment plant is from I&I. Reducing I&I flow into the plant will free up additional capacity for new users of the system.

Wastewater treatment plants are required by the MA Department of Environmental Protection (DEP) to initiate plans for expansion when the rate at which wastewater comes into the system reaches 80% of the facility's design capacity for 90 days. Because the Orange plant is operating at roughly 95% of its design capacity, the Town is under a consent order from the DEP. The order requires that all new sewer connections in town be approved by the DEP, and that a fee, based on the proposed gallons per day to be added to the system from the new connection, be paid to a "sewer bank" to help address reducing I & I within the system, thereby reducing overall flow into the plant.

²³ The Millers and Chicopee Rivers are two of thirty-eight (38) major tributaries identified in the Connecticut River waters in the Environmental Impact Statement for the Silvio O. Conte Wildlife Refuge issued in 1998 by the US Fish and Wildlife Service.

²⁴ 2013 Franklin County Water and Sewer Survey. Franklin Regional Council of Governments.

The Town also recently completed an update to the Comprehensive Wastewater Treatment Master Plan, which contains recommendations for improvements to the collection system and treatment facility. The Town is moving forward with improvements to the collection system. However, the Town is awaiting a new discharge permit from the DEP and the U.S. Environmental Protection Agency (EPA), which imposes regulations on how wastewater needs to be treated before being discharged. Once the new permits are issued the Town will work to move forward with improvements to the treatment facility.²⁵

The public sewer system can impact development in a number of ways. Access to public sewer lines allows for smaller lot sizes and denser residential development, as lot sizes do not need to be large enough to accommodate septic systems and leach fields. Sewer infrastructure also supports industrial and commercial development. Sewer infrastructure should be expanded to ensure that new industrial and commercial development occurs away from sensitive natural resources and that new dense residential development is built ideally within areas the Town has identified for new residential growth. Second, due to Title 5 regulations, Towns may be inclined to rescue residents with problem sewer systems. Expanding sewer to areas with physical and hydrogeologic constraints may open up other areas to future development. Third, expanding sewer lines increases the cost of upkeep and repair to the Town of Orange, particularly with respect to infiltration and inflow problems. In addition, new demand for public sewer service may require further expansion of the wastewater treatment capacity, which can be very expensive.

The point is that public sewer systems can be a valuable tool for controlling and, in a sense, rewarding dense residential development that remains close to existing infrastructure. On the other hand, expanding sewer can create a major drain on the Town budget due to repair costs and the costs of future community services that will be the result of expanding sparse yet sewered residential development in rural outlying areas.

D.3 Long-term Development Patterns

Long term development patterns will be based on a combination of land use controls and population trends.

D.3.1 Land Use Controls

The Town of Orange has two local land use controls: the Zoning Bylaw (including zoning districts, water resources districts, and an open space development bylaw); and Subdivision Rules and Regulations.

Zoning Districts: Orange separates the Town into six zoning districts: Village Residential (Ar), Village Residential/Commercial (Ac), Residential/Commercial (B), Residential (C), Rural Residential (D), and Commercial Area Redevelopment District (CARD). The Dimensional Schedule is described in the table below.

²⁵ FRCOG personal communication with Orange Wastewater Treatment Facility staff, June 30 and December 11, 2014.

Table 3-8: Selected Features from Town of Orange Zoning Bylaws

DISTRICT	A (r) & A (c)	B	C	D	CARD
Max. Lot Coverage	70%	35%	25%	25%	100%
Max. # of Stories	4	3	3	3	5
Min. Lot Area (sq. ft.)					
With sewer	10,000 sq. ft.	21,780 sq. ft.	43,560 sq. ft.	87,120 sq. ft.	5,000
Without Sewer	21,780 sq. ft.	43,560 sq. ft.	43,560 sq. ft.	87,120 sq. ft.	N/A
Min. Lot Frontage	50	100	100	200	50
Min. Front Yard	20	20	35	35	0
Min. Side Yard	10	10	15	20	0
Min. Rear Yard	15	15	25	35	0
Additional Lot Area Required for Each Attached Dwelling Unit over 2					
With sewer	10,000 sq. ft.	20,000 sq. ft.	20,000 sq. ft.	20,000 sq. ft.	5,000
Without Sewer	20,000 sq. ft.	40,000 sq. ft.	40,000 sq. ft.	40,000 sq. ft.	N/A

Source: Town of Orange Zoning Bylaw; June 30, 2014.

The CARD district encompasses the immediate area surrounding the intersections of West, East, North and South Main Streets, and the former industrial buildings along West River Street and the Millers River. Three state-designated Chapter 43D Priority Development Sites are located within the district – the former Putnam Hall Block on West Main Street (Route 2A); the South Main Street Block encompassing the former New Home Sewing Company buildings just north of the Miller River; and the West River Street Block, also former New Home Sewing Company buildings, on the south side of the Millers River. The Chapter 43D Expedited Permitting Program provides a transparent and efficient process for community permitting and guarantees local permitting decisions on Priority Development Sites within 180 days of the filing of a completed application. Eligible projects within a PDS also receive priority for select state funding programs.

Zoning within the CARD allows for a compact, urban environment consistent with the existing development patterns in the downtown. The district supports a mix of uses, many of which are allowed either by-right, with site plan review, or by conforming to performance standards, as opposed to requiring a special permit. Examples of uses allowed by right, and therefore encouraged in the district, include multi-family housing, inns or hotels, restaurants, banks, barber or beauty shops, and commercial and retail uses under 2,000 square feet of enclosed floor area. The CARD does not have off street parking requirements, allowing for 100% lot coverage.

Water Resource Districts: According to the Orange Zoning Bylaw, “The purpose of the Water Resource Districts is to protect the public health by preventing contamination of the ground and surface water resources providing water supply for the Town of Orange.” The following primary and accessory land uses are prohibited in Zones I and II of Orange’s three public water wells:

- Facilities that generate, treat, store, or dispose of hazardous waste;
- Sanitary landfill, septic lagoon, wastewater treatment facility for municipal or industrial wastes;
- Storage of road salt or deicing chemicals;
- Junk yards, salvage yards;
- Truck terminals with more than 10 trucks;

- Gas station, car wash not connected to Town sewer lines, auto repair or auto body shop;
- Landfills and open dumps;
- Stockpiling and disposal of snow and ice containing deicing chemicals brought in from outside the Water Resources District;
- Special waste and septage landfills except as approved by MA DEP;
- Removal of soil, loam, sand or gravel within four feet of the historical high groundwater table elevation except when redeposited within 45 days at a higher grade or for building foundations, excavations, or utility works;
- Underground storage of hazardous materials, fuel oil, gasoline;
- Storage of sludge and septage;
- Storage of commercial fertilizers unless within a structure designated to prevent the generation and escape of contaminated runoff or leachate;
- Storage of animal manure unless contained in accordance with Natural Resources Conservation Service; or
- Any use other than a single family home with on site disposal of domestic wastewater to a system with a capacity greater than 1,500 gallons per day.

Floodplain Overlay District: The Orange Zoning Bylaws include an overlay zoning district that regulates development within the 100-year floodplain in Orange. Development within the overlay district must be in compliance with wetlands laws and meet building code standards for construction in floodplains. A recommendation from the 2014 Orange Multi-Hazard Mitigation Plan is to review the Floodplain Overlay District and consider further limiting new development within the district to mitigate future damage from flooding events. An additional recommendation from the plan is to hire a consultant to map Fluvial Erosion Hazard (FEH) areas in town, and add a Fluvial Erosion Hazard Area Overlay District bylaw to the zoning bylaws to limit development in FEH areas along rivers and streams that are highly susceptible to flood-related erosion. The Vermont Agency of Natural Resources has developed a model Fluvial Erosion Hazard Area Overlay District bylaw.²⁶ This overlay district would protect areas along rivers that may not be mapped as 100-year floodplains, but which are susceptible to flash flooding events and erosion, from new development. The purpose of the bylaw would be to avoid future costly damage to property from severe precipitation events.

Open Space Development Bylaw: This town bylaw provides for a type of residential development in which the houses are sited together into one or more groups within the development, and separated from adjacent properties and other groups by undeveloped land. The purpose of this zoning is primarily to preserve open space for conservation, recreation, or agriculture purposes utilizing the natural features of the land. A revision of the Open Space Development Bylaw was part of a major overhaul of the Orange Zoning Bylaw in 2006. The minimum requirements for use of this bylaw are:

- Six acres in single ownership;
- The maximum number of dwelling units shall not exceed that which is allowed within a conventional subdivision;
- The use schedule is equal to that of the zoning district;

²⁶ See http://www.anr.state.vt.us/dec/waterq/rivers/docs/rv_municipalguide.pdf for more information.

- Access on a public or approved private way;
- Fifty-foot side and rear yard buffer strips of natural vegetation;
- Thirty-five percent (35%) of the total parcel must be set aside as common open space or open land (to be owned by the Town or covered by a conservation easement), none of which can be wetlands, floodplains, existing permanently protected open space, land with slopes greater than 25%, roadways or accessory uses.

The Open Space Development Bylaw allows for much more flexibility in regards to lot size, setbacks, and frontage, making it possible to reduce the development footprint on the site. A minimum lot size of 10,000 square feet is required, with a minimum frontage of 50 feet. Zero side lines are allowed for attached structures. In addition the bylaw allows for shared septic systems and for septic to be located within the common open space or open land. Single family and two-family homes are allowed. Open Space Development is optional, and allowed by right with Site Plan Review by the Planning Board in all zoning districts.

Since 2006, the Orange Planning Board has explored revisions to the Open Space Development Bylaw. The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) recently released a new model bylaw and best practices for open space development.²⁷ The new model promotes greater land protection and more frequent use of open space zoning in undeveloped areas within Massachusetts towns and cities. Best practices include making open space development the only by-right subdivision option, and to require a minimum of 75 percent of a parcel to be protected as open space. The best practices also encourage no minimum dimensional standards other than property line offsets, and for the zoning bylaw to clearly state the community's protection goals in order for a developer and the Planning Board to prioritize what areas should be protected within a proposed development. Requiring contiguity of open space with adjacent properties is also recommended.

Open space development is not appropriate within village centers and downtowns, where traditional neighborhood development should be encouraged when new subdivisions are created as infill development. New streets should be connected to the existing street network, and provide sidewalks that connect to sidewalks on adjacent streets. This will provide a connected network for vehicles, pedestrians, and bicyclists. However even within the village and downtown centers, open space needs should be considered. In areas that lack a neighborhood playground or park, a new subdivision presents the opportunity for a new open space resource to be created.

Subdivision Rules and Regulations: The Orange Subdivision Rules and Regulations guide the design and construction of new subdivision streets. The Planning Board worked with the Franklin Regional Council of Governments (FRCOG) in 2013 to complete a comprehensive update to the regulations. The new regulations encourage the use of Low Impact Development (LID) techniques to handle drainage and stormwater runoff in new subdivisions. LID provides a decentralized, less engineered approach to stormwater management, and often is a more cost effective and aesthetically pleasing alternative to conventional stormwater systems.

²⁷ http://www.mass.gov/envir/smart_growth_toolkit/bylaws/model-osd-nrpz-zoning-final.pdf.

The subdivision regulations also require sidewalks on major and secondary streets, and on minor streets as specified by the Planning Board. Sidewalks must connect to sidewalks on adjacent streets to provide a continuous pedestrian network. The regulations also provide an option for a multi-use path to be developed either within the right of way or within an easement, to allow for safe travel off of the roadbed. The Planning Board may also require that protected open space for passive recreation, or a park or playground, be shown on a subdivision plan. The Planning Board cannot require open space or a park that is unreasonable in size compared to the amount of land being developed. A period of three years is provided during which either the town can purchase the land, or it can be deeded to a neighborhood association for the purpose of recreation. If after three years the land has not been purchased by the town or deeded, it can be included in a new subdivision proposal. This provision gives the Town an opportunity to require recreation space within a new subdivision, but action must be taken within the three years for the land to remain available for recreation.

Overall, Orange's current land use controls will create a pattern of development today that is similar to that which was developing in the Town center around 1900. It encourages dense residential development in and around Orange Center. Along the river, where the railroad is, industrial and commercial development is encouraged to occur nearby dense residential development. However, in the rural areas where farmsteads once stood surrounded by vast undeveloped areas of cropland, these pastures and woodlands have been, and will continue to be, converted to larger lot residential development.

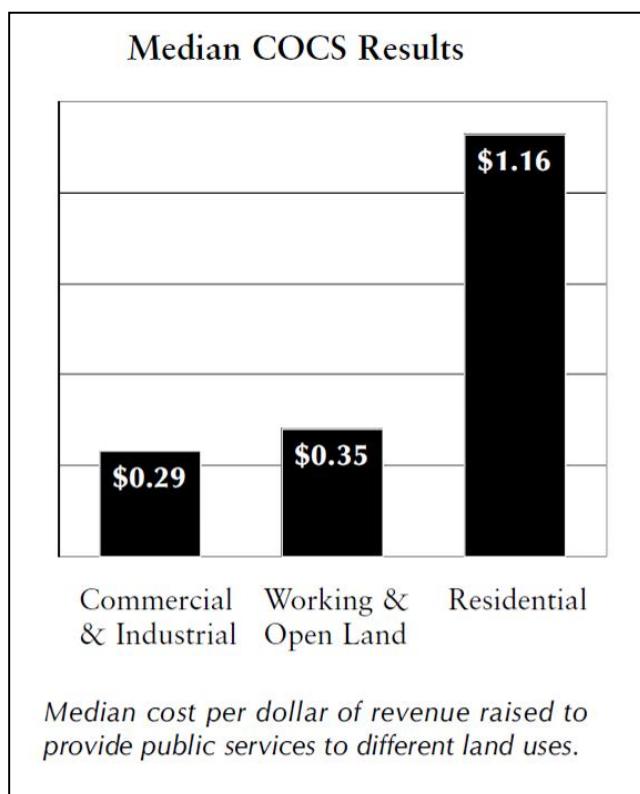
Developing industrial parks outside of the village center separates incompatible uses and reduces traffic congestion near dense residential areas. If industrial development is allowed to spread throughout large areas of Town there may be unintended consequences to valuable natural resources. Commercial and industrial development could negatively impact aquifers and groundwater, because the Town has designated multiple zoning districts for different types of commercial and industrial development by-right and by special permit.

The challenge for Orange and many small rural towns is to identify a model for growth that protects vital natural resource systems like aquifers while also promoting a stable property tax rate. In designing the model it is important to understand the measurable fiscal impacts of different land uses. For instance, open space, residential, and commercial/industrial development each contribute differently in the amount of property tax revenues generated and they often require different levels and types of municipal services.

The American Farmland Trust (AFT) and other organizations have conducted Cost of Community Services (COCS) analyses for many towns and counties across the country. A COCS analysis is a process by which the relationship of tax revenues to municipal costs is explored for a particular point in time. These studies show that open spaces, while not generating the same tax revenues as other land uses, require less public services and result in a net tax gain for a community. Residential uses require more in services than they provide in tax revenues compared to open space, commercial, and industrial land uses. Communities, at the time of the study, were balancing their budgets with the tax revenues generated by other land uses like open space and commercial and industrial property.

Figure 3-3 demonstrates the summary findings of 151 COCS studies from around the country. For every dollar of property tax revenues received from open space, the amount of money expended by the town to support farm/forestland was under fifty cents while residential land use cost over a dollar. Taxes paid by owners of undeveloped farm and forestland help to pay for the services required by residential land uses. When a town has few land uses other than residential, homeowners and renters pay the full cost of the services required to run a municipality, maintain public ways, and educate young people. In this way, local property real estate taxes tend to rise much faster in communities that have little protected land and higher rates of development.

Figure 3-4: Summary of Cost of Community Services (COCS) Studies



Source: American Farmland Trust; 2010. <http://www.farmlandinfo.org/cost-community-services-studies>

In 2009 a COCS study was completed for the Town of Deerfield, and may provide a useful local example for Orange. In Deerfield the study found that:

- 79 percent of fiscal revenue in fiscal year 2008 was generated by residential land, 9 percent was generated by commercial land, 9 percent by industrial land, and 3 percent by farm and open land.
- 90 percent of expenditures were used to provide services for residential land compared with 5 percent for commercial land, 4 percent for industrial land, and 1 percent for farm and open land.

In other words, in fiscal year 2008:

- For each \$1 of revenue received from residential properties, Deerfield spent \$1.14 providing services to those lands.

- For each \$1 from commercial land the town spent 55 cents,
- For each \$1 from industrial land, the town spent 47 cents providing services; and
- For each \$1 received from farm and open land, the town spent 33 cents.

Residential land uses created a deficit of \$1.7 million, while the other three categories generated surpluses: \$573,397 from commercial, \$608,422 from industrial, and \$318,842 from farm and open land. While residential land use contributes the largest amount of revenue, its net fiscal impact is negative.²⁸

The studies provide a fiscal argument for protecting open space, and for implementing good land use planning on the local level. The studies are not meant to encourage towns and cities to implement exclusionary zoning that seeks to make it difficult to develop housing, particularly for families with school age children, who require more in services. As mentioned previously in this section, downtown Orange is identified as a priority development area in Franklin County for mixed use development into the future. There is also a pent up housing demand in the County as a result of the slow housing market during the recent recession. Focusing new housing development within the downtown and surrounding neighborhoods will help maintain the open space that provides a net revenue gain to the town, and at the same time meet the housing needs of the population and create a more vibrant downtown.

The second component of a balanced land use plan concerns the development of other tax-generating land uses beyond open space. The COCS studies showed that for every dollar of taxes generated by commercial and industrial uses, the cost to towns for these uses resulted in a positive net gain. Patterns of commercial and industrial uses vary considerably between towns but all communities need to consider the impact of commercial and industrial development on the overall quality of life for residents.

The best types of commercial and industrial development to encourage in Orange might have some of the following characteristics: locally owned and operated; in the manufacturing sector; being a “green industry” that does not use or generate hazardous materials; businesses that add value to the region’s agricultural and forest products; and businesses that employ local residents. It is also important to consider that successful commercial and industrial development often generates increased demand for housing, traffic congestion and some types of pollution. Therefore, the type, size, and location of industrial and commercial development require thorough research and planning.

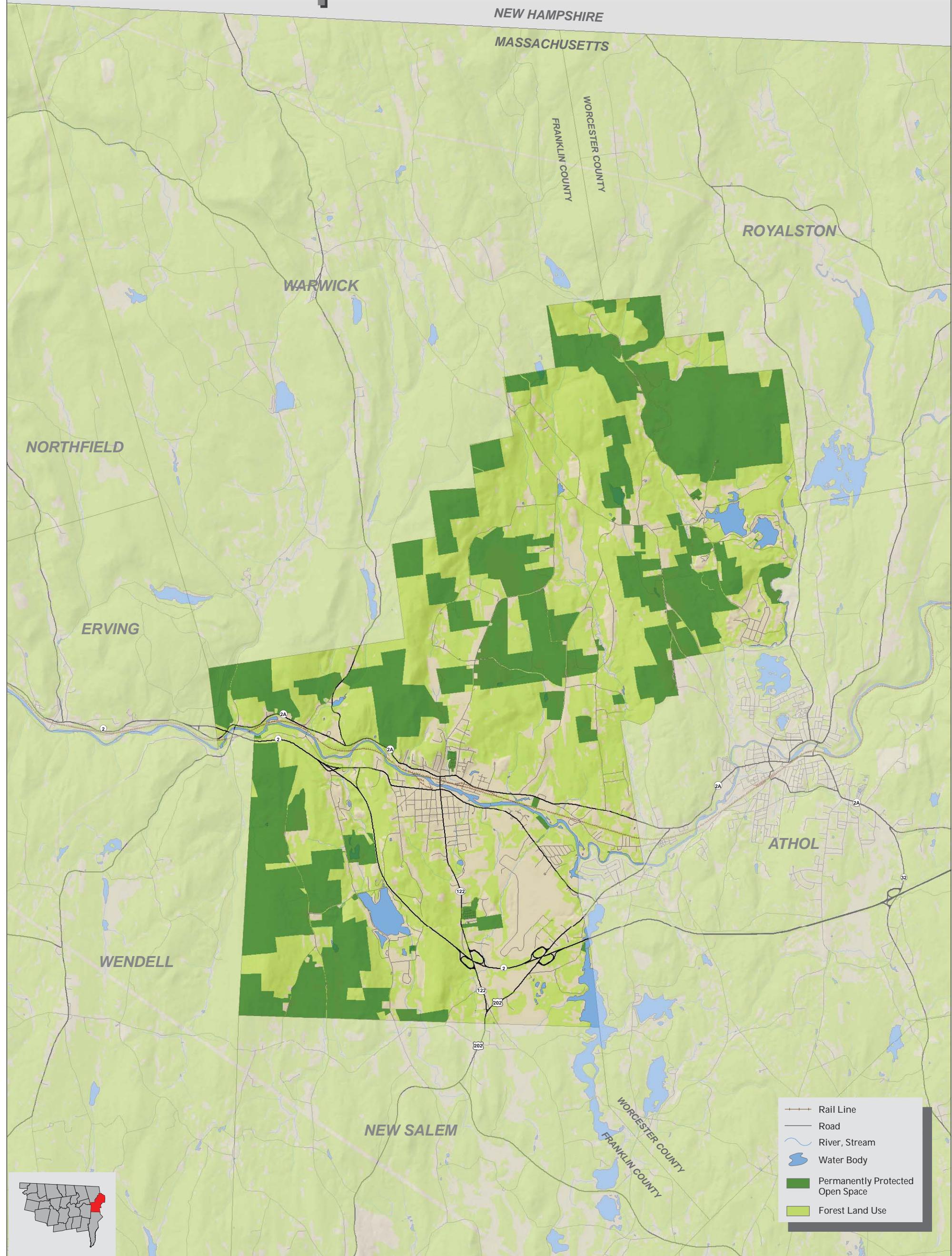
Results of the 2013 Downtown Orange Market Assessment showed strong demand for restaurants in downtown (including bakeries and coffee shops), as well as demand for a neighborhood grocery store, food coop, book store, pharmacy, clothing store, small hotel or inn, and a garden or farmers supply store in the downtown. The results of the assessment also showed strong community support for locally-owned businesses. The top reason survey respondents selected for going to downtown Orange is “to support local businesses.” Respondents to the survey generally had higher incomes than the median household income in Orange (\$42,780),

²⁸ *The Economic and Fiscal Contribution of Farm and Open Land in Deerfield, Massachusetts*. American Farmland Trust, September 2009.

with slightly under one-third of respondents living in households with more than \$75,000 of annual income (95 responses), slightly over one-third in households between \$45,000 to \$75,000 (112 responses), and one-third in households with less than \$45,000 annual income (100 responses).

For Orange, an approach that encompasses both appropriate business development and conservation of natural resources will best satisfy the desires of residents to maintain their community character while offsetting the tax burden. By continuing to pursue growth management strategies that balance residential, industrial and commercial development with the protection and conservation of land and other natural resources, Orange will be able to sustain and enhance the community's agricultural and forested rural character and help to maintain a high quality of life for residents.

Regional Context Map



Town of Orange
Open Space &
Recreation Plan 2016

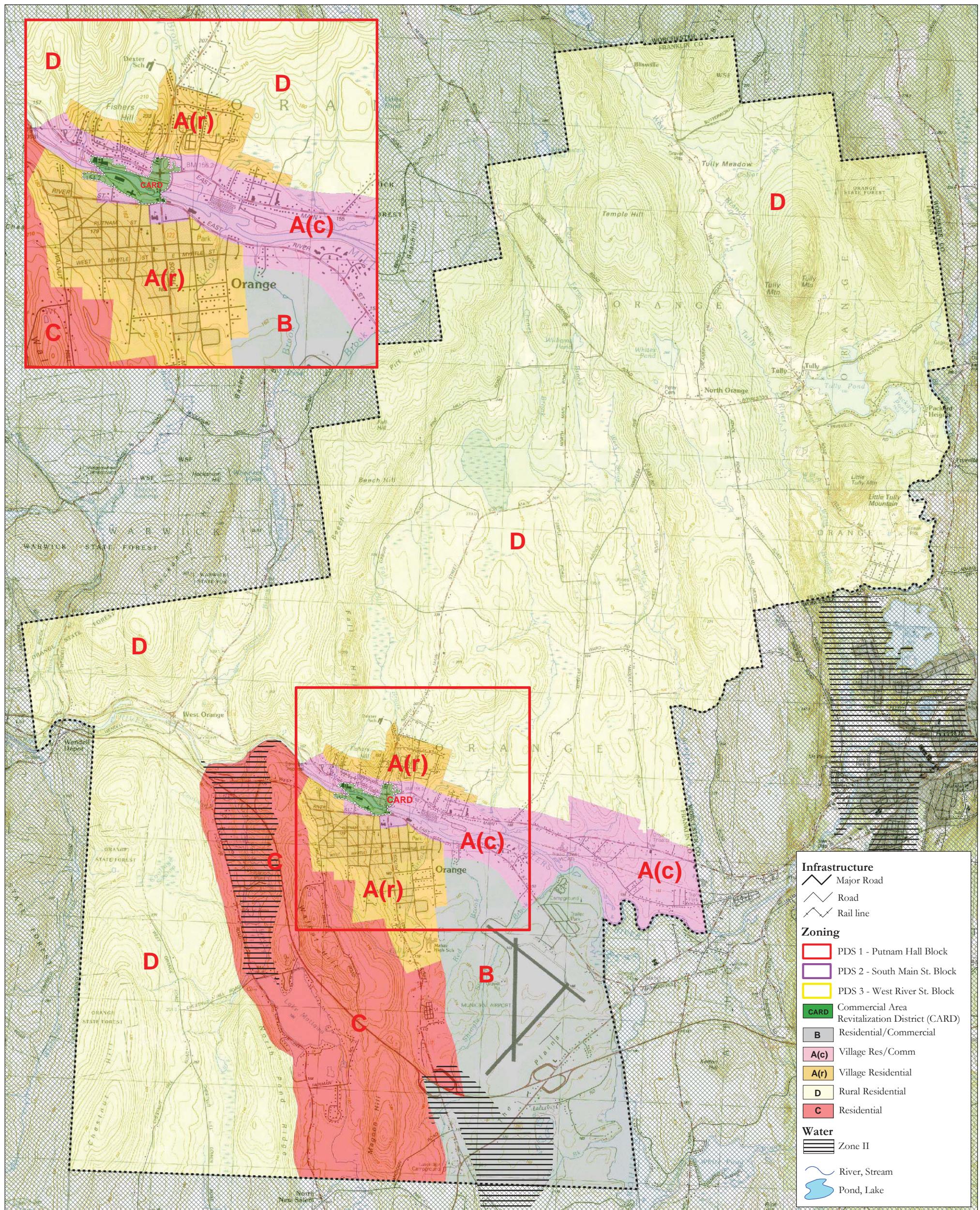
0 0.5 1 2 Miles



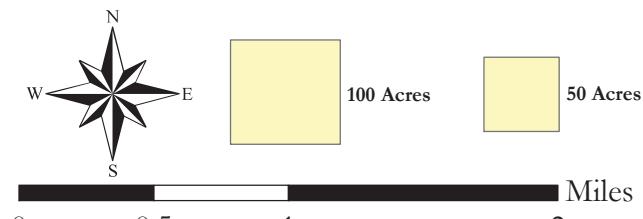
Franklin Regional
Council of Governments

Town of Orange Official Zoning Map

June 16, 2014



Franklin Regional
Council of Governments



Map Sources:
Map Produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include the FRCOG Planning Department, the Massachusetts Highway Department and MassGIS. Digital Data obtained from MassGIS represent the efforts of the Massachusetts Executive Office of Energy and Environmental Affairs to collect and maintain records regarding all methods used to collect and process these digital data and will provide this information on request. Executive Office of Energy and Environmental Affairs, 251 Causeway St., Suite 900, Boston, MA, 617-626-1000.

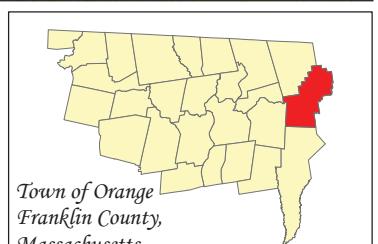
Note: Depicted boundaries are approximate and are intended to represent the general location of the source data. The data used to create this map were collected from 1:100,000 scale maps, therefore the accuracy of the line work on this map is +/- 100 feet.

1999 MacConnel Land Use created by Resource Mapping, Forestry and Wildlife Department, UMASS, Amherst.

Route 220, 2000 Highway Department 1:50,000.

Town line, water, rail, zone II, aquifer and streams data provided by MASSGIS.

Water line, sewer line and prime farmland data created by FRCOG planning staff. Potentially developable land created with *am1* in ArcInfo that removed absolute constraints to development (FRCOG planning staff).



SECTION 4

ENVIRONMENTAL INVENTORY AND ANALYSIS

This section of the Orange Open Space and Recreation Plan provides a comprehensive inventory of the natural resources and the significant cultural resources within the Town of Orange. The purpose behind any inventory is to provide a factual basis upon which assessments can be made. The environmental inventory in this case identifies and qualifies the Town's soils, special landscape features, surface waters, aquifers, vegetation, fisheries and wildlife, and unique environments and scenic landscapes.

Each of these resource areas is analyzed from two perspectives. First, the basic values that the Town's natural resources provide the citizenry of Orange are ecological services and cultural amenities. Ecological services include for example, drinking water filtration, flood storage capacity, maintenance of species diversity, and soil nutrient levels. Cultural amenities include the recreational use of open spaces, the quality of life benefits that are maximized by maintaining the area's rural character and scenic beauty, and the direct and indirect beneficial impacts that well-conserved natural resources, such as good drinking water and open spaces, have on the local economy. Second, it is important to determine whether the resource requires conservation so that the quantity and quality required by the citizenry is sustained.

A. DOCUMENTING AND MAPPING ECOSYSTEMS

Just as the Town of Orange contains multiple and varied ecosystems, the state of Massachusetts, while relatively small, has many diverse ecosystems and habitats. Documentation and mapping of such ecosystems and habitats – and their associated flora and fauna – can be a first step toward protecting and preserving these resources.

A.1 BioMap2

To that end, in 2010 The Massachusetts Department of Fish and Game and The Nature Conservancy launched *BioMap2: Conserving the Biodiversity of Massachusetts in a Changing World*.¹ This project, produced by the Natural Heritage and Endangered Species Program (NHESP), is a comprehensive biodiversity conservation plan for Massachusetts, and endeavors to protect the state's biodiversity in the context of projected effects of climate change.

BioMap2 combines NHESP's 30 years of rare species and natural community documentation with the Division of Fish and Wildlife's² 2005 State Wildlife Action Plan (SWAP). It also

¹ <http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/land-protection-and-management/biomap2/>

² <http://www.mass.gov/eea/agencies/dgf/dfw/>

integrates The Nature Conservancy's assessment of ecosystem and habitat connections across the State and incorporates ecosystem resilience in the face of anticipated impacts from climate change. *BioMap2* data replace the former BioMap and Living Waters data.

The following are the core findings summed up in BioMap2's Executive Summary.

Core Habitat Statewide Summary: Core Habitat consists of 1,242,000 acres 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. Core Habitat includes:

- Habitats for rare, vulnerable, or uncommon mammal, bird, reptile, amphibian, fish, invertebrate, and plant species;
- Priority Natural Communities;
- High-quality wetland, vernal pool, aquatic, and coastal habitats; and
- Intact forest ecosystems.

Critical Natural Landscape Statewide Summary: Critical Natural Landscape (CNL) consists of 1,783,000 acres complementing the Core Habitat, including large natural Landscape Blocks that provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience. The areas include buffering uplands around coastal, wetland and aquatic Core Habitats to help ensure their long-term integrity. CNL, which may overlap with Core Habitat, includes:

- The largest Landscape Blocks in each of 8 ecoregions; and
- Adjacent uplands that buffer wetland, aquatic, and coastal habitats.

Table 4-1: BioMap2 Statewide Summary Total Acres and Acres Protected

	Total Acres	Percent of State	BioMap2 Acres Protected
Core Habitat	1,242,000	24%	559,000
Critical Natural Landscape	1,783,000	34%	778,000
BioMap2 Total (with overlap)	2,092,000	40%	861,000

A.2 NHESP Priority Habitats

Priority and Estimated Habitats is a program administered by NHESP. Identification and mapping of Priority and Estimated Habitats is based on the known geographical extent of habitat for all state-listed rare or endangered species, both plants and animals, and is codified under the Massachusetts Endangered Species Act (MESA). Habitat alteration within Priority Habitats is subject to regulatory review by the Natural Heritage & Endangered Species Program. Priority Habitat maps are used for determining whether or not a proposed project must be reviewed by the NHESP for MESA compliance.³

³ <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/>

A.2.1 Benefits of BioMap2 and NHESP Priority Habitats

On the statewide level, mapping Core Habitat and Critical Natural Landscapes helps to guide strategic conservation to protect those areas that are most critical to the long-term survival and persistence of rare and other native species and their related habitats and ecosystems. On the local level, Orange can use this information to better understand where the Town's ecosystems and habitats fit into the bigger picture. For example, a small parcel of land could be a key link to two larger, intact ecosystems.

On an individual landowner level, *BioMap2* – as well as NHESP Priority and Supporting Habitats – is an important tool that can be used to apply for grants to help improve, manage and monitor certain lands. An example is the Mass Wildlife Landowner Incentive Program, which helps fund efforts to maintain grasslands and create areas of young tree and shrub growth (early woodlands) to enhance wildlife habitat, with preference given to land that is classified as, or located nearby, NHESP areas.

Information and mapping from *BioMap2* and NHESP Priority Habitats will be referenced throughout this section on Environmental Inventory and Analysis. BioMap2 Core Habitat and Supporting Natural Landscapes, and NHESP Priority Habitats, are shown on the Plant and Wildlife Habitat Map at the end of this section.

A.3 Resiliency to Climate Change

In 2011, the Massachusetts Executive Office of Energy and Environmental Affairs issued the *Massachusetts Climate Change Adaptation Report*.⁴ Climate change will result in potentially profound effects on the economy, public health, water resources, infrastructure, coastal resources, energy demand, natural features, and recreation throughout the state. The issue of climate change, and in particular climate change adaptation, is complex. The impacts of climate change will vary not only geographically but temporally—some of the impacts may not be felt for another 30 years or further in the future, while others are already upon us. When considering land conservation strategies and suitable sites for recreation facilities, climate change adaptation and resiliency should enter into the decision-making process of the town.

The Nature Conservancy (TNC) released a report in 2013 entitled “Resilient Sites for Terrestrial Conservation in the Northeast and Mid-Atlantic Region.”⁵ According to the Introduction of the TNC report, climate change is expected to alter species distributions. As species move to adjust to changing conditions, federal, state and local agencies and entities involved in land conservation need a way to prioritize strategic land conservation that will conserve the maximum amount of biological diversity despite shifting species distribution patterns. Current conservation approaches based on species locations or on predicted species’ responses to climate, are necessary, but hampered by uncertainty. TNC states that it offers a complementary approach, one that aims to identify key areas for conservation based on land characteristics that increase diversity and resilience. The central idea of this project is that by mapping key geophysical

⁴ <http://www.mass.gov/eea/air-water-climate-change/climate-change/climate-change-adaptation-report.html>

⁵ <https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx>

settings and evaluating them for landscape characteristics that buffer against climate effects, conservationists can identify the most resilient places in the landscape.

The Nature Conservancy's resilience analysis aims to identify the most resilient examples of key geophysical settings (landscapes) to provide conservationists with locations where conservation is most likely to succeed over centuries. The Massachusetts Division of Conservation Services' Landscape Partnership Grant Program, which seeks to preserve large, unfragmented, high-value conservation landscapes, including working forests and farms of at least 500 acres in size, specifically references the TNC report and mapping.⁶

B. GEOLOGY, SOILS AND TOPOGRAPHY

Decisions about land use should take into consideration the inherent suitability of a site for different kinds of development. Environmental factors such as geology, soils, and topography are essential to understanding the spatial relationships of land-based natural resources and determining potential sites for future residential, commercial and industrial development or for new parks, hiking trails and open space.

B.1 Geology

The underlying bedrock of Orange is predominantly Monson gneiss, with large banded areas of schist rock forming the upland ridges like Fall Hill, Beech Hill, and Chestnut Hill. Both are hard bedrock that by themselves have no inherent suitability limitations. There may be limitations, based on their relationship to the soils and vegetation in a particular area, for example, and these are pointed out in the relevant sections below.

Because of some volcanic activity in pre-historic periods, there is at least one area of soft soapstone rock on the west side of Tully Mountain that would limit development there. Development elsewhere may be constrained by significant areas of shallow bedrock and rocky ledges that are common in this region, as well as by aquifer recharge areas and many small wetlands.

The Town of Orange that we recognize today is the result of millions of years of geologic history: the great upheavals of the earth's crust and volcanism, and the sculpting power of moving water, ice, and wind. This distinctive physical base has determined the distribution of the Town's water bodies, its soils and vegetation, and its settlement patterns, both prior to and since colonial settlement.

The profile of softly rounded hills, bounded by upland ridges, reveals the gneiss and schist bedrock lying beneath it. It is covered by a variable layer of till, an unsorted mix of rock, clay, and sand left behind by retreating glaciers. While the underlying gneiss is often smooth from the glacial action, the harder schists of the upland ridges are rocky, craggy, and steep. "Roche moutonnees," or sweepbacks, like Tully Mountain, are knobs of gneiss bedrock shaped by icy

⁶ <http://www.mass.gov/eea/grants-and-tech-assistance/grants-and-loans/dcs/grant-programs/landscape-partnershipprogram.html>

erosion: smooth on the north up-glacier side, and "plucked" with cliffs and rocky debris on the south.

While the Miller's River probably first formed prior to the glacial period over 13,000 years ago, most of Orange's hydrological system is a remnant of that time. The major streams follow a north-south course with the topography. Smaller streams flow from uplands feeding the extensive wetlands formed by sedimentation that filled drainage points when the glacier receded.

The glacier left gravel and sand deposits in the lowlands and along stream terraces. These are the present day locations of the Miller's River, North Pond Brook, West Brook, and the Tully River. The broadest deposit in Orange is found on the glacial outwash plain in the area of the Town's Municipal Airport, known by townspeople as "The Plains." Where deposits were left along hillsides, they formed kame terraces and eskers. Kames are short hills, ridges, or mounds and eskers are long narrow ridges or mounds of sand, gravel, and boulders. Both are formed by glacial melt waters. Along the base of Tully Mountain, the kame terraces are flat and gravelly with grassland, pines, and pink lady-slippers, all typical of well drained kame soils.

B.2 Soils

Soils sustain a diverse array of plant and animal life through the banking of nutrients and organic matter, they retain and release groundwater, and they produce food and a way of life for local residents. Wetland and riparian soils help to naturally regulate surface water flow and also provide habitats for some of the area's most unique species. Prime farmland soils in Orange provide farmers an opportunity to grow the types of fresh vegetables, fruits and meat products that are both profitable and in demand by local residents. Thus prime soils should be valued by local residents. Residents should take note that the glacial outwash soils being well drained, even droughty, and mostly level, are also potential sites for development.

According to the United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Franklin County (February 1967), the soils of Orange fall into two basic associations: the Hinckley-Merrimac and the Shapleigh-Essex-Gloucester soil associations.

The Hinckley-Merrimac soil association occurs on glacial outwash plains and stream terraces, such as in the southern half of Orange. These soils were formed in deep deposits of sand and gravel through glaciation. Pockets of moderately well drained Sudbury soils also occur within this association. The aquifer recharge areas in South Orange lie under these soils, which in many cases are also suitable for development. This poses a conflict due to the threat of groundwater contamination.

The second soil association found in Orange, the Shapleigh-Essex-Gloucester includes soils that have formed in stony, sandy, and gray glacial till. These soils also tend to be stony and contain many large boulders. Scattered throughout this association are areas of moderately well drained Scituate and poorly drained Ridgebury soils. The Shapleigh soils are located on very steep slopes, from 15% to 60%, and many areas have ledge outcrops of schist bedrock. The well drained Essex and Gloucester soils are similar and are found on the upper parts of hills; however,

the Essex soils also have a hardpan layer within two and a half feet of the surface with slow permeability. Development constraints within this association vary considerably.

Several tiny pockets of prime agricultural land are scattered throughout Orange, comprising about 1 percent of the total land area. It is important to note that in many instances prime agricultural land is also extremely well suited for development. Thus, legal protection would be required to insure its preservation. These soils are considered Capability Unit I-5, or Class I (the highest quality) according to the Soil Conservation Service Survey; they are deep, well drained, and nearly level. Even when used intensively, the risk of erosion to these soils is minimal. However, much of the soils in Franklin County are also low in natural fertility and are quite acidic. Thus, careful management is needed to maintain organic matter in these soils.

B.2.1 Prime Farmland and Development Constraints

Agricultural soils, especially Prime and those of Statewide Importance, have characteristics that make them suitable for, and therefore vulnerable to, development. (In the remainder of this section, these two types of soils are referred to together as “prime.”) This is in conflict with the fact that farmland is a critical resource in providing locally grown food and contributing to the rural character of the landscape of Orange. These areas can be seen on the Prime Farmland and Development Constraints map. Although some of these soils are located in western Orange, most are located in the eastern two thirds of the community scattered quite evenly across both southern and northern Orange.

The prime farmland soils in southern Orange are found in six main areas: on the Athol town line, north of East River Street, Walnut Hill Road, Eagleville Road, Hunt Farm, and the base of the western aspect of Magoon Hill. Near the Athol town line there is an area bisected by Route 2A that represents portions of the floodplains of both the East Branch of the Tully River and Millers River. A significant portion of this land is already developed. The same is true for the area across from the airport, between Route 2 and 2A just west of East River Street and Millers River. There is a band of farmland soils that traverses from the site of the water tank on Lake Mattawa Road, just south of the Village Residential District, to the eastern side of Walnut Hill Road. While development has occurred, a portion of these soils are still being used for pasture. In between Eagleville and Horton Roads and Lake Rohunta/Eagleville Pond there is another large patch of prime farmland soils that is predominantly forestland managed under a Chapter 61 forest management plan. The Hunt Farm, which is located between Route 122 and 202 and the Wendell town line, is on primarily Prime farmland soils, though there is an almost equal portion of soils that are considered of Statewide Importance. At the base of Magoon Hill is a level area that is located just east of the Mattawa Circle development. Like the area near Eagleville Road, these prime farmland soils are on land in the Ch. 61 Forestland Classification and Taxation Program.

In northern Orange much of the prime farmland soils are found on either side of the main roads, which connect Route 2A to North Orange, including North Main Street, Wheeler Avenue, East Road, and Athol Road. They also include areas along roads that head north into Warwick and Royalston like Main Street and Tully Road. This speaks to the historic role that farming played in the establishment of North Orange where Colonial roads may have taken advantage of Native American foot trails that connected settlements to fields used for crops. It also means that these



Examples of "Right-to-Farm" signage in Massachusetts' towns. Source: MA Executive Office of Energy and Environmental Affairs.

commonly relate to rural landscapes. The presence of fresh, locally grown produce in roadside farm stands is often taken for granted by residents, until they are gone.

Prime farmland soils can be reclaimed from forestland. Houses, on the other hand, are not a land use from which farming can recover. Once farmland is converted through development to residential uses, its agricultural value is negated and it will likely never be farmland again. Orange fortunately has the opportunity to work with willing landowners to preserve as much of the remaining farmland as possible. An effective way of conserving farmland would be to prioritize the parcels of those landowners that want their land protected. The Agricultural Preservation Restriction (APR) Program is a voluntary program that provides a non-development alternative to farmers and other owners of "prime" and "state important" agricultural land. The program offers to pay farmland owners the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for a permanent deed restriction, which restricts any use of the property that will have a negative impact on its agricultural viability.⁷ The APR program requires a local match for the program that can come from any combination of three sources: the municipality, a non-governmental organization such as a land trust, and from a bargain sale conducted by the landowner. The local match requirement is 20 percent, however this percent is reduced if the town has implemented certain policies, including establishing an Agricultural Commission and adopting a Right-to-Farm bylaw.

prime farmland soils are at risk from future development in this portion of Orange through the "Approval-Not-Required" (ANR) roadside development of residential homes.

As will be shown later in Section 5, Inventory of Lands with Conservation and Recreation Interest, Orange currently has very few farmlands that are permanently protected. Unless there is significant effort towards farmland protection in Orange, future residential development may likely replace some of Orange's most scenic and historic landscapes and reduce the amount of available prime farmland.

It is not possible for the Town of Orange to protect all of its farmland, yet there are ample arguments for protecting a significant percentage of the prime farmland soils from development. Farming will be most profitable on the best soils. Farms that remain in operation help to maintain the historical land use patterns that people so

⁷ Massachusetts Agricultural Preservation Restriction Program: <http://www.mass.gov/eea/agencies/agr/land-use/agricultural-preservation-restriction-program-apr.html>.

Orange has both an Agricultural Commission and a Right-to-Farm bylaw in place. Agricultural Commissions advocate for farmers, farm businesses, and farm interests in town, and can help work with other boards and committees on farm related issues or concerns. A Right-to-Farm bylaw encourages the pursuit of agriculture, promotes agriculture-based economic opportunities, and protects farmlands within a town by allowing agricultural uses and related activities to function with minimal conflict with abutters and town agencies.⁸ Many towns with Right-to-Farm bylaws publicly display their support for farming through signage indicating they are a “Right-to-Farm” community.

With the issues of global warming and the need for energy conservation, farmland protection becomes more vital. Locally grown and harvested products allow communities to be more self-sufficient and to help contribute to the reduction of pollution and use of fossil fuels. Protecting farmland for agricultural use has larger implications beyond the town level for the region’s food supply. Protecting farmland and local food supplies was identified as the top natural resource goal through the 2011 public participation process for the *Franklin County 2035 Regional Plan for Sustainable Development (RPSD)*. To examine whether Franklin County has the land resources needed to support an increasing demand for local food – and to achieve some level of food self-reliance – the Conway School of Landscape Design (CSLD) was hired to undertake an analysis of Franklin County’s farmland for the RPSD.

The study found that currently, 12 percent of Franklin County’s farmland that is being actively farmed is in the section of the County east of the Connecticut River Valley. The farmland in East County is split mostly between cropland and pasture, with very little land in orchards, and is concentrated in Warwick and Orange. The study finds that in order for the County to achieve food self-reliance, an additional 3,880 acres of pasture and 13 acres of orchard would need to be put into production (see Table 4-2 below). Currently the County has adequate cropland for self-reliance; however it is important to note that many farms produce crops for local markets as well as markets outside of the County. The study also notes that while population growth in the County overall is expected to be low in the future, many of East County’s farm parcels are along roadways, making them more vulnerable to development.

Table 4-2: Franklin County Farmland Needed for Self Reliance

Farmland Type Needed	Existing Farmland Acreage	Farmland Acreage Needed	Balance
Cropland	23,750	16,547	+7,203
Pasture	12,320	16,200	-3,880
Orchard	1,180	1,193	-13
TOTAL	37,250	33,940	+3,310

Source: *Franklin County Farmland and Foodshed Study*, Conway School of Landscape Design, 2012. As presented in the *Franklin County 2035 Regional Plan for Sustainable Development* Natural Resources Chapter.

⁸ Massachusetts Executive Office of Energy and Environmental Affairs:
<http://www.mass.gov/eea/agencies/agr/land-use/right-to-farm-by-law.html>.

Agricultural trends in Franklin County between 2002 and 2012 show a steady increase in the number of farms and the amount of land in farms in the County, which is contrary to national trends. At the same time the size of farms is decreasing. Additionally, the number of farms where farming is the primary occupation of the principal operator has increased in Franklin County since 2002.⁹ All of these trends seem to suggest that farming is a growing economic sector in the County, where small farms operated as the owner's primary business are surviving and thriving. Ensuring that good farmland remains available and affordable for farming will help continue to support the growth of this important part of the region's rural economy.

B.3 Topography

The topography of Orange offers unusual hill formations and magnificent local views, as well as low-lying farmland and wetlands. The areas with the least change in elevation occur in the area of the Municipal Airport and in a valley just northeast of Orange Center. The steeper slopes occur along the upland ridges in the west, northwest, and northern portions of Town.

Slopes over 25 percent comprise approximately 15 percent of the landscape in Orange. These steep slopes may create a serious erosion problem if vegetation is removed during construction of residential development or forest product harvesting activities. In addition, actual building costs increase on steep slopes due to the difficulty of construction, engineering and the length of access roads. Development on slopes of 25 percent or more can create a distinct hazard.

These steep slopes are found predominantly in the northern, northwestern, western and southwestern portions of Orange. Also, the majority of the extensive wetland areas in Orange occur at the base of these significant slopes, namely along the eastern aspects of Chestnut, Fall, Beech, and Pitt Hills. This is significant in that the outer ring of hills is also the location of the majority of the protected land in Town. Steep slopes and wetlands are important considerations in planning for recreational uses. Usually, steep slopes and wetlands are resource areas avoided in trail system design due to erosion and habitat considerations. These areas may be more appropriate for hunting and other activities where trails are not a factor. If these areas were to be used with public access in mind, significant investment in funds, materials and time would be required to develop safe and environmentally suitable recreational facilities.

C. LANDSCAPE CHARACTER

The Town of Orange as viewed from above is situated in an area of lush forested uplands and rolling hills, all interlaced with diverse water bodies. The terrain is that of the western slope of a basin. The hills to the northwest have a predominantly southeastern aspect, those in the southwest face northeast. And in the middle of this basin the Millers River cuts through the landscape over the more level plains in the east and then dividing the steeper banks of the river in West Orange.

⁹ U.S. Census of Agriculture, 2002, 2007, and 2012. <http://www.agcensus.usda.gov/>

The outstanding and distinctive scenic characteristics of this landscape are best observed by traveling through the different parts of Town. Downtown in Orange Center, on the floodplain of the Millers River, is the heart of the Town's cultural activities as well as the center for most of the community's institutional and economic activities. Today, the Millers River still links Orange Center to its industrial beginnings. The river, waterfall, and red brick mill buildings create a sense of place in Orange Center.

Traveling north on North Main Street one can view the upland ridges of Far Hill and Beech Hill that demarcate the Town's western boundary. The road takes you over gentle rises towards the wetlands referred to as "The Rookery" which is one of several areas known for bird sightings. Beyond The Rookery lies scenic North Orange, the original 18th century settlement, which is home to the few remaining active farms that were first settled in the 1700's. North Orange also offers views of Tully Mountain, the most pronounced topographical feature in the North Quabbin Region. Views to and from Tully are among the most significant in the area. Nearby, Tully and Packard Ponds (both man-made) are surrounded by homes.

Traveling south from North Orange down Wheeler Avenue one finds an area of gentle hills and streams that are part of the drainage of West Brook. This area has been called "wild" by area residents but parts are also blanketed with crop and pasture land.

A drive south of Orange Center takes one through the glacial outwash plain, known locally as "The Plains," where the Municipal Airport takes advantage of broad, flat terrain. The nearby lakes, Mattawa and Rohunta/Eagleville are both popular fishing and recreation spots. Continuing south, Orange State Forest and Chestnut Hill provide wildlife habitat and hunting grounds.

C.1 Potential Changes in Development

The overall character of Orange could be affected by a number of potential changes. Potential impacts of climate change could begin to push populations further west in the State, away from the coast, and more of Orange's land could be used for residential development. Diminishing supplies of fossil fuels – and their rising costs – continue to cause people to turn to alternate sources of locally produced energy sources, such as wood and solar, which could impact Orange's woodlands and open spaces. Related to the rising costs of fossil fuels, costs of shipping foods long distances could cause an even greater demand for locally grown and processed food, potentially placing a greater demand on farmland in Orange. Land that is currently forested and that contains prime farmlands could be converted to farmland. Flooding from an increase in the intensity of storms and rainfall may further limit the availability of land for new development. While challenging, with thoughtful planning, these potential changes in development could be integrated into Orange's existing character, and could lead to greater energy independence and food security.

D. WATER RESOURCES

D.1 Surface Water

There are 586 acres of surface waters covering approximately 2.5 percent of the surface area of the Town of Orange, which is situated almost entirely within the Millers River Watershed. Only a small portion of Town south of Lake Mattawa Road and Chestnut Hill Road is in the Swift River Watershed. The Swift River Watershed is part of the Quabbin Reservoir System and is therefore considered in its entirety one of the Commonwealth's Outstanding Resource Waters.

D.1.1 Millers River

The downtown area of Orange is located on the Millers River, which runs roughly east-west, and is fed by the Tully River, Foothill Brook, Orcutt Brook, Darling Brook, Moss Brook, and other small inlets. The stretch of the river that passes through Orange has been classified as a warm water fishery by the Massachusetts Department of Environmental Protection (Millers River Watershed 2000 Water Quality Assessment Report¹⁰).

The Millers River has significant value to the residents of Orange. Orange Center's development was historically based on the Millers River waterpower, which is evidenced by the waterfall and mill brick buildings. Today, the value of the Millers River is primarily recreational. It is one of the best catch-and-release rivers in the State. Catch-and-release rivers are especially popular among anglers because the fish are available and remain stocked year round. The Millers River also contains the proper habitat for several state-listed freshwater mussel species and three species of Special Concern, the four-toed salamander and spotted and wood turtles.

Public access to the Millers River in Orange has dramatically improved. The Orange Riverfront Park on East River Street, which replaced the town highway barn and includes a ramp for non-motorized boats, and another put-in for larger water craft on trailers further along on East River Street, provide easy access to the River. The boathouse at the Park was completed in 2013, and offers public kayak, canoe, and paddleboard rentals at a discount for Orange residents. The Riverfront Park is the location of the finish to the Millers River Rat Race, the most important annual celebration of the Millers River, which takes place each spring, between the centers of Athol and Orange. Along the same stretch of river is the Millers River Blue Trail, a six-mile water trail created by the Millers River Watershed Council (MRWC), and inaugurated in 2011. MRWC hosts fun paddles and river clean-up paddles along this flat water section of the river.

Area municipal officials and residents have worked hard to improve the water quality of the Millers River since the days when raw sewage was discharged from area homes and industries directly into the river. Water quality information is included in this section because the future recreational potential for the Millers River may in part depend on continued improvements.

The water quality of the Millers River has been the subject of over fifty years of research by state and private agencies. Federal legislation, passed in the 1960s and 1970s, greatly affected the treatment of waste before it was discharged into rivers and streams. The Massachusetts Clean

¹⁰ <http://www.mass.gov/eea/agencies/massdep/water/watersheds/water-quality-assessments.html>. The 2000 report is the most recent report available.

Water Act enacted in 1966 specified laws, standards, and procedures for the implementation of federal legislation at the state level. It contained provisions for the regulation of discharge to surface waters, ground waters, and sewer systems, and provisions for state technical assistance to communities for construction of public treatment plants. The Federal Water Pollution Control Act of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 sought to eliminate discharge of pollutants into navigable waters by 1985. Public Law 92-500 also provided for federal grants for construction of public sewage treatment facilities.

Between 1973 and 1977 eight wastewater treatment plants were constructed at sites along the Millers River. In spite of this, toxicity tests in 1987 found that four of the eight (Athol, Orange, South Royalston, and Winchendon) demonstrated acute toxicity, which Massachusetts Department of Environmental Protection (DEP) thought to be chlorine. In addition, testing of fish caught in the Millers River basin between 1995 and 1997 identified problems of polychlorinated biphenyl or PCB contamination resulting in fish advisories by the Massachusetts Department of Public Health. Although the river is considered Class "B", appropriate for fishing and swimming, consumption of fish caught there is not advisable. The classification of rivers and streams in Massachusetts does not necessarily mean that the river meets that classification. The stated class for a particular river is in fact only the State's goal for that river.

Millers River (MA35-04) Use Summary Table

Designated Uses	Status
 Aquatic Life	IMPAIRED upper 6.6 mile reach SUPPORT* lower 11.9 mile reach Cause: PCB Sources: Contaminated sediment, releases from waste sites or dumps
 Fish Consumption	IMPAIRED Causes: Mercury and PCB Sources: Unknown for mercury, contaminated sediment, releases from waste sites or dumps (Suspected Source: Atmospheric deposition)
 Primary Contact	NOT ASSESSED
 Secondary Contact	NOT ASSESSED
 Aesthetics	SUPPORT

* "Alert Status" issues identified, see details in the use assessment section

Source: Millers River Watershed 2000 Water Quality Assessment Report, MA Department of Environmental Protection, 2004.

The 2000 Assessment, the most recent assessment available, includes the following fish consumption advisories for the Millers River:

Millers River (all towns from Erving to Winchendon) because of mercury and PCBs:

1. "Children younger than 12 years, pregnant women, and nursing mothers should not eat any fish from this waterbody and its tributaries,"

2. “the general public should not consume any brown trout or American eel taken from this waterbody downstream from its confluence with the Otter River,” and
3. “the general public should limit consumption of all non-affected fish from this waterbody and its tributaries to two meals per month.”

During the summer and fall of 1999, the U.S. Geological Survey measured polychlorinated biphenyl (PCB) concentrations in passive samplers deployed in the Millers River Basin in Massachusetts. The observed PCB concentrations pattern changes indicated a historical release of PCBs likely occurred on the Otter River at the upstream margin of Baldwinville, Massachusetts. PCB concentrations decreased significantly downstream of the confluence of the Otter River with the Millers River because of dilution of Otter River water with mostly uncontaminated water from the Millers River and volatilization of PCBs in steep reaches of the Millers River. The PCB load in the Millers River was relatively small compared with PCB loads in other PCB-contaminated rivers in the Northeast. The likely source of PCBs in the Millers River Basin is the remobilization of PCBs associated with stream sediments. PCBs deposited on the sediment likely originated from an upstream source. Estimated concentrations of PCBs in water throughout the main stems of the Millers and Otter Rivers exceeded the U.S. Environmental Protection Agency's water-quality criterion, which is based on the cancer risk associated with eating fish taken from the water. PCB concentrations detected in indicator fish (white suckers; *Catostomus commersoni*) sampled in 2000 were four times less than concentrations detected in the same species sampled in 1985-88.

In January 2003, DEP updated the Non-point Source Action Strategy for the Millers River Basin. In it, the 17.5 miles segment of the Millers River which runs from South Royalston to the Erving Paper Co. is described as having issues of “unknown toxicity, priority organics, metals, nutrients, pathogens...Department of Public Health fish advisory is in effect for this segment due to Mercury and PCBs in fish flesh.”

According to the Housatonic Valley Association, an organization working for the cleanup of the Housatonic River in Berkshire County, PCBs can last in sediments for centuries. Cleanup treatments depend on the extent of the contamination. In severe cases, PCBs collect together into contaminant plumes where they slowly move through sediments like oil. Dredging may be the best solution in this situation. However, dredging is very expensive and can end up mixing contaminated sediments throughout the river ecosystem. Where the contamination is not severe, allowing river sediments to bury the PCBs naturally may be more reasonable. Until the PCBs are cleaned up, the wildlife, fisheries, and recreational benefits of the Millers River will never be fully realized.

The 2000 Water Quality Assessment Report does not assess primary contact and secondary contact recreation along the section of the Millers River in Orange due to limited data. To address this lack of water quality data, the Millers River Watershed Coalition (MRWC) has been conducting bacteria monitoring in the river since 2011 to assess the appropriateness of water-based recreation in the Millers River using Mass DEP guidelines. According to the 2013 report, results of monitoring from 2011 through 2013

“indicate a generally healthy river system for a variety of types of recreation: the one concern is with limiting primary contact after a heavy rainstorm; a typical finding in

many watersheds. Often in areas located downstream of urban centers, which collect greater amounts of stormwater runoff, it is not unusual for bacterial concentrations to run high [after heavy rain events].”¹¹

Two sites in Orange were tested regularly for bacteria levels: Orange Riverfront Park, and a location in West Orange near the railroad bridge. Average testing results at both of these sites met primary contact, such as swimming, standards. One test result on July 24, 2013 at the Orange Riverfront Park exceeded the acceptable limit for primary contact. This test was conducted after a wet weather event. However, standards for secondary contact, such as boating, were met for all test dates. The report concludes that immediately following a heavy rain event, the Millers River near urban centers like Orange may not be suitable for primary contact, but is likely suitable for secondary contact. In dry weather, the Millers River appears to be acceptable for both primary and secondary contact. The report also notes that “Communities wishing to meet primary contact standards should consider implementing (and maintaining) a comprehensive stormwater management program.”¹² Such a program would help address non-point source pollution in the Millers River, which contributes to the high bacteria counts after a heavy rain storm.

The Millers River is one of the water bodies in the state which requires TMDLs. A TMDL, or a Total Maximum Daily Load, is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. Table 4-3 provides information on the sections in Orange within the Millers River watershed that require TMDLs.

Table 4-3: Massachusetts 2012 Integrated List of Waters: “Waters requiring a TMDL” in Orange

Name	Segment ID	Description	Size	Impairment Cause
East Branch Tully River	MA35-12	Confluence of Tully Brook and Falls Brook in Royalston State Forest, Royalston through Long Pond and Tully Lake to confluence with the West Branch Tully River forming headwaters Tully River, Orange/Athol.	10.0 miles	PCB in Fish Tissue
Lake Rohunta	MA350 70	(Middle Basin) Athol/Orange/New Salem	209 acres	(Non-Native Aquatic Plants*) Aquatic Plants (Macrophytes) Mercury in Fish Tissue
Millers River	MA35_04	South Royalston USGS Gage, Royalston to Erving Center WWTP (formerly known as Erving Paper Company), Erving.	18.5 miles	Fecal Coliform PCB in Fish Tissue Phosphorous (Total)

¹¹ MRWC Bacteria Monitoring Program 2013 Report: Millers and Otters Rivers. Millers River Watershed Coalition, January 2014, page 3. <http://millersriverwatershed.files.wordpress.com/2011/11/mrwc-2013-bac-t-report-final.pdf>

¹² Ibid. Page 19.

Name	Segment ID	Description	Size	Impairment Cause
Tully River	MA35-14	Confluence East and West Branches Tully River, Orange/Athol to confluence with Millers River, Athol.	1.6 miles	PCB in Fish Tissue
West Branch Tully River	MA35-11	Outlet Sheomet Lake, Warwick to confluence with East Branch Tully River forming headwaters Tully River, Orange/Athol.	6.6 miles	PCB in Fish Tissue

* TMDL not required (Non-pollutant)

Source: Final Massachusetts Year 2012 Integrated List of Waters. Massachusetts Department of Environmental Protection.

A TMDL report prepared for each impaired water body describes the steps and technologies needed to reduce the pollutant or source of impairment to meet water quality standards.

Ultimately the Town of Orange should expect the development of TMDLs for each of its water bodies on the 303(d) list. The TMDL reports reflect DEP's strategy for cleanup of all of the water bodies in Massachusetts. Many more rivers in the eastern part of the Commonwealth have completed TMDL reports. Only one TMDL report exists for water bodies in the Millers River watershed, the Total Maximum Daily Loads of Phosphorous for Selected Lakes in the Millers Basin Lakes, which was published in 2003. This report only focuses on lakes in communities in the watershed that are east of Orange.

To get a TMDL completed for the Millers River watershed, the Town of Orange along with the other communities in the Millers River Watershed will need to come together to request a report's completion. Ideally, the towns could work with the Millers River Watershed Council, and perhaps the Connecticut River Watershed Council, to make this request and to encourage the State and EPA to improve their research and reporting as a whole for the tributaries to the Connecticut River in Massachusetts.

D.1.2 Other Rivers and Brooks

First and second order streams play an important role in Orange. Within a watershed, the first and second order streams and brooks provide a diversity of wildlife and fisheries habitat, scenery, and recreational opportunities. Each watershed contains a network of these small channels, known as headwater streams, which represent a majority of the drainage network and are exceptionally vulnerable to development within the watershed. Riparian corridors are the combination of the water body, the streambed, banks, and surrounding vegetation, which is significantly different than the surrounding uplands.

A number of these rivers and streams have habitat for rare and endangered species that are affected by pollution and can be protected through good open space management and acquisition of lands where these bellwether species exist (see Rare and Endangered Species Table for Orange in Section E. Fisheries and Wildlife). West Brook and other brooks which flow through the predominantly agricultural landscapes of east central Orange may be the waterways most in jeopardy in the future. Unless efforts to protect additional farmland is successful, future residential development will likely take place on large lots within the former fields and meadows along Wheeler Avenue, Temple Road, Jones Cemetery Road, East Road, and Athol Road. On-

site septic systems and lawn fertilizers and pesticides are two sources of non-point source pollution which affect rivers and wetlands. These are often associated with large lot residential development on former agricultural lands.

The following inventory describes Orange's streams and brooks, focusing on the extent of the public access and recreational value (*See Water Resources Map*). The 2012 Massachusetts Integrated List of Waters (Table 4-2) includes the East and West Branches of the Tully River, the Tully River and Lake Rohunta. In each case, the most severe pollutant is identified. Although the affected water bodies may contain other pollutants, the Integrated List of Waters (303(d) list) only includes the results of evaluations upon which DEP has performed some measure of quality control.

- Tully River:

West Branch: One can walk to most locations along the brook on old fishing trails, which may be accessed by way of road crossings. The West Branch of the Tully River is stocked with brook trout at all bridge crossings. The West Branch also supports a variety of freshwater mussels, including several state-listed species. Marshes located within its backwaters also contain the four-toed salamander, a species of Special Concern in Massachusetts.

East Branch: This is an excellent cold-water fishery that is also stocked with trout. Access to the river for fishing is most easily gained along its eastern bank in Athol.

- Fall Hill Brook:

Fall Hill Brook drains the southwestern slopes of Beech Hill and the wildlife preserve off of North Main Street. This area was once known for its great fishing and hunting; however a beaver dam located just north of Dexter Street has flooded the land all the way to Pine Hill Road. The resulting swamp has diminished the recreation value for fishing and hunting along this brook.

- Orcutt Brook:

This brook is located in West Orange and is a good trout-fishing brook. Access can be gained by way of Warwick Road into Harris Pond, just east of the road. However Harris Pond is privately owned and public access may not be allowed. According to the Massachusetts Division of Fisheries and Wildlife, Orcutt Brook supports a variety of freshwater mussels, including several state-listed species. Marshes located within its backwaters also contain the four-toed salamander, a species of Special Concern in Massachusetts.

- Moss Brook:

Moss Brook flows out of Laurel Lake. The confluence of the Moss and Darling Brooks is located north in Warwick. This brook is another good trout fishery.

- Poor Farm Brook and West Brook:

Poor Farm Brook flows out of Warwick leaving Johnsonian Pond Poor Farm Brook joins with West Brook north of Wheeler Avenue. West Brook is also stocked with trout and is considered a good fishery with excellent access by way of old fishing trails.

- North Pond Brook:

North Pond Brook leaves the outlet at the northern end of Lake Mattawa and flows northward towards the Millers River. Between the Lake and the River are several small ponds, three public water supply sources, a high yield aquifer, and the recharge area for two community public water supply sources. Access to the brook can be gained by way of Town-owned land that has frontage along Holtshire Road.

D.1.3 Lakes and Ponds

The major water bodies in Orange are Lake Mattawa, Lake Rohunta/Eagleville Pond, Tully Pond, and Packard Pond. These areas offer fishing, boating, swimming, and winter recreation opportunities.

- Lake Mattawa

Located in southern Orange within the Chicopee River Watershed, Lake Mattawa is one of the premier trout and land locked salmon fisheries in Massachusetts. Anyone can access two sides of the lake by way of a public boat ramp off of Lake Mattawa Road, and along Holtshire Road. The lake also has a public swimming beach. Lake Mattawa is considered one of three Class A water sources in the Town of Orange. Recreational usage in the summer is high, with swimming, fishing and sailing the most popular activities. There is a restriction on the size of the outboard motors (10hp or less).

- Lake Rohunta/Eagleville Pond

In the southeastern corner of Orange along its shared boundary with the Town of Athol, there is a long lake, which is bisected by Route 2. North of Route 2, the lake is referred to as Lake Rohunta. South of the State highway it is called Eagleville Pond. According to a Division of Fisheries and Wildlife official, a dam located on the northern end of Lake Rohunta was built by the Rodney Hunt Company to provide power for its operation in Orange Center. An abandoned power station can be seen at the corner of Daniel Shays Highway and East River Street. This lake is an excellent resource water for fishing, canoeing and kayaking. A public boat ramp is located off of Eagleville Road at its northern end.

- Tully and Packard Ponds

In the 1800's many manufactured goods were packed in white pine boxes. People built dams on rivers for the sole purpose of creating ponds to produce waterpower. Tully and Packard Ponds were originally dammed for milling white pine logs. Now however, these ponds are

surrounded by private homes. The main difference between the ponds is in their depth. Tully Pond is popular for boating and some fishing. Water lilies were visible covering a quarter of the water's surface in the summer of 2007, indicating a shallow depth. Car-top boats are often put in from the causeway on Royalston Road or off the dam near the intersection of Tully Road and Mountain Road because there is no other public access. Packard Pond is a deeper pond that is also surrounded by private homes. This pond is popular for boating and fishing but is privately owned with no public access.

D.1.4 Other Ponds and Small Bodies of Water

- Division of Fisheries and Wildlife Management Area

Located near the intersection of North Main Street and Oxbow Road this wildlife area is mostly wetland with some open water. Its main recreational value is for wildlife viewing, birding, hunting, canoeing and kayaking. Access to the open water can be gained from North Main Street.

- William's Pond

This pond is part of Poor Farm Brook, which begins at the privately held Johnsonian Pond, on the border between Warwick and Orange. Poor Farm Brook is quite slow and shallow to William's Pond but then gains in volume as it runs into the West Branch of the Tully River. This pond is located between North Main Street, Main Street, and Wheeler's Pond Road. This small pond is stocked with trout yearly. There is no guaranteed public access to the pond.

- White's Pond

This pond is located in North Orange north of North Main Street and west of Flagg Road. It is completely surrounded on all sides by privately held land which has a conservation restriction attached to its deed; thus, White's Pond is permanently protected from development. Because it is a private pond with no public access, its main public value resides in its wildlife habitat.

- Cook's Cove

This is a unique body of water that is an overflow water body for the Millers River. It is located on the southern bank of the Millers and along the Town's border with Athol. According to a State conservation official, the Cove has great ecological and recreational value that is mostly unrealized due to its poor access. Currently, the Cove can be most easily reached in back of the trailer park on Pine Grove Road, though one needs permission to cross the park's land. Cook's Cove is part of the same wetland system as Eagleville Lake and Lake Rohunta.

D.2 Class A Water Sources

According to the Orange Water Department there have not been any active surface water supplies since 1980, when the Town was directed to build the covered drinking water storage tanks. Prior to that time there were three impoundments that had in the past been used as surface drinking water supplies. The first is called Crystal Springs and is located to the north of North Pond Brook pond, in an area that is identified on old USGS topographical maps as a “filtration plant.” The second is called Vorces Pond and is located across the street from the northwest corner of Lake Mattawa. The third is Lake Mattawa, which has not been used as a surface water supply since 1933. To utilize any of these surface water bodies as a drinking water supply, an investment would be required to construct an adequate surface water filtration facility. Currently none of these sources are connected to the distribution system. The Orange Water Department is interested in studying the feasibility of implementing a system for emergency usage of Lake Mattawa in particular. Although the surface water supplies are not active, the Water Department still values their potential as water sources, and their watersheds as protective recharge areas for the North Pond Brook Aquifer, which contains the Holtshire Road and Magee Meadow pumping stations.¹³

D.3 Flood Hazard Areas

One hundred year flood plains in Orange exist in several places, including along the length of the Millers River, around Lake Rohunta, and along the Tully River, Cheney, Poor Farm, and West Brooks, and Coolidge Swamp. In Orange, 1,132 acres are within the floodplain, or 5% of the total land area in Town.¹⁴ An estimated 24 acres of the floodplain is developed for residential land uses. A one hundred year flood plain indicates that every year there is a 1% chance that a catastrophic flood will occur. In 1936, and again in 1938, Orange experienced severe flooding that resulted in large property losses, both public and private. According to current zoning by-laws, building within the one hundred year flood plain in Orange is allowed by special permit only.

The 2014 Orange Multi-Hazard Mitigation Plan identified the following areas in town as areas prone to chronic flooding. In many of these areas, flooding can be at least partially attributed to beaver activity.

Key areas of concern include:

Flagg Road

An old mill spillway along the West Branch of the Tully River has washed out a section of Flagg Road during past heavy rain events, causing one residence to be locked in. The last event to cause the road to wash out was Hurricane Floyd in 1999.

Royalston Road East

Beaver dams have caused high ground water levels in this area, including flooding of several home septic systems. During a 100 year storm, the whole area can surcharge and the causeway

¹³ FRCOG personal communication with Michael Heidorn, Orange Water Department Superintendent, 12/11/2014.

¹⁴ 2005 MassGIS land use data

on which the road is located can overflow. The beaver dams are on private property and there are currently no solutions proposed for the problem.

Town Farm Road

During Hurricane Floyd the road washed out due to flooding from the Poor Farm Brook. This section of the road has since experienced flooding problems. The area should be inspected to determine if mitigation measures, such as a maintenance plan or culvert work, are needed.

Big Swamp

The swamp located along the Fall Hill Brook just north of the Fisher Hill Elementary and Dexter Park Elementary schools has been very close to cresting over during heavy rain storms. The school buildings are not currently at risk. However a number of beaver dams exist both in the swamp and upstream from the swamp. If these were to fail it could cause flooding high enough to reach the school property.

East Myrtle Street

The drainage system in this area of downtown Orange is old and does not always drain effectively. The town is applying for Community Development Block Grant funds to improve the sewer, water, and drainage infrastructure in this area.

Eagleville Road

High groundwater in this area has seeped into basements. The town has had studies completed in this area to determine the cause of the problem, but no definitive cause has yet been identified.

South Park

An access road to the airport located off of Route 122, just north of the Route 2 interchange, has been washed out in the past due to flooding from beaver activity. A culvert under the road is obstructed by beaver dams and needs to be cleared out periodically. Due to the blockage, the culvert essentially acts as a dam, holding back water and causing a potentially dangerous situation if it were to fail. The airport currently owns this road.

Lake Mattawa Road/Old Hickory Road

A detention pond next to the road is approximately 30 percent filled with debris from the road.

Of additional concern are three water main crossings along the Millers River. These large diameter water pipes supply water to the section of town north of the Millers River. If one or more of these pipes were wiped out due to a flood along the Millers River, water would quickly drain into the river, depleting the town's drinking water for an extended period of time. There would also be the possibility of water from the river draining into the pipes and contaminating the town's drinking water. Two options to reduce this vulnerability would be to either bury one or more of the water main crossings under the bed of the Millers River, rather than having the pipes exposed on top of the bed, or to find a source of water on the north side of the river that could be used in the event that distribution is cut off.¹⁵

¹⁵ *Town of Orange 2014 Multi-Hazard Mitigation Plan.*

D.3.1 Fluvial Erosion Hazard Areas

Fluvial erosion hazard (FEH) zones are areas along rivers and streams that are susceptible to bank erosion caused by flash flooding. Any area within a mapped FEH zone is considered susceptible to bank erosion during a single severe flood or after many years of slow channel migration. While the areas of the FEH zones often overlap with areas mapped within the 100-year floodplain on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the FIRMs only show areas that are likely to be inundated by floodwaters that overtop the riverbanks during a severe flood. However, much flood-related property damage and injuries is the result of bank erosion that can undermine roads, bridges, building foundations and other infrastructure. Consequently, FEH zones are sometimes outside of the 100-year floodplain shown on FIRMs. FEH zones can be mapped using fluvial geomorphic assessment data as well as historic data on past flood events. Both the FIRMs and FEH maps should be used in concert to understand and avoid both inundation and erosion hazards, respectively.¹⁶

The Town of Orange 2014 Multi-Hazard Mitigation Plan contains a recommendation to consider hiring a consultant to map Fluvial Erosion Hazard (FEH) areas in town, and to add a Fluvial Erosion Hazard Area Overlay District bylaw to the zoning bylaws to limit development in FEH areas along rivers and streams that are highly susceptible to flood-related erosion.

D.4 Wetlands

Orange has a large number of wetlands, particularly to the east and west of the Temple Hill ridge in North Orange, and to the west and north of Tully Mountain (see the Water Resources Map). Other significant systems are located north of the downtown area, and to the east of Fall Hill, Beech Hill, and the connecting ridge line; and, between Chestnut Hill and North Pond Ridge, running north to south from Chestnut Hill Road to Neilson Road (just outside the Town limits.)

Most of the wetlands in Orange are forested and many are the result of beaver activity, which is indicated by the presence of dead trees. One such wetland, Coolidge Swamp (north and west of Lake Mattawa), is of particular interest because it provides a large beneficial habitat for many wetland and forest animals, bird, and plant species; a heron rookery; as well as scenic views and opportunities for recreation. Other important wetlands include: the heron rookery off North Main Street, a black ash forest along the Millers River, and the black gum swamp located east of Chestnut Hill Lower Road. The last two areas are covered in more detail in the Scenic and Unique Resources part of this section.

D.5 Aquifers

Water plays a very important role in supporting our communities. We use water every day for drinking, for disposal of our sewage, for irrigating croplands and lawns and for our local industries. The amount of money we, as individuals, pay for our clean drinking water depends on its supply and the amount of effort that is invested in purifying it. Surface reservoirs often require expensive filtration plants that are monitored regularly by paid professionals. In comparison, aquifers contain water that enters the soils within a sub-watershed as precipitation

¹⁶ *Ammonoosuc River Fluvial Erosion Hazard Map for Littleton, NH*. Field Geology Services, 2010.

and which slowly infiltrates the ground water levels. This slow infiltration process helps to purify the water at little cost to the consumer. This is one way in which watersheds in their natural, vegetated state provide a valuable ecological service. Land naturally contributes to the hydrologic cycle by storing and releasing water. However, the manner in which we use land can hinder this ecological process by preventing water from infiltrating topsoil or by allowing contaminated water to leach into the groundwater. Protected open space can help preserve the integrity of aquifers by sustaining the land's natural water retention capacity and by reducing the areas covered by land uses which may store, use, or distribute hazardous materials.

The quality and the quantity of the water within Orange's aquifers will have great impact on the Town's future growth potential. Because the Town of Orange's drinking water supplies appear to be ample, the community may have the ability to better attract industries that sustainably use water for their manufacturing processes. The quantity of water that is available within a watershed is not a stable figure, however. As the percentage of impervious surfaces increases the quantity of water that is available for consumption decreases because more of the water that should be entering the ground water is being quickly whisked away to surface waters. Also, as the demand for water for industrial processing and human consumption increases, this further limits the supply. Permanently protecting critical parcels of land from development will help maximize the amount of available surface and groundwater.

The Town of Orange has three community public water supply sources, which are active gravel-packed groundwater wells. Lake Mattawa is considered as a surface water supply for emergency purposes only. Well #1 is located off of Holtshire Road on land owned by the Town of Orange. Well #2 is located just south of the Millers River in West Orange off of West River Road. Well #3 is located due east of the intersection of Route 202 and Route 122 near the Town's border with New Salem. Well #1, the oldest well, which is manually operated, is strictly used as a backup water source to Wells #2 and #3 due to poor water quality. Wells #2 and #3 were recently rehabilitated, and a new well, Well #2A, was installed in 2008 and was brought online in 2011. The system is supported by two 1 million gallon storage tanks. The Water Department is currently working on replacing Well #1, and has plans for upgrades to the Well #3 pump station.

All three wells had their Zone II and Zone III recharge areas delineated and mapped in 1994. That same year the safe yields were calculated for each well and the entire system's permitted withdrawal volume was established. The permit is for twenty years with reviews of the water withdrawal data occurring every five years by the Department of Environmental Protection. Permitted withdrawal volume typically increases over time as the community's population and demand for water increases. As of 2013, the average annual daily use for the entire Orange public drinking water distribution system was approximately 400,000 gallons per day. Major water users in town include three residential complexes (Leisure Woods Estates, Pinecrest Apts., Brookside MHP); Rodney Hunt Co., Harris Mfg., Seaman Paper Co. and a local car wash. Rodney Hunt Co. used to use more water for their processes, but installed a closed loop system and now re-use their water. Average annual daily use has decreased since the last Open Space and Recreation Plan, potentially due to water conservation practices as well as industrial plant closures. The current registered/permited daily average withdrawal volume is 960,000 GPD (0.93 MGD). The safe yield of the three wells combined is estimated at 1,717,000 GPD (1.72

MGD), which exceeds current demand under normal operating conditions. The safe yield of a well is equal to the amount of water that could be pumped on a daily basis, during an extended drought (180 days) without reducing the capacity of the well. The Town of Orange's current demand for publicly supplied drinking water is well within its capacity.

Wells tap into the underground water supplies called aquifers that are recharged from precipitation. There are two Department of Environmental Protection (DEP) Approved Zone II Aquifer Protection Recharge Areas: one for Wells #1 and #2 and one for Well #3 (blue solid on the Water Resources Map). The recharge area for Wells #1 and #2 stretches from the north bank of the Millers River south along North Pond Brook. There are two types of aquifers that are linked to this recharge area. One is a high yield aquifer that could potentially provide water at a rate of fifty to two hundred gallons per minute.

The high yield aquifer (in dark blue on the Water Resources Map), which provides water to Wells #1 and #2, is situated in a narrow band between the Millers River and Butterfield Park and west of North Pond Brook and east of Holtshire Road. The low yield aquifer (in light blue on the Water Resources Map) could potentially provide drinking water at a rate below fifty gallons per minute. This is part of a much larger low yield aquifer, which runs north to the Millers River and south, surrounding Lake Mattwa, to New Salem.

Well #3 also accesses a low yield aquifer (in light blue on the Water Resources Map) that stretches north to South Orange and east past Lake Rohunta into Athol. The recharge area for Well #3 is defined in the Water Resources Map as an area that lies mostly east of Route 122 and South of Route 2. This recharge area extends south well into New Salem.

Both of the Zone II Aquifer Protection Recharge Areas are identified as the Water Resource District overlay district in the Orange Zoning Bylaws. The purpose of the district is to prevent the contamination of public drinking water, both ground and surface water resources, by regulating uses that may pose a threat to these resources. Uses that could result in contamination of ground or surface water are generally prohibited or require a special permit within the district.

Low yield aquifers also exist surrounding Moss and Orcutt Brooks in West Orange, West Brook, and the West and East Branches of the Tully River as well as Tully and Packard Ponds. There is also a large high yield aquifer, which follows the West Branch of the Tully River from the Millers River to the confluence of Fish Brook.

Non-point source pollution in Orange can also impact drinking water. There is a direct link between above ground land use and below ground water quality. For example, lawns actually facilitate the movement of rainwater across the ground's surface instead of providing an easy entry point to the soil. Pavement produces even more runoff because it is impervious. Normally, as a community grows the amount of impervious surfaces increase. When precipitation runs off a surface like asphalt, the rainwater may pick up and carry contaminants into streams, ponds, lakes, and into the groundwater. Some of the groundwater moves through subsurface soil layers into streams, while other seeps down into aquifers.

The Town could benefit from an effort to try to minimize the amount of impervious cover and find ways of diverting storm water runoff to retention areas so sediments and highway related pollutants can settle out before being transported to surface and ground waters. The Town installed the Riverfront Park in 2006 which shows numerous Low Impact Development (LID) techniques that developers and owners of commercial and residential properties can use to improve and reduce the amount of impervious surfaces in Orange that hamper the flow of stormwater. New standards for development could encourage the use of LID techniques in new developments and when property owners retrofit buildings or redevelop parking areas or driveway configurations. In 2013 the Planning Board adopted new subdivision regulations that encourage the use of LID techniques in new subdivision developments. The Town is also interested in incorporating LID into Town projects as much as possible.

E. VEGETATION

The Town of Orange has vegetative cover types that are consistent with other areas in the Millers River Watershed in that they are made up of large uninterrupted patches of second- and third-growth forests; agricultural lands; forested wetlands; and tree canopies fragmented from residential development. As of 2005, there were approximately 16,688 acres of forest in Orange, covering 72 percent of the total area of town.

E.1 Forests

Orange is situated in north central Massachusetts, which is in the Transition Hardwoods-White Pine Forest Region (USDA; 1992). Northern hardwoods including yellow and paper birches, American beech, and sugar and red maple, are the major species, while northern red oak and hickories are found on the warmer and drier sites. Eastern hemlock is found on the cooler sites while white pine is characteristic of the well-drained sandy sites. Red maple and black ash can be found on the poorly drained sites. The transition hardwoods-white pine forest type commonly occurs up to an elevation of 1,500 feet above sea level in upland central Massachusetts and southern New Hampshire, northward through the Connecticut River Valley.

Orange currently has many large patches of interior forest, which when combined with forest edges, fields, early successional tree growth, wetlands, and riparian corridors, are best for maximizing regional biodiversity. Larger contiguous patches provide more interior area for deep forest-dwelling species. Larger patches are also important for the more specialized species that cannot survive with excessive disturbances from outside factors, and that rely on other interior species for food. The interior areas provide habitat for specialist predators and larger mammals that require larger home ranges. This species diversity in turn attracts more wildlife, which in turn contributes to the overall health of the system.

There are two unusual forest types in the Town of Orange that merit discussion: a black gum community in southwestern Orange on top of North Pond Ridge and a black ash stand near Cook's Cove, which is south of the Millers River along the Town's border with Athol. Black gum (*Nyssa sylvatica*) swamps usually occur on mineral, shallow muck, or peat soils that are either seasonally flooded or saturated. These swamps occur in depressions where the water

seeps from groundwater, rainwater, or seasonal intermittent streams. In the Quabbin watershed, swamps dominated by black gum are rare or non-existent. Certain rare mammals (southern bog lemming and water shrew), birds (Cooper's and Sharp-shinned hawks), amphibians (Blue-spotted, Four-toed, Jefferson, and Marbled salamanders), and reptiles (Spotted and Wood turtles) are common to black gum swamps.

The second unusual forest community in the Town of Orange is a black ash (*Fraxinus nigra*) stand located within a red maple swamp adjacent to Cook's Cove. This potentially unique community type was identified in the Millers River Greenway Natural Resources Inventory Final Report prepared in 1997 by Hickler and Small. Red maple also occurs with larger trees but at a much lower density than the black ash. Other tree species include yellow birch and eastern hemlock. The black ash trees range in size from saplings to trees up to nine inches in diameter. The shrub and herbaceous layers are composed of alder, red osier dogwood, tussock sedge and sensitive fern. Although black ash is not itself a rare tree species for this region, it is generally found as a component of other stands along seeps and the borders of swamps.

The Town of Orange has extensive forestlands near Chestnut Hill and in northwest Orange. This should translate into linkages between protected open spaces that may provide opportunities for hiking, wildlife viewing, hunting, horseback riding, and other recreational opportunities. These values depend on the accessibility of the land, and whether the land is privately or publicly owned.

As the Town of Orange proceeds to work to protect forestland for its multiple values, the differences between public and private ownership will become important (see Section 3: Community Setting for land protection efforts, such as Chestnut Hill, that the Town has participated in). Protected land held in private ownership may ensure that there is wildlife habitat, the potential for working forests to continue to produce timber, income for the landowner, and property taxes for the Town. Public ownership helps to ensure public access to these resources for recreational activities. The Town of Orange should consider this network of healthy forests, and these areas of interior forest as most important for protection.

The second highest natural resource goal in the *Franklin County 2035 Regional Plan for Sustainable Development (RPSD)* is to protect forests. Forests considered important to protect include unfragmented forests, old-growth forests, and forests that support rare and endangered plant and animal species. Forests along rivers and streams are also a priority to protect for their important habitat, water recharge functions, and bank stabilization. Forests located on soils good for timber production should also be protected. The plan lists several potential impacts on forests due to climate change, including decline of maple syrup production, the deterioration of the Eastern Hemlock, and the spread of invasive species. According to the plan, sustainable forestry practices, such as selectively harvesting trees, can increase the ability of forests to sequester carbon. Sustainable forestry practices also provide employment, support rural communities, and encourage landowners to retain their woodlots rather than selling them. Benefits of forest management include providing a sustainable source of wood products, increasing the diversity of habitats for wildlife, and offering places for recreation.

E.2 Aquatic Vegetation

The vegetative covers of wetlands, riverine, and lake/pond areas in Orange are typical of wetlands and water bodies in western Massachusetts. These areas increase the overall biodiversity of the Town and region by providing a great variety of important habitat types. The vegetation that lines these shores and grows in the water is important to the health of the water bodies. It also provides crucial habitat for edge species where water and land meet. This habitat is enhanced because the plants that grow there reduce bank erosion and keep the nutrient and oxygen levels of the water in balance.

E.3 Pasture and Croplands

Pasture and crop lands are also important vegetation types for Orange. In 2005, cropland represented 3 percent of the Town's total land area, while pasture and orchards together covered about 2 percent of the Town's land area. Cropland and pasture accommodate the majority of game species, both within the parcels and along their edges. Pastures provide important habitat for many bird and insect species, which are important to the residents who enjoy observing wildlife as a recreational activity. These values underscore the benefits of keeping existing farmlands in production and maintaining pasture and orchards. They are important for food production, which is part of the local economy, for wildlife viewing, and for their significant historical and scenic landscapes that contribute to the Town's rural character.

E.4 Grasslands

A third unique vegetated area is the Orange Municipal Airport. According to the Division of Fisheries and Wildlife (DFW), Natural Heritage and Endangered Species Program, the Orange Municipal Airport supports species of grassland birds, some of which are rare in the state. They consider the current management to be appropriate to maintain the grassland birds and the vegetation they depend on. DFW encourages the Town to recognize the wildlife value of the airport and to continue the current stewardship.

E.5 Rare and Endangered Plant Species

Although the Massachusetts Division of Fisheries and Wildlife have rare plant records from early on in the 20th Century from Orange, they did not specify where in Town they occurred. In addition, these species have not been rediscovered in likely habitats. According to the state agency, species appear to have been lost in Town in the past century. The muskflower (*Mimulus moschatus* (Dougl.)), which is Endangered and the New England blazing star (*Liatris Scariosa* var. *novae-angliae*), of Special Concern, were last reported in 1910 and 1931, respectively.

Other rare plants listed by the Division of Fisheries and Wildlife include:

Table 4-4: Plant Species in Orange Listed as Special Concern, Threatened, or Endangered

ScientificName	CommonName	MESA Status	Most Recent Observation
<i>Adlumia fungosa</i>	Climbing Fumitory	SC	2003
<i>Clematis occidentalis</i>	Purple Clematis	SC	2003
<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC	1931
<i>Mimulus moschatus</i>	Muskflower	E	1910
<i>Scleria pauciflora</i>	Papilloose Nut Sedge	E	2013
<i>Utricularia resupinata</i>	Resupinate Bladderwort	T	2012
<i>Viola adunca</i>	Sand Violet	SC	2009

SC – Special Concern; T - Threatened; E – Endangered.

Source: Massachusetts Natural Heritage and Endangered Species Program, Town Species Viewer:

<http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>.

E.6 Public Shade Trees

Public shade trees are located along the streets of downtown Orange, along other Town roads, and in parks and cemeteries. Trees are also located at some businesses, in parking lots and landscaped areas, which provide shade for costumers and employees. The loss of trees in public spaces can significantly change the character of that place. Some ways towns protect shade trees include adopting a scenic roads bylaw, limiting the amount of salt used on roads, and requiring replacement of any trees that are lost.

The many benefits of street trees include improved air quality; reduced flooding and improved water quality as trees intercept rain through their leaves and branches and absorb water through their roots; higher property values for neighboring homes; slower traffic speeds and less traffic noise; and cooler temperatures in the summer which can extend the pavement life of the street. Street trees in more heavily developed areas also provide a pleasant environment for pedestrians to walk, thereby encouraging recreation and visitors and shoppers to spend time in a downtown.

F. FISHERIES AND WILDLIFE

Orange contains a large amount of upland and bottomland wildlife habitat. The forests of the Town consist of large unbroken tracts of dense forest that allow for good species movement within Orange and with the surrounding region. Orange is part of a regional greenway that forms a circular belt of permanently protected open space that stretches northwest from the 60,000-acre Quabbin Reservation through New Salem, Wendell, and western Orange into Warwick. The eastern half of the circular belt continues up to the state line through Royalston, and then extends south to Tully Mountain in North Orange, Tully Lake, Birch Hill and Harvard Forest in Petersham. Another network connects the western part of the belt in Erving and western Orange through Wendell, Montague, and Sunderland to the Connecticut River. Within these networks of open spaces there are eleven (11) state forests or reservations. In addition to these large areas of

contiguous forested open space, the Town's waterways including the Millers River, West Branch Tully River, and Poor Farm Brook, serve as important wildlife corridors. The Town still has a sizable number of active agricultural areas, which also provide an important ecological function for the maintenance of edge species (those species that require this transitional zone for daily activities).

Lists of wildlife that have been observed in Orange at least once as members of migrating, wintering, or breeding populations is included in the Appendix. The lists were based on information presented in New England Wildlife: Management of Forested Habitats by R.M. DeGraaf et al., published in 1992, which correlates wildlife with the major forest type in the area. The species are listed by category (amphibians, reptiles, birds, or mammals), then by type of habitat, and then by size of home range. This method has been augmented with information provided by an additional source, the Wildlife Habitat Analysis of the Chestnut Hill Project. The Biodiversity Days Spring 2000 Survey results for Orange are also included in the Appendix. However, even with these additional sources, it is by no means a complete inventory of all species that may be found in Orange.

F.1 Rare and Endangered Wildlife Species

The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife (MassWildlife) has designated several "Priority Habitat" areas in the Town of Orange. A Priority Habitat is an area where plant and animal populations protected by the Massachusetts Endangered Species Act Regulations (321 CMR 10.00) may occur. These areas include:

- Surrounding Tully Pond;
- Along the Tully River;
- An area bordering the northern shore of Lake Mattawa;
- Along Orcutt Brook;
- Along the Millers River;
- Along the West Branch of the Tully River between Temple Hill and Tully Mountain;
- Surrounding the Department of Fish and Game Wildlife Management Area; and
- The Orange Municipal Airport.

These areas are identified on the Plant and Wildlife Habitat Map. According to the NHESP, Orange provides habitat for 11 state-listed species. One species is endangered, two are threatened, and eight are species of Special Concern.

Table 4-5: Wildlife Species in Orange Listed as Special Concern, Threatened, or Endangered

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Bird	Ammodramus savannarum	Grasshopper Sparrow	T	2009
Bird	Botaurus lentiginosus	American Bittern	E	2005
Bird	Caprimulgus vociferus	Eastern Whip-poor-will	SC	2010
Reptile	Glyptemys insculpta	Wood Turtle	SC	2010
Dragonfly/Damselfly	Gomphus abbreviatus	Spine-crowned Clubtail	SC	2004
Dragonfly/Damselfly	Neurocordulia yamaskanensis	Stygian Shadowdragon	SC	2011
Fish	Notropis bifrenatus	Bridle Shiner	SC	2000
Dragonfly/Damselfly	Ophiogomphus aspersus	Brook Snaketail	SC	1995
Bird	Pooecetes gramineus	Vesper Sparrow	T	2009
Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC	2005
Mussel	Strophitus undulatus	Creeper	SC	2010

SC – Special Concern; T - Threatened; E – Endangered.

Source: Massachusetts Natural Heritage and Endangered Species Program, Town Species Viewer:

<http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>.

As mentioned in the beginning of this section, climate change is expected to alter species distributions. As species move to adjust to changing conditions, federal, state and local agencies and entities involved in land conservation need a way to prioritize strategic land conservation that will conserve the maximum amount of biological diversity despite shifting species distribution patterns. The *BioMap2* project and The Nature Conservancy's resiliency mapping are two resources that can be consulted when working to prioritize conservation for species diversity and health. The *BioMap2* Core Habitats and Critical Natural Landscapes are included on the Plant and Wildlife Habitat Map.

G. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

This section identifies the scenic resources and unique environments that most Orange residents would agree represent the essence of Orange's character. The purpose for inventorying the scenic resources and unique natural environments in Orange is to provide the basis for prioritizing resource protection efforts. For this reason the following section includes information about the different values associated with each scenic resource and natural environment and identifies areas where there are multiple values represented in one landscape. Those landscapes that contain, for example, scenic, wildlife, and cultural values may be seen as having a higher priority for protection than a landscape that contains only one value.

In many ways the history of Orange – how people came to settle the land, use its resources, and enjoy its forests, streams, and lakes – can be seen in the landscapes that have retained a sense of the past. Often the most scenic views include old farm buildings, fields cleared long ago, orchards, and undeveloped hillsides and mountains. Red brick mill buildings and historic homes provide a sense of the Town's culture and the work of its ancestors. There are many examples in

Orange where a scenic landscape is also important because of its relation to a drinking water supply, or because it contains rare species habitat.

The unique environments in Orange play a very important role in providing residents with a sense of place that is different than Athol, Erving, or Warwick. Rivers, mountains, wetlands, and town and village centers provide markers on the landscape for residents and visitors alike.

For the previous Orange Open Space and Recreation Plan, Orange residents completed an inventory of the natural and cultural resources that they value. The inventory was based on a formal landscape survey done in 1992, which distinguished between the types of landscapes assessed (*agricultural, community development, recreational, conservation, industrial, transportation, scientific, religious, and engineering*).

In 2008, the Town of Orange, with the assistance of the Massachusetts Department of Conservation and Recreation, the Central Massachusetts Regional Planning Commission, and the North Quabbin Regional Landscape Partnership, completed a heritage landscape inventory reconnaissance report. The report documents the “special places created by human interaction with the natural environment that help define the character of a community and reflect its past.” Residents and Town officials participated in identifying seven heritage landscapes in town:

- North Orange
- Tully Village
- Downtown industrial areas along the Millers River
- Orange Municipal Airport
- Chestnut Hill
- Hunt Farm
- Scenic roads

The report notes opportunities, issues, and recommendations for how to protect and preserve each heritage landscape.

Table 4-6 lists the different landscapes from these past inventories based on their location and describes their scenic, natural/ecological, and cultural/historical values, and whether the landscape falls within one of the heritage landscapes identified in 2008. The numbers in Table 4-6 correlate with the Scenic and Unique Resources map, showing the location of each scenic landscape feature in Orange. The text that follows the table addresses the common themes associated with the greatest concentration of values as displayed in both the map and the table. For example, the relationship between the high elevation points or ridgetops, and the wildlife habitat values of these areas is important. The wildlife value is in part due to the presence of large contiguous blocks of undisturbed forest, which are more prevalent along the region’s ridgelines and higher elevation plateaus than anywhere else.

In the far right column of Table 4-6, the landscape’s protection status is estimated. For the purposes of this Open Space and Recreation Plan, a landscape is defined as a land area with a particular land use pattern (farmland), or a physiological landform (monadnock) distinguishable

from adjoining areas. Often ownership patterns do not coincide with the boundaries of a landscape. A ridgeline may have portions of it protected while the rest is in unprotected. Landscapes that contain parcels in the Ch. 61, 61A, or 61B programs are important because the Town has the right of first refusal to purchase these properties. This right may be passed onto a third party, such as a conservation land trust. It is important to note, however, that properties in the Ch. 61, 61A, or 61B programs are not considered to be permanently protected, as they can be converted to another use if a town chooses not to exercise its right of first refusal and back taxes are paid.

Table 4-6: Significant Scenic/Historic/Natural Landscapes/Environments in Orange

Map #	Location of Landscape	Landscape w/Significant Scenic Value	Landscape w/Significant Natural/Ecological Value	Landscape w/Significant Cultural/ Historical Value	Protection Status	2008 Heritage Landscape
1	Farmland on Tully Road Blissville	Farmland		Historical Agricultural Landscape, the D.A. Harrington Farm, c. 1871	Unprotected	
2	Warwick State Forest in Northeast Orange		Wildlife Habitat	Warwick State Forest is an Historical Recreation/Conservation Landscape	Permanently protected	
3	Beech Hill, Fall Hill, Temple Hill and Orange State Forest	Views of, and from, Hills	Ridge top and Unique Habitats (Northwestern slopes + large blocks of contiguous forest)		Mostly unprotected; several large Ch. 61 parcels	
4	Western side of Tully Road, just north of intersection with Creamery Hill Road	Open Meadow	Edge Habitat	Agricultural Heritage	Mostly unprotected	
5	Tully Road	Scenic		Historical Agricultural Landscape	Mostly permanently protected, except western side north of Creamery Hill Road	Scenic roads
6	Tully Mountain	Views of, and from, Hills	Geologic- Monadnock/ Ridge top/ Wildlife Habitat	Major Recreational Trail System and Linkages	Largely permanently protected	
7	Town Farm Road	Scenic		Agricultural Heritage	Mostly unprotected, with several large Ch. 61 parcels	Scenic roads
8	Creamery Hill Road	Scenic		Part of the North Orange Center Historical Community Development Landscape	Unprotected, with several large Ch.61 parcels	Scenic roads
9	Aquifers		Water Supply		Permanent protection in northern section east of Tully Rd. and in southwest section	
10	Tully Village	Old Village Center Views of Tully Mountain		Historical Village Center Recreational	Mostly unprotected	Tully Village
11	Tully Trail Access	A 22-mile trail with access to scenic views and landscapes		Regionally-important trail system	Largely permanently protected	

Map #	Location of Landscape	Landscape w/Significant Scenic Value	Landscape w/Significant Natural/Ecological Value	Landscape w/Significant Cultural/ Historical Value	Protection Status	2008 Heritage Landscape
12	Royalston Road	Scenic			Some Permanent Protection west of Tully Road; Mostly Unprotected w/ some Ch. 61 parcels	Scenic roads
13	East Branch of the Tully River	Stream Corridor	Excellent Cold Water Fishery	High Recreational Value	Some permanent protection, though mostly unprotected except through Rivers Protection Act	
14	Williams Pond	Water Body			Unprotected	
15	North Orange Village, Creamery Road and Athol Road	A cross-road village center		Historical <i>Community Development</i> Landscape	CR extending from North Main St. around White's Pond; Orange Conservation Commission parcel	North Orange
16	Oxbow Road	Scenic			Some permanent protection, several Ch. 61 parcels	Scenic roads
17	Orange Wildlife Management Area	Wetland	Great Blue Heron Rookery		Permanently Protected	
18	North Main Street	Scenic		Agricultural Heritage	Roughly half permanently protected; Several Ch. 61 parcels	Scenic roads
19	Town Pound off of East Road	Town Pound		Historical <i>Agricultural Landscape</i>	Unprotected	
20	Athol Road	Scenic		Agricultural Heritage	Mostly permanently protected; northern end is unprotected	Scenic roads
21	West Branch of the Tully River	Stream Corridor	NHESP Priority Habitats for Rare Species	Recreational Value	Mostly permanently protected except for the section between Tully Road and Royalston Road	
22	Little Tully Mountain	Views of Hills	Geologic- Monadnock/ Ridge top		Partially permanently protected	
23	Fryeville Road	Scenic			Unprotected	Scenic roads
24	Temple Road	Scenic			Mostly permanently protected, one Ch. 61 parcel	Scenic roads
25	Jones Cemetery Road	Scenic			Mostly unprotected	Scenic roads
26	Farm School	Farmland	Edge Habitat	Agricultural Heritage	Permanently protected	
27	Moore Farm	Farmland	Edge Habitat	Agricultural Heritage	Partially permanently protected	

Map #	Location of Landscape	Landscape w/Significant Scenic Value	Landscape w/Significant Natural/Ecological Value	Landscape w/Significant Cultural/ Historical Value	Protection Status	2008 Heritage Landscape
28	Johnson's Farm on Wheeler Avenue	Farmland	Edge Habitat	Agricultural Heritage	Partially permanently protected; one Ch. 61 parcel	
29	Western side of East Road, south of Ward Road also at intersection of Wheeler and Ward Road	Open Meadow/Cropland	Edge Habitat	Historical Agricultural Landscape: W.A. Ward Property c. 1871	Mostly unprotected, several Ch. 61 parcels	
30	East Road	Scenic			Mostly unprotected; Ch. 61 parcels	Scenic roads
31	Wheeler Avenue	Scenic Road		Historical Agricultural Landscapes	Permanent protection in central section; several Ch. 61 parcels	Scenic roads
32	Wendell Depot Road	Scenic		Historical Agricultural Landscapes	Unprotected except for a small parcel on the northwestern end	Scenic roads
33	Warwick Road (Rte. 78)	Scenic		Historical Agricultural Landscapes	Some permanent protection; several Ch. 61 parcels	Scenic roads
34	West Orange Cemetery			Historical Village Center	Large areas of protected land surrounding village	
35	Farmland to the west of Route 78, on 2A	Farmland	Edge Habitat	Agricultural Heritage	Unprotected	
36	Downtown South Orange Center along Millers River	Industrial village layout		Historical Community Development Landscape Recreational	National Historic District	Downtown industrial areas along the Millers River
37	Millers River	Stream Corridor	NHESP Priority Habitats for Rare Species	High Recreational Value	Mostly unprotected except through Rivers Protection Act	
38	Riparian Corridors along all Streams and Brooks	Stream Corridor	Wildlife and Fisheries Habitat	Recreational Value	Varies; some only protected through Rivers Protection Act	
39	Coolidge Swamp	Wetland	Great Blue Heron Rookery		Mostly permanently protected	
40	Aquifers		Water Supply		Only slightly protected	
41	Zone I & II Recharge Areas		Drinking Water Supply		Well #1 & #2 – Little permanent protection; some Ch. 61 parcels	

Map #	Location of Landscape	Landscape w/Significant Scenic Value	Landscape w/Significant Natural/Ecological Value	Landscape w/Significant Cultural/ Historical Value	Protection Status	2008 Heritage Landscape
42	North Pond Brook	Wetland	Connectivity with Orange Well #1 + #2		Mostly unprotected, except through Rivers Protection Act	
43	Crystal Springs	Wetland	Past Drinking Water Supply Source		Limited protection – Town-owned	
44	Chestnut Hill and Orange State Forest	Views of, and from, Hills	Ridge top and Unique Habitats (Northwestern slopes + large blocks of contiguous forest)	Orange State Forest is an Historical Recreation/Conservation Landscape	Mostly permanently protected	Chestnut Hill
45	Bicentennial Park	Wetland			Mostly permanently protected	
46	Lake Mattawa Road	Scenic		Historical Agricultural Landscapes	Unprotected; one Ch. 61 parcel	Scenic roads
47	Black Ash, Cooks Cove		Unusual Natural Community		Unprotected	
48	Gidney Road	Scenic			Mostly permanently protected	Scenic roads, Chestnut Hill
49	Chestnut Hill Trail Access	A new trail system in Southwestern Orange open to the public		Locally important trail system	Largely permanently protected	Chestnut Hill
50	Western slopes of Walnut Hill from Lake Mattawa	Views of Hills	Ridge top		Unprotected	
51	Walnut Hill Road	Scenic		Historical Agricultural Landscapes	Unprotected	Scenic roads
52	Orange Municipal Airport	Open Meadow	NHESP Priority Habitats for Rare Species	High Recreational Value	Limited protection – Town-owned	Orange Municipal Airport
53	Chestnut Hill Road Upper, Chestnut Hill Lower	Scenic		Historical Agricultural Landscapes	Mostly permanently protected	Chestnut Hill
54	Lake Mattawa	Water Body	Excellent Cold Water Fishery	High Recreational Value and is an Historical Recreation Landscape	Mostly developed and unprotected	
55	Black Gum Swamp		Unusual Natural Community		Permanently protected	Chestnut Hill
56	Eastern slopes North Pond Ridge from Lake Mattawa	Views of Hills	Ridge top and Wildlife Habitat		Northern section unprotected; southern section includes mix of permanent protection and Ch. 61	

Map #	Location of Landscape	Landscape w/Significant Scenic Value	Landscape w/Significant Natural/Ecological Value	Landscape w/Significant Cultural/ Historical Value	Protection Status	2008 Heritage Landscape
57	Bullard Farm off Route 202	Farmland	Edge Habitat	Agricultural Heritage	Partially protected w/ most acreage in Ch. 61A	
58	Magoon Hill	Views of Hills	Ridge top		Partially permanently protected; some land in Ch. 61	
59	Hunt Farm at Routes 202 and 122	Farmland	Edge Habitat	Agricultural Heritage	Unprotected, many Ch. 61A parcels	Hunt Farm
60	Zone I & II Recharge Areas		Drinking Water Supply		Well #3 –Unprotected; several Ch. 61 parcels	
61	Lake Rohunta	Water Body	NHESP Priority Habitats for Rare Species	High Recreational Value	Unprotected, most shoreline in Ch. 61	
62	Orange Riverfront Park		Example of Low Impact Development	High Recreational Value	Limited protection - Town-owned	
63	Butterfield Park		Includes Example of Low Impact Development	High Recreational Value	Limited protection - Town-owned	

Source: Franklin County Rural Landscape Preservation Plan Report, 1992; Orange Heritage Landscape Reconnaissance Report, 2008; and Orange Open Space Committee, 2015.

Several themes emerge from both Table 4-6 and the Scenic Resources and Unique Environments Map. Scenic resources and valued natural environments naturally fall into several categories as described in the following sections.

G.1 Bordering Hills

The hills in the western, northwestern and northern borders of Orange including Chestnut, Beech, Fall, Temple, and the hill located due east of Tully Mountain contain landscapes with a great concentration of values: scenic views of and from these hills; natural/ecological values (large contiguous blocks of forest, other unique wildlife habitats, ridgetops, and small stream corridors); and in a few cases, cultural/historical values (presence of the Orange State Forest).

The Chestnut Hill Area from Route 2 south to the New Salem border, west to the line with Wendell and east to Holtshire Road contains scenic views of the hills from Lake Mattawa, and far away views to Mount Wachusett from Chestnut Hill itself. This area also contains Coolidge Swamp to the north and the Black Gum Swamp to the south. There are scenic views of farm fields at the intersection of Chestnut Hill Road and Gidney Road. The Orange State Forest and Orange Wildlife Conservation Easement area covers a significant portion of the western most portion of this area. The New England Forestry Foundation owns approximately 90 acres off of Chestnut Road near Lake Mattawa. Many privately-owned parcels have been protected through conservation restrictions. Several hundred acres, however, remain unprotected, including the top of Chestnut Hill.

Beech Hill and Temple Hill in northwestern Orange are valued for both scenic and ecological resources. Temple Hill in particular provides the backdrop for several historical agricultural landscapes on Town Farm and Tully Roads. The forests of these hills help maintain stream flow in Poor Farm Brook, West Brook, and the West Branch of the Tully River. In addition, groundwater from these hills helps to recharge the wetlands that lie north and south of the Orange Wildlife Management Area. These hills are owned almost entirely by private woodland owners. Temple Hill is mostly unprotected, but includes several parcels in the Chapter 61 program. Beech Hill is partially permanently protected from development, with the remaining parcels enrolled in Chapter 61.

G.2 North/South Ridgelines

There are three dominant north/south ridgelines in Orange including Walnut Hill, Magoon Hill, and the ridgeline just east of East Road. The western aspects of Walnut Hill are visible from Lake Mattawa, the eastern from South Orange. The western slopes of Magoon Hill are also visible from Lake Mattawa. Both hills run north south and are valued by Orange residents for their scenic ridge-like elevations. The East Road ridge is valued for its scenic value but also because of its wildlife habitat, known especially as a good hunting area. These ridges are largely unprotected from development.

G.3 Monadnocks

Little Tully Mountain and Tully Mountain are both considered monadnocks, which are hills or mountains of resistant rock that rise above a peneplain. A peneplain is a large land area of slight relief that has been created through erosion processes. Through the efforts of the Mount Grace Land Conservation Trust, the New England Forestry Foundation (NEFF), and private landowners, the Tully Valley Private Forest Lands Initiative protected the majority of Tully Mountain from development (see Section 3: Community Setting for more information). Mount Grace Land Conservation Trust is the steward of the former Foye conservation restriction, which covers 212 acres and protects a significant section of the West Branch of the Tully River as well as wetlands north of Tully. The Trust also owns a 30 acre parcel of land that protects the hilltop of Tully Mountain. The purchase of 348 acres to the east of Tully by the Division of Fisheries and Wildlife (DFW) ensures that this unique ecological and recreational resource will be conserved. While Tully Mountain is mostly permanently protected from development, Little Tully Mountain is only partially protected. Both monadnocks are valued for their scenic views, to and from the peaks, wildlife habitat, and unique geological value.

G.4 Important Wetlands

Wetlands like the black gum and black ash swamps usually contain a greater diversity of plant and animal life than surrounding landforms. They are also often connected to extensive watercourse networks both above and below ground (North Pond Brook swamp). Wetlands provide basic ecosystem services such as water retention, water purification, and flood water control. Sometimes they are carbon sinks, and often they provide habitat for rare species (Lake Rohunta). Wetlands can be considered scenic, and are also some of the places people have traditionally hunted in Orange. For all these reasons wetlands are valued in Orange. The Rivers Protection Act provides partial protection from land uses that may have a negative impact on the long-term viability of flora and fauna in wetlands. However, since wetlands are often in low lying areas of the landscape, their normal water flows and the quality of the water can be greatly influenced by the use of nearby lands. Winter salt and sand use on Orange's roadways can, over time, kill trees and vegetation that depend on the maintenance of specific growing conditions like alkalinity, which can be affected by salts and oils originating from road surfaces.

G.5 Agricultural Lands

Most of the agricultural lands in Orange are unprotected from development. However, since the 2008 Open Space and Recreation Plan, approximately 158 acres of farmland have been protected through the Agricultural Preservation Restriction (APR) Program. This trend can be supported by the Town since active farmland also provides the community with scenic values, input to the local economy, wildlife habitat, hunting areas, and the maintenance of the original settlement and land use patterns reflecting the community's origins.

G.6 Historic Village Centers

Orange residents identified the historic village centers of West and North Orange and Tully as being areas of cultural and historic value. These village centers combine scenery, historic land

use patterns, historic structures, and cemeteries within landscapes that often have ecological and scenic values of their own. Like scenic roads or drives, village centers provide Orange residents access to historical and natural resources. This is true for downtown Orange. The downtown area draws forth images of the late 19th Century with its brick mill buildings surrounding the Millers River.

G.7 Scenic Roads

There are many scenic drives throughout Orange. Along Wheeler Avenue, there is the old Wheeler summer house with its large rhododendron garden, an operating sugar shack, saplings of historic maple trees bordering the road, and a beautiful view of the Johnson Farm. Just south of the intersection of Wheeler Avenue and Main Street offers a fine view of mountains and ridge tops. Holtshire Road also offers scenic views of Lake Mattawa and a beaver pond.

Often roads link Orange's most scenic and significant historical landscapes. Since residents most often view the landscape as it passes outside their vehicle's window, roads play an important role in linking us to scenic views. Local scenic road designation provides limited protection to historic and scenic resources along local byways. Once designated, the Planning Board must give written approval before any repair, maintenance, construction, or paving of the road is allowed if that activity would involve the cutting or removal of trees, or the tearing down or destruction of stone walls in the public Right of Way. Wheeler Avenue is the only locally designated scenic road in Orange. The roads in Orange that could potentially receive designation as a Local Scenic Road include: Gidney Road, North Main Street (north of Clark Ave.), Walnut Hill Road, Temple Road, East Road, Main Street, Creamery Hill Road, Tully Road, Chestnut Hill Road, Wendell Depot Road, Oxbow Road, Jones Cemetery Road, Athol Road, Royalston Road, Fryeville Road, Town Farm Road, Lake Mattawa Road, Warwick Road, and portions of Holtshire Road.

G.8 Unusual Natural Environments

Often the most unusual natural environments have obvious scenic features and sometimes they include rare ecological areas that are kept hidden by design. With care, Orange could seek assistance from the Massachusetts Department of Conservation and Recreation (DCR), the Massachusetts Division of Fisheries and Wildlife (DFW), Mount Grace Land Conservation Trust and citizens to protect these special places preventing rare plants, animals, or habitats from jeopardy.

Table 4-7: Unusual Natural Environments

Site/Name of Environment	Type of Feature	Protection Status	Comments
Millers River, Cooks Cove	Ecological	Unprotected	Rare Black Ash Swamp
Black Gum Swamp	Ecological	Protected	Rare habitat area
Orange Municipal Airport	Ecological, Recreational	Limited Protection	Unique grasslands habitat
Lake Mattawa	Recreational	Access is protected (public boat ramp, beach)	Excellent cold water fishery Ensure long term water quality
Lake Rohunta	Recreational	Shoreline is in Ch. 61	Unique area for kayaking and wildlife viewing

The unusual natural environments presented in Table 4-7 represent areas with special ecological, recreational, and scenic values. Cooks Cove, which is partially protected by the Rivers Protection Act, contains a rare black ash swamp among other important habitats and is connected to the Millers River on the Athol/Orange Town Line.

Lake Mattawa is a cold water fishery attracting anglers from across the state. Public access to the Lake is excellent from roadways and a Town-owned beach. However, the potential for negative impacts from non-point source pollution is real. Route 2 passes within several hundred feet of its northeastern bank. Three other sides of the lake are flanked by roadways. In addition, cottages with their own on-site septic systems built in the early 1900s crowd the eastern, western and southern shores of the lake.

Another unique environment is found within the Orange Municipal Airport parcel. The grassland habitats that are found within and alongside the airport's runways, although created through human intervention, are very unique and provide rare and endangered species the type of vegetation they require. These values may be in conflict with the economic development of the airport depending on the design of future land uses.

H. ENVIRONMENTAL CHALLENGES

H.1 Non-Point Source Pollution

The Massachusetts 2012 Integrated List of Waters identifies high levels of fecal coliform, PCBs in fish tissue, and Phosphorous (total) in the Millers River that impair its full potential as a Class B fishable and swimmable water body. Every stream, brook, and river in Orange continues to be threatened by non-point source pollution from urban and agricultural runoff to sedimentation. The ultimate clean-up of the river will need to be a continuous, watershed-wide effort.

The Town is interested in incorporating Low Impact Development (LID) techniques into town land use regulations, and to implement LID as part of Town projects when feasible. Low Impact Development (LID) is a group of land use development techniques that capture water and rainfall on site, filter it through vegetation and let it soak into the ground before entering the water table. Benefits include improved water quality, reduced flooding, and potentially lower construction costs than a conventional stormwater management system.

H.2 Risk of Contamination to Community Drinking Water Supplies

Another critical environmental issue concerns the danger of hazardous materials in transit on the roadways in the Town of Orange and their impact on community drinking water supplies. Routes 2, 2A, 202, and 122 pass through the MA DEP Approved Zone II and III recharge areas for Wells #1, #2, and #3. The soil in these areas is sandy and a spill would potentially reach the water table quickly, contaminating a large portion of the Town's drinking water. According to

the Franklin County Hazardous Material Emergency Plan (HMEP)¹⁷ the hazardous materials regularly carried on trucks passing through Orange include:

- Gasoline
- Fuel oil
- Kerosene
- Liquified petroleum gas
- Propane
- Sodium aluminate
- Sulfuric acid
- NOS liquids 3082

Ten to 24 trains per day travel on the Pan Am Systems Main Freight line which bisects Orange and runs adjacent to the Millers River. On each of these trains, an average of 4 cars carries hazardous waste. The hazardous materials regularly carried on these trains passing through Orange include:

- Hydrocyanic acid
- Sulfuric acid
- Liquified petroleum gas
- Hydrochloric acid
- Chlorine
- Caustic soda
- Methanol
- Sodium chloride

The Orange Fire Department has internal procedures for responding to hazardous material releases.¹⁸ The Town should work with MassDOT to develop a cooperative emergency management plan with the Orange Highway Department and the Board of Selectmen to help mitigate the risk of contaminating these drinking water supplies by hazardous materials that are being transported on Route 2.

H.3 Flooding, Erosion, and Sedimentation

The 2014 Orange Multi-Hazard Mitigation Plan identifies numerous areas in town where chronic flooding is an issue. Flooding in the hilly sections of town causes erosion and road washouts, while flooding in the flat area of downtown has caused property damage such as flooded basements. In addition to property and infrastructure damage from flooding, sediment from eroding banks can compromise habitat for fish and aquatic life, particularly during low flow conditions. Sedimentation also comes from road sand and loose soil in roadside swales. The plan recommends mapping Fluvial Erosion Hazard (FEH) zones, which are areas along rivers and

¹⁷ Franklin County Regional Emergency Planning Committee, Franklin County Hazardous Material Emergency Plan and Maps, 2006. Based on a one-time survey conducted in 2003.

¹⁸ *Town of Orange Local Multi-Hazard Mitigation Plan*, 2014.

streams that are susceptible to bank erosion caused by flash flooding, and seek to limit new development in these areas.

Failing drainage systems in downtown have contributed to flooding in this section of town. The Town recently used Community Development Block Grant (CDBG) funds to address problems in the East Myrtle Street area. Moving forward, the Town is interested in incorporating Low Impact Development (LID) stormwater management techniques in flood prone areas to reduce the amount of stormwater flowing to overwhelmed catch basins. The Town is also interested in implementing techniques along steep sections of roadways to slow the flow of water and reduce erosion and sedimentation.

H.4 Hazardous Waste and Brownfield Sites

As defined by the U.S. Environmental Protection Agency (EPA), "Brownfields" are properties that the expansion, redevelopment, or reuse of may be complicated by the actual presence or perceived potential presence of a hazardous substance, pollutant, or contaminant. Orange has been working with the Franklin Regional Council of Governments and property owners to assess the extent of contamination and promote redevelopment of identified Brownfield sites in Town. As of the end of 2014, six sites in Orange had assessments conducted through the FRCOG Brownfields Program. One site, Putnam Hall, also used FRCOG resources to fund the removal of contamination. Through EPA funding secured by FRCOG the following types of assessment activities can be conducted. A Phase I Environmental Site Assessment report assesses a site's potential contamination by conducting historical research and reconnaissance of the site. If needed, additional assessment such as a Phase II, will be conducted to determine the impact of potential contamination through sampling and laboratory analysis of soil, groundwater, or building materials. A Phase III Remediation Plan may be prepared if contamination is found in sufficient concentrations that action should be undertaken. The Phase III Remediation Plan outlines how a clean-up should be conducted and the estimated cost for cleanup.

In addition to the FRCOG program, the Massachusetts Department of Environmental Protection (DEP) maintains a list of brownfield sites where known contamination has occurred. In Orange, 69 sites have been reported to the DEP as of November 25, 2014, most of which have either been cleaned up or determined to pose no significant risk to public health.¹⁹ A 2002 assessment of potential sources of pollution in the Millers River watershed identified underground storage tanks (USTs), which have the potential to leak and contaminate ground water. As of 2014, Orange has 12 registered underground storage tanks in town. Since the 2002 assessment, five formerly registered USTs have been removed.²⁰

H.5 Landfills

According to the Mass DEP Bureau of Waste Prevention, Orange has one landfill and three dumping grounds, all of which are inactive. One dumping ground consists of a tire pile, one was used for construction and demolition waste, and one was used for municipal solid waste. None of

²⁰ FRCOG personal communication with Dennis Annear, Orange Fire Chief, June 2014.

the dumping grounds have been capped. The Orange Landfill is owned by the Town and was used for municipal solid waste. It was closed in 1997 and capped in 2000, and is not lined. It is classified as a closed landfill with environmental monitoring required.

H.6 Forestry Issues

According to the *Massachusetts Climate Change Adaptation Report*, climate change impacts to New England forests could include changes in forest structure, more frequent droughts associated with forest fires, and invasive insects and diseases. While active management is not suitable for all lands, sustainable forestry can increase resilience to climate change through improving wildlife habitats, eliminating invasive species, helping to control the spread of disease, and increasing the ability of forests to store carbon.²¹ Sustainable forestry means keeping forests healthy, dynamic, and available for future generations. It addresses all of the resources provided by forests, including habitat, clean water and air, recreation, timber, jobs, and scenic beauty, and seeks to keep viable all of these options and opportunities.²²

Challenges to practicing sustainable forestry in Orange and the greater region include:

- a lack of local markets for low-grade wood, such as pellets and other products that could be made from small diameter trees, which would make sustainable long-term management more financially feasible;
- the need for assistance for local loggers and sawmills to upgrade equipment, cover insurance and energy costs, and meet regulations; and
- the need to educate landowners and the public about the benefits of working forests and sustainable active forest management.

H.7 Environmental Equity

Environmental Equity means taking a look at conservation and recreation opportunities available in the town and determining if there are areas of the town that seem to be lacking resources. As discussed in Section 3, Orange has a high rate of poverty, particularly in the downtown area. Residents may be unable to afford recreational opportunities that require a fee, and may lack transportation to open space and recreation resources in other areas of Town. It is therefore important to ensure free access to an adequate amount of well-maintained open space and recreational resources within walking distance of homes in these areas.

The areas surrounding East and North Main Streets in Orange Center have been identified as lacking open play areas for children. Many children in this area live in apartments that have little or no yard space, and Butterfield Park is too far away for the younger children to walk to. Section 5 goes into greater detail about the open space and recreation needs in town.

²¹ Hines, S.J.; Daniels, A. 2011. Private Forestland Stewardship. (October 10, 2011). U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. www.fs.usda.gov/ccrc/topics/forest-stewardship/.

²² *Diameter Limit Cutting and Silviculture in Northeastern Forests: A Primer for Landowners, Practitioners, and Policy Makers*. USDA Forest Service, 2005; *What is Sustainable Forestry?* Peter J. Smallidge, NYS Extension Forester, Cornell Forestry Extension Program.

H.8 New Development

New development can have negative impacts on open space, such as contributing to habitat and landscape fragmentation, and serving as a source of sediment run-off and other non-point source pollution. In recent years Orange has experienced new commercial and industrial development outside of the downtown core, as well as new residential subdivisions and Approval Not Required (ANR) development. New residential development has slowed since the Great Recession, with an average of two building permits issued per year since 2009, though current vacancy rates suggest a pent-up demand for housing in the region.

Agricultural land along existing roads in town is particularly vulnerable to development in Orange. Fragmenting farmland with development can make it more difficult to farm the remaining parcels. Similarly, new development within forested areas can make it more difficult to conduct forestry activities, and contributes to fragmentation of large contiguous areas of forest that are necessary for certain types of wildlife to thrive. These impacts can be minimized by balancing new development with resource protection. The Orange Subdivision Regulations were revised in 2013 to encourage new subdivisions to incorporate Low Impact Development (LID) techniques whenever practicable to minimize disturbance to natural areas and reduce stormwater runoff. Additionally, Orange currently has an Open Space Development zoning bylaw that allows for flexible lot sizes in conjunction with the permanent protection of open space. A recent example is The Farm School Open Space Development, which created five new ANR building lots for Farm School staff while permanently protecting adjacent farmland.

I. ANALYSIS

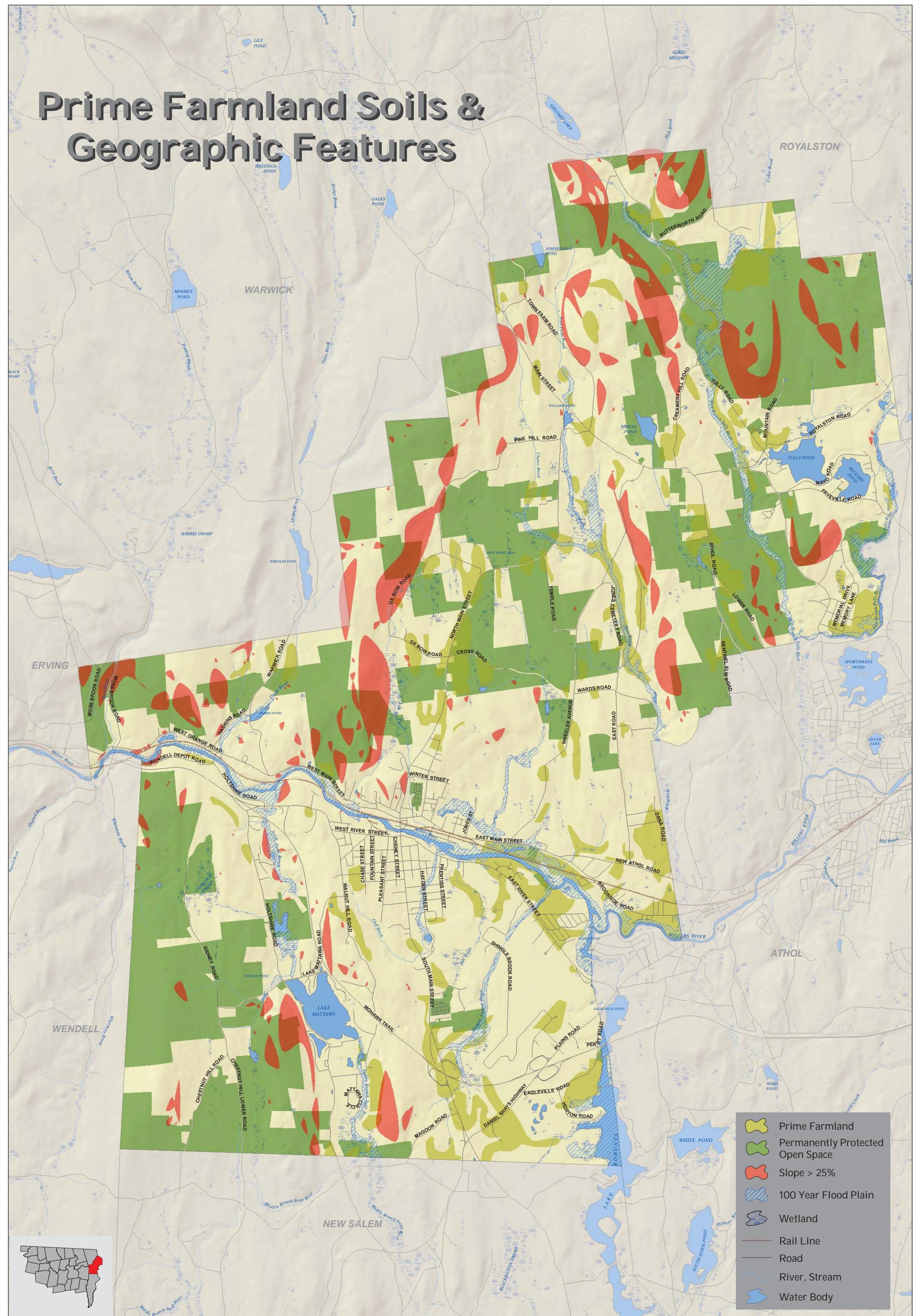
Overall, Orange is a forested landscape with scattered areas of cropland, surface water, and residential development surrounding an area of dense cultural uses collected around and along the east/west running Millers River, which bisects the Town. Orange's surface and groundwater resources support native plant and animal life, and provide drinking water and recreation opportunities for residents. Continuing to address water quality issues in the Millers River and other waterbodies in Orange will help support the revitalization of town through increased recreational opportunities that rely on clean and healthy water resources. Protecting land in the aquifer recharge areas of the Town's public drinking water supplies will help ensure an adequate supply of water for current and future residents and businesses. Implementing techniques to filter and infiltrate stormwater close to where it falls, as demonstrated at the Riverfront Park in downtown, will help to remove pollutants and recharge groundwater sources, promoting a healthy hydrologic cycle and watershed.

Vegetation is a significant component of the ecosystem, habitat, landscape, aquifers, and wellhead recharge areas in Orange. Forests cover a large portion of Orange's land surface. Large areas of contiguous forestland provide habitat for a wide variety of wildlife species. Forests also protect the tributaries of the Town's coldwater fisheries. Forests provide clean air and drinking water and represent a significant scenic backdrop to every activity in Town. Supporting forestland owners who want to manage their land to enhance biodiversity or to produce regular income from timber harvesting will help to keep forestland in its natural state.

Supporting agricultural activities in Orange will have the same effect. By aiding local farmers with protecting their land, and supporting buy local or agri-tourism campaigns, the remaining farmers in Orange could continue to farm and might be able to sell or lease their lands to young farmers when they are ready to retire. By helping to conserve the remaining prime farmland soils the Town will retain its agricultural heritage, its historically significant landscapes, and grassland, meadow, and open space habitats that are different than the more extensive forestland.

Orange contains concentrations of scenic, ecological, cultural, and historical values. By making the contiguous areas that are already protected larger, the wildlife habitat, scenic views, aquifers, and hiking trail systems that depend on extensive acreage or linear elements in the landscape will be conserved in perpetuity. Orange residents and officials recognize that land can be protected from development in a number of ways and using different funding mechanisms (see Section 5). Each of these ways can impact public access, control of the land and its management, and the property taxes generated. Typically town-owned conservation land provides the greatest opportunity for the Town to control the land's use, its access by the public, and its management regime, but the land does not generate tax revenue. A landowner can donate or sell his or her development rights through a conservation restriction, or donate or sell the title to the property. When land protection is accomplished via conservation restrictions on privately-held land, land remains in private ownership and on the Town's tax roll, and often provides for some public access. Not all state agencies that acquire conservation restrictions on privately-owned land require public access. Even if public access is not emphasized, maintaining working forests and farmland provides the Town with benefits including jobs, a local source for forest products and food, and the preservation of the Town's rural areas.

Prime Farmland Soils & Geographic Features



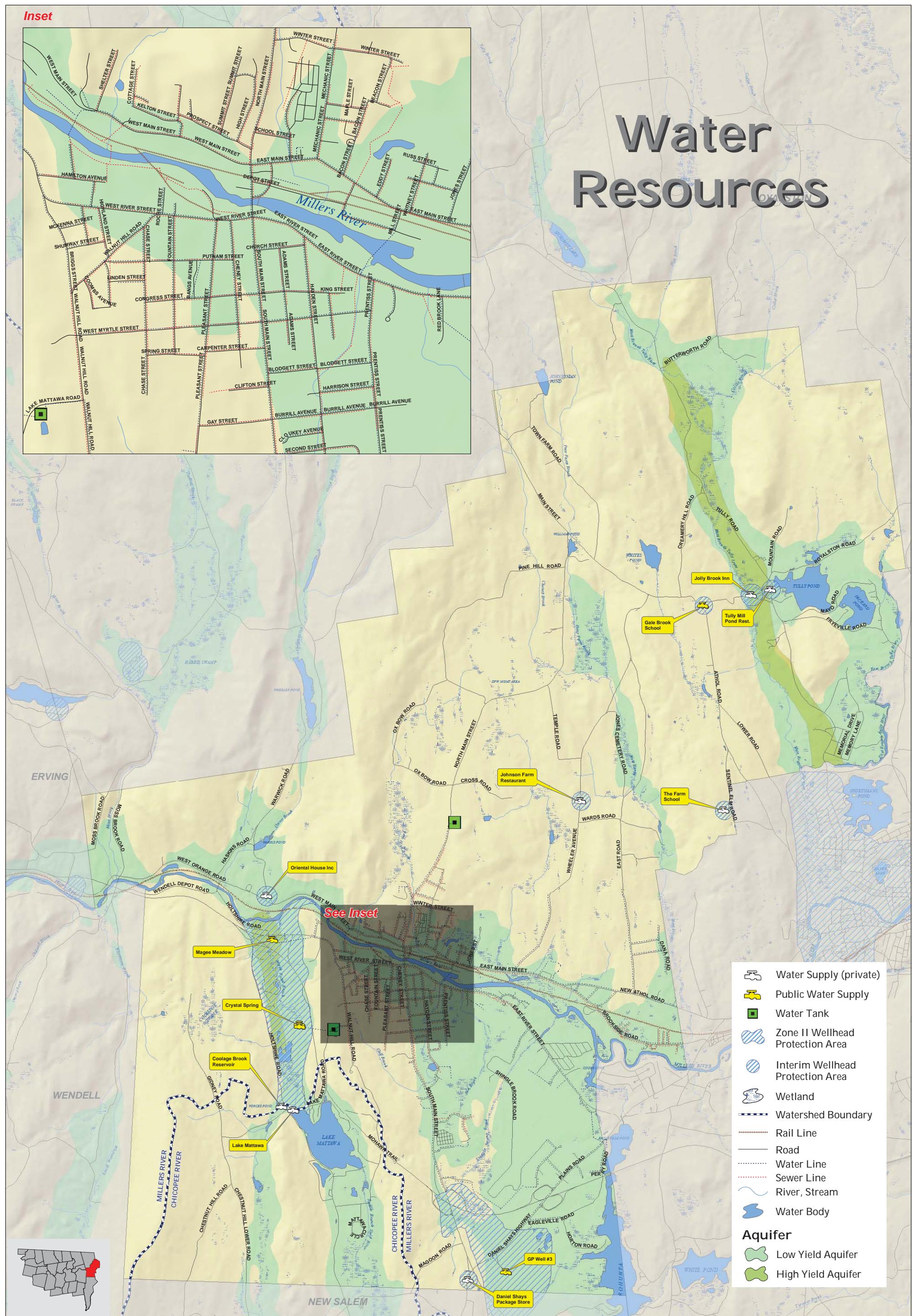
Town of Orange
Open Space &
Recreation Plan 2016

0 0.5 1 2 Miles

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.



Franklin Regional Council of Governments



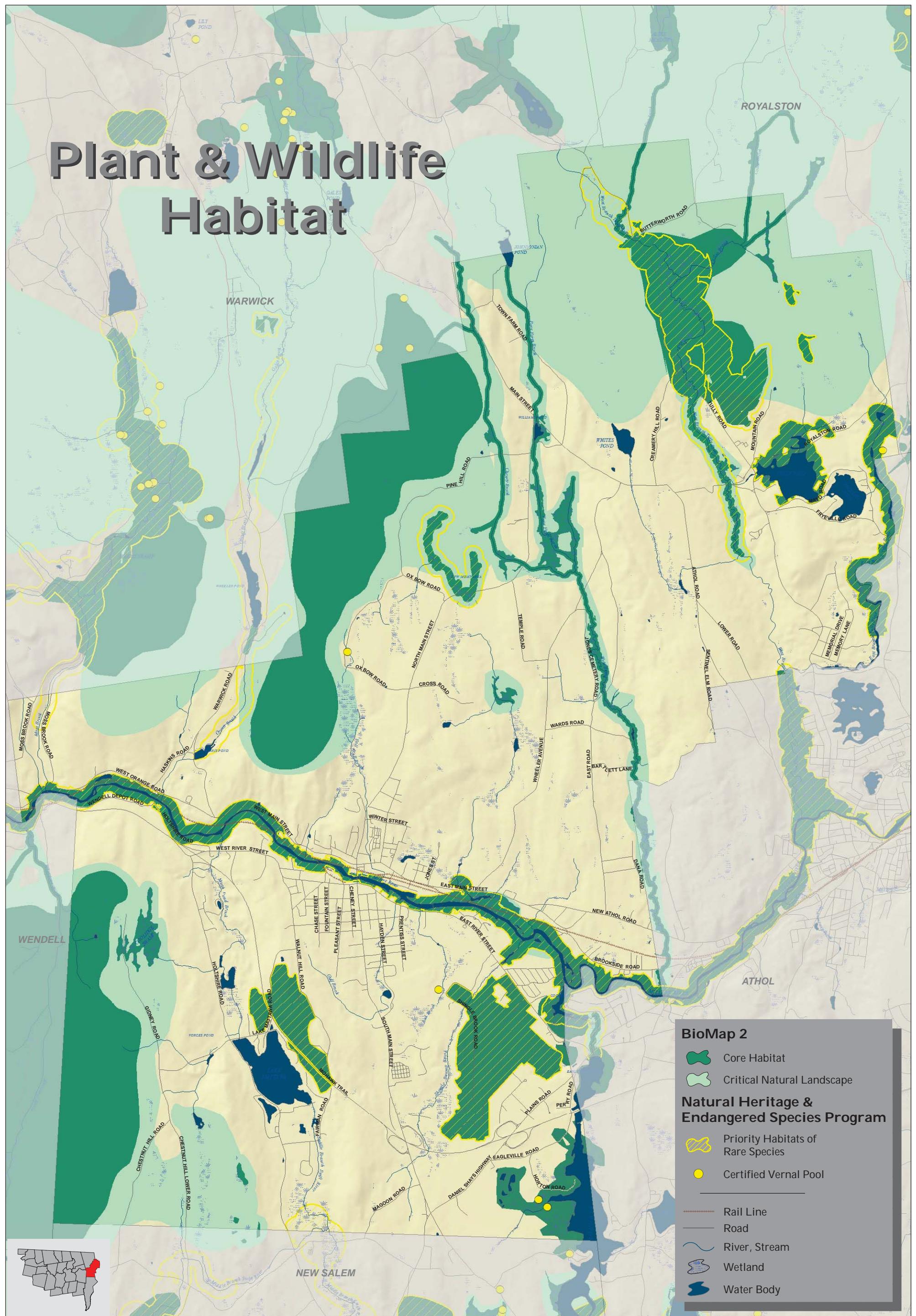
**Town of Orange
Open Space &
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Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.



**Franklin Regional
Council of Governments**



Town of Orange
Open Space &
Recreation Plan 2016

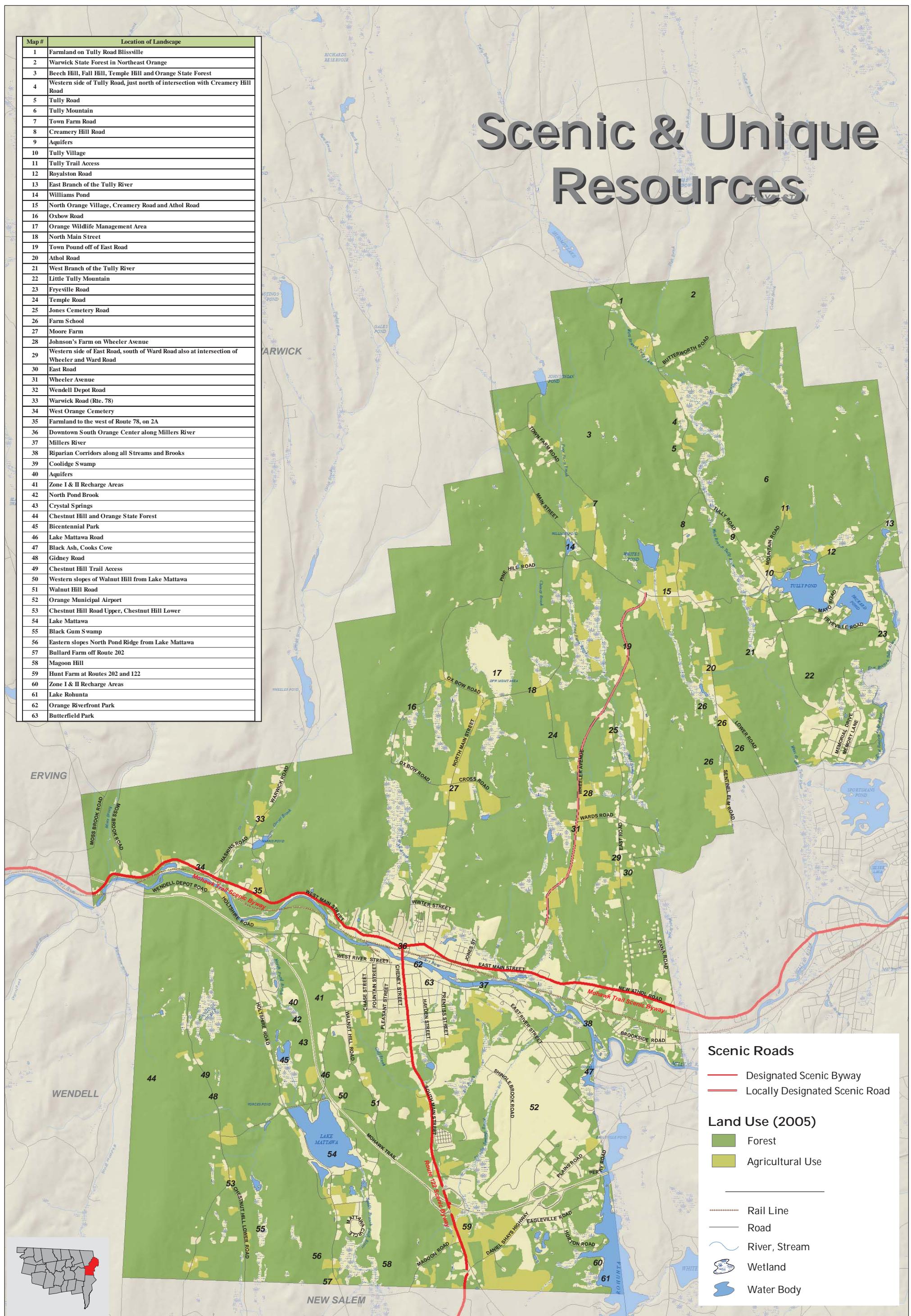
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Franklin Regional
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Scenic & Unique Resources

Map #	Location of Landscape
1	Farmland on Tully Road Blissville
2	Warwick State Forest in Northeast Orange
3	Beech Hill, Fall Hill, Temple Hill and Orange State Forest
4	Western side of Tully Road, just north of intersection with Creamery Hill Road
5	Tully Road
6	Tully Mountain
7	Town Farm Road
8	Creamery Hill Road
9	Aquifers
10	Tully Village
11	Tully Trail Access
12	Royalston Road
13	East Branch of the Tully River
14	Williams Pond
15	North Orange Village, Creamery Road and Athol Road
16	Oxbow Road
17	Orange Wildlife Management Area
18	North Main Street
19	Town Pound off of East Road
20	Athol Road
21	West Branch of the Tully River
22	Little Tully Mountain
23	Fryeville Road
24	Temple Road
25	Jones Cemetery Road
26	Farm School
27	Moore Farm
28	Johnson's Farm on Wheeler Avenue
29	Western side of East Road, south of Ward Road also at intersection of Wheeler and Ward Road
30	East Road
31	Wheeler Avenue
32	Wendell Depot Road
33	Warwick Road (Rte. 78)
34	West Orange Cemetery
35	Farmland to the west of Route 78, on 2A
36	Downtown South Orange Center along Millers River
37	Millers River
38	Riparian Corridors along all Streams and Brooks
39	Coolidge Swamp
40	Aquifers
41	Zone I & II Recharge Areas
42	North Pond Brook
43	Crystal Springs
44	Chestnut Hill and Orange State Forest
45	Bicentennial Park
46	Lake Mattawa Road
47	Black Ash, Cooks Cove
48	Gidney Road
49	Chestnut Hill Trail Access
50	Western slopes of Walnut Hill from Lake Mattawa
51	Walnut Hill Road
52	Orange Municipal Airport
53	Chestnut Hill Road Upper, Chestnut Hill Lower
54	Lake Mattawa
55	Black Gum Swamp
56	Eastern slopes North Pond Ridge from Lake Mattawa
57	Bullard Farm off Route 202
58	Magoon Hill
59	Hunt Farm at Routes 202 and 122
60	Zone I & II Recharge Areas
61	Lake Rohunta
62	Orange Riverfront Park
63	Butterfield Park



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Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.



Franklin Regional Council of Governments

SECTION 5

INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

This section of the Orange Open Space and Recreation Plan provides a comprehensive inventory of all of the lands that provide open space, wildlife habitat, agricultural and forest products, watershed protection, scenic beauty, and recreation opportunities for the benefit of Orange residents. The inventory includes public, private, and non-profit lands and shows the location, types, and distribution of open spaces in relation to the population and other values that depend on the protection that open spaces provide. The inventory identifies the natural resource areas still in need of protection and suggests the types and ideal locations of additional recreational facilities. Open space protection is important because, as natural areas are fragmented and lost to development, the benefits these spaces provide to people, plants, and animals are diminished over time.

A. RECENT CONSERVATION AND RECREATION ACTIVITIES

The Town of Orange has seen many acres of land conserved within its borders over the last 15 years. Two important initiatives, the Tully Initiative and the Chestnut Hill Neighborhood Conservation Project resulted in successful projects that have been highlighted across the state and the nation as models of collaborative conservation. Since the completion of the last Open Space and Recreation Plan in 2008, an additional 2,129 acres of land in Orange are estimated to have been permanently protected. Orange now has 8,129 acres of land permanently protected from development, accounting for 35% of the land in town. Much progress has also been made recently on developing and improving recreational resources downtown.

A.1 The Tully Initiative

The Tully Initiative (2000-2002) was a successful collaboration between landowners, the land trust community, and state agencies to protect over 1,200 acres in the Mount Tully region and over 9,000 acres of land within the Towns of Royalston, Warwick, and Orange. Located in this region is the Tully Trail, a 22-mile loop trail that passes through State-owned and privately-owned forest land and connects state forests in the three towns with privately-owned protected forestlands.

A.2 Chestnut Hill Neighborhood Conservation Project (CHNCP)

The Chestnut Hill Neighborhood Conservation Project (CHNCP) is a successful partnership among landowners working both independently as well as together with the New England

Section 5 – Inventory of Lands of

Conservation and Recreation Interest

2016 Orange Open Space and Recreation Plan

Forestry Foundation (NEFF) that has conserved approximately 1,000 acres. The Chestnut Hill neighborhood landowners approached NEFF in September 2001 with the goal to protect 705 acres of their forested land across multiple parcels located on Chestnut Hill and North Ridge in the southwest corner of the Town of Orange.

CHNCP was able to gain sponsorship from the North Quabbin Regional Landscape Partnership (NQRLP), which facilitates conservation projects in the region, and presented their individual parcels as a single package to state agencies. The project was successful in part because it was surrounded by other privately-protected lands, as well as the Wendell State Forest, Whetstone Wood Wildlife Sanctuary and the Orange State Forests, contributing to an even larger conservation effort. The Chestnut Hill landowners presented their land in terms of its overall acreage, but also its connectivity with adjacent protected lands and its contribution to protecting the North Quabbin corridor.

Funding came from the State's Self Help Grant Program (now the LAND program), the Town of Orange, the Department of Conservation and Recreation, NEFF and various private landowner donations. The Chestnut Hill Neighborhood Conservation Project is an ongoing effort. Since the 2008 Open Space and Recreation Plan, incremental additions of conserved land from numerous landowners has roughly doubled the amount of permanently protected land in the neighborhood.

A.3 The Farm School Open Space Development

In 2013 the Farm School, a local non-profit farm and educational facility, submitted an application to the Orange Planning Board for an Open Space Development along Sentinel Elm Road. Open Space Development is an optional form of residential development within the Orange Zoning Bylaws that allows for flexible house lot sizes and requires at least 35 percent of the development be preserved as open space. The purpose of an Open Space Development includes the permanent preservation of open space for conservation, agriculture, open space, forestry, wildlife habitat, and passive recreational use while encouraging a less sprawling form of development that maintains the rural character of the Town.

The Farm School plan created seven house lots along Sentinel Elm Road (two of which already contain buildings), where homes will be built for farm staff and their families, and permanently protected 19 acres of land through a conservation restriction held by the Mount Grace Land Conservation Trust. At the same time the School preserved an additional 51 acres of land surrounding the development through the Agricultural Preservation Program (APR), adding to a significant block of APR land already owned by the School. Altogether the project resulted in farmland and open space protection along with the creation of new housing that is consistent with the rural character of Orange.

A.4 Riverfront Park and Boathouse

As discussed in Section 3, the Orange Riverfront Park has been an effort of many groups resulting in a key downtown recreation resource for Orange and the broader North Quabbin region. The development of a park along the river was the number one priority identified by the

community in the 2002 Orange Open Space and Recreation Plan. Phase I of the Park was completed in 2006, and included a public boat ramp and gardens, walkways, and grassed areas utilizing Low Impact Development (LID) techniques to protect the Millers River from pollutants. A public boat house was constructed using a building kit purchased with State appropriation funds and labor from students at the Franklin County Technical School. Sufficient funding was not available to complete the handicapped accessible bathrooms needed to run a canoe and kayak rental business as planned. In 2009 the town issued a Request for Proposals (RFP) for a business to operate out of the building. In return for a free lease for a number of years, the business would have to agree to complete the build-out of the boat house. There were no responses to the RFP.

In 2013, Greenworks, a 501 (c)3 non-profit based in Orange, received a \$20,000 grant from a private foundation to conduct community outreach and engage volunteers in completing the build-out of the boat house. This initial investment lead to approximately \$160,000 in donated materials and volunteer labor to complete the build-out. In summer 2013, Peak Expeditions began operating kayak, canoe, and paddleboard rentals from the boat house. In 2016 operation of the boathouse transitioned to Peak North America LLC. In addition to providing rentals and instruction, the company runs an Adventure Day Camp in the summer youth 9-17 years of age, with priority given to students in the Orange and Ralph C. Mahar regional school districts. Scholarship aid is available to Orange students to attend the Adventure Day Camp.

The public boat launch is a well-used resource from early spring to late fall. The annual River Rat Race from Athol to Orange attracts hundreds of participants and thousands of visitors each year. Along the same stretch of river is the Millers River Blue Trail, a six-mile water trail created by the Millers River Watershed Council (MRWC) and inaugurated in 2011. Paddlers of all ages can use this flat water section of the river. MRWC is planning additional Blue Trail segments and trail access points on the Millers River. In 2015, collaboration between residents, Greenworks, and the Town, resulted in the award of a Recreational Trails Grant from the MA Department of Conservation and Recreation to add an EZ dock system at the boat ramp to enable people with disabilities to access the water in a kayak or canoe more easily. Peak North America LLC and the Town are interested in pursuing additional improvements to the boat ramp to make it fully accessible to people with a range of disabilities.

The Town is interested in continuing to build economic development around the riverfront. A public visioning process for downtown Orange funded by MassDevelopment in 2015 resulted in a conceptual design for downtown that includes improved public spaces and recreation opportunities, such as completing the dock and pavilion at Riverfront Park, making pedestrian improvements throughout downtown, adding a bike lane on River Street, and redesigning Water Street and Memorial Park to provide additional riverfront access on the north side of the river. In addition, Greenworks, a non-profit group focused on promoting sustainable economic development in the North Quabbin region, is working on the redevelopment of a seven- acre riverfront parcel owned by the Erving Paper Company. Greenworks has a long-term lease on the parcel for the purpose of creating a public park, outdoor recreation and potentially indoor recreation attractions.

A.5 Butterfield Park Improvements

In 2014 Orange received a Massachusetts Parkland Acquisitions and Renovations for Communities (PARC) grant to complete improvements to Butterfield Park, including renovations to the ball field, new sidewalks, and new playground equipment. The Town plans to pursue PARC funds for additional improvements to the park.

A.6 Inventory of Orange Conservation Commission Lands

In 2016, the Orange Conservation Commission worked with the Mount Grace Land Conservation Trust to inventory all parcels owned or under the control of the Commission. An AmeriCorps volunteer at the land trust researched each property and worked with the Conservation Commission on developing management approaches for these lands. Management goals for the parcels include sustainable forestry, passive recreation, and wildlife habitat.

B. THEMES OF OPEN SPACE MAP

There are several key themes shown on the Open Space Map. First, there is an outer ring of large blocks of forestland owned by State and private landowners in the north, west-central and southwest sections of Orange. Second, active agricultural lands are found in the lower elevations of the eastern portions of Orange, along North Main Street, in the northeast section of town adjacent to Athol, in the southwest along Holtshire Road, and in the southeast section of town. Next, small cemeteries and parks are scattered in northern and southern Orange and larger blocks of town-owned open space are located around Lake Mattawa.

The outer fringe of forestland abutting the surrounding towns of Warwick, Erving, Wendell, and New Salem is made up of both permanently protected lands and privately-owned parcels in the Chapter 61 Forest Land Classification and Taxation Program. The parcels that are considered permanently protected are owned by private citizens who have sold or donated their development rights to state agencies, non-profit land trusts or the Orange Conservation Commission, as well as land owned outright by state conservation agencies (Department of Conservation and Recreation (DCR) and the Department of Fish and Game (DFG)), and private land trusts (New England Forestry Foundation (NEFF) and Mount Grace Land Conservation Trust (MGLCT)).

It is important to consider land protection on a regional scale beyond the borders of Orange for a number of reasons. Forests clean the air, filter water supplies, control floods and erosion, sustain biodiversity and genetic resources, provide wood products and recreation, and sequester carbon. It takes large, intact natural landscapes to sustain these benefits over the long term. These services have tremendous value, from supporting the local economy through forest product jobs, outdoor recreation, and farming, to performing functions that otherwise would need to be engineered by humans. For example, the Massachusetts Audubon Society has estimated that the nonmarket value of the natural areas within the State—for flood control, climate mitigation, and water filtration—is over \$6.3 billion annually. Boston is one of just four major U.S. cities approved by the EPA for unfiltered water supply systems, where forests do the work of cleaning

the water.¹ When natural areas are fragmented and lost to development, these benefits are reduced over time.

While much progress has been made in permanently protecting land in Orange, there are additional land protection needs in town. Areas identified for continued protection efforts include: agricultural land in the southeast section of town as well as farmland located along roads in North Orange that are vulnerable to ANR development; unprotected forested parcels north of the Millers River that, if protected, would fill in gaps to create a larger block of protected forestland; land identified through the BioMap2 process that provides important habitat for rare and endangered species and promotes biodiversity; and land within the aquifer recharge areas of the Town's public drinking water wells.

B.1 Open Space and Levels of Protection from Development

In the Orange Open Space and Recreation Plan, the focus is on undeveloped land that is valued by residents because of what it provides: actively managed farm and forestland; wildlife habitat; protection and recharge of groundwater; public access to recreational lands and trail systems; important plant communities; structures and landscapes that represent the community's heritage; flood control; and scenery. The term 'natural resource' describes the biological and physical components of an ecosystem that people depend on for their existence and, for some, their livelihood. These components are air, surface and ground water, sustainable wood products, soil nutrients, vegetation, fisheries, and wildlife. Recreational facilities can include open space, parks, and developed areas like tennis courts and swimming pools. Open space and recreation plans typically identify areas of undeveloped land that contain precious natural and recreational resources and prioritize them for protection.

B.1.1 Permanent Protection

Open space can be protected from development in several ways that differ in the level of legal protection they provide, the method by which they are protected, and by the type of landowner. When land is considered to be "permanently protected," it is intended to remain undeveloped in perpetuity. This level of protection is ensured in one of two ways: (1) ownership by a state conservation agency, a not-for-profit conservation land trust, or the local Conservation Commission; or (2) attachment of a conservation restriction or similar legal mechanism to the deed.

Land is considered to be permanently protected from development when it is owned by the Commonwealth of Massachusetts and managed by a state conservation agency, including the Department of Fish and Game (DFG) or the Department of Conservation and Recreation (DCR). Land is also considered permanently protected when it is owned by the town and is under the authority of the Conservation Commission, or when it is owned by a land trust for conservation purposes.

¹ "Partnership: Quabbin to Wachusett Grant Ranks Second in Nation." Mount Grace Land Conservation Trust.

<http://www.mountgrace.org/partnership-quabbin-wachusett-grant-ranks-second-nation>

Private landowners can also protect their properties through the attachment of a conservation restriction (CR). A CR is a legally binding agreement between a landowner (grantor) and a holder (grantee)—usually a public agency or a private land trust—whereby the grantor agrees to limit the use of his/her property by forfeiting interests in the land (development being one type of interest) for the purpose of protecting certain conservation values. The conservation restriction may run for a period of years or in perpetuity and is recorded at the Registry of Deeds. Certain income, estate or real estate tax benefits may be available to the grantor of a conservation restriction.

There are several types of conservation restrictions. Some protect specific resources, such as wildlife habitat, or farmland. Actively farmed land with prime soils or soils of statewide importance may be eligible for enrollment in the state's Agricultural Preservation Restriction (APR) Program. Adopted by the State Legislature in 1977, the APR Program ensures the permanent protection of large blocks of farmland by making it economically feasible for farmers to keep farming. Administered by the Massachusetts Department of Agricultural Resources (MDAR), this program offers farmers the difference between the “fair market value” and the “agricultural value” of their land. In exchange, a permanent deed restriction is placed on the property, which precludes uses that may harm the agricultural viability of the land. The farmer continues to own the land and can sell it, but only for agricultural uses.

The development of any parcel of land that is in the APR Program, protected with a conservation restriction, owned by a state conservation agency, or owned by a land trust or a town for conservation purposes, would require a vote by two thirds of the State Legislature as outlined in Article 97 of the Amendments to the Massachusetts State Constitution. For the purposes of this Open Space and Recreation Plan, cemeteries will also be considered to be permanently protected from development.

The protection conveyed by Article 97 does have its limits. The State Legislature has voted to release this protection at the request of local communities, so that conservation land can be used for schools, roads, economic development, or other public projects not related to resource protection. Reforms have been proposed to make this process more difficult. Most recently Bill H.623 *An Act to protect the natural resources of the Commonwealth* proposes to clarify the process used to evaluate proposals for the Commonwealth and/or municipalities to take parcels out of conservation protected status, and ensures “no net loss” of the release of protected land in the Commonwealth by requiring comparable land in the community or an adjacent community to be permanently protected.² It is important for local advocates of conservation to be vigilant of attempts to remove the protection status from open space in the Town of Orange.

B.1.2. Temporary Protection

The Farmland Assessment Act was enacted by the State Legislature in 1973 and amended in 2006. Parcels enrolled in Massachusetts Chapter 61 (forestry), 61A (agriculture) and 61B (open space/recreation) tax programs created by this Act are considered to be “temporarily protected” from development. This program offers landowners reduced local property taxes in return for maintaining land in productive forestry, agricultural or recreational use, or in a wild condition,

² <https://malegislature.gov/Bills/189/House/H623>, accessed March 23, 2016.

for a period of time. These “chapter lands” provide many public benefits from maintaining wildlife habitat and recreational open space to sustaining rural character and local forest and farm-based economic activity.

Another benefit of the Chapter 61 programs is that they offer towns the opportunity to protect land. When a parcel that has been enrolled in one of the Chapter programs is proposed for conversion to a use that would make it ineligible for the program, the town is guaranteed a 120-day waiting period during which it can exercise its right of first refusal to purchase the property. After a Purchase and Sale Agreement has been signed, the municipality has ninety days to complete the purchase if it elects to buy the property (or assign the right). The right of first refusal can be sold to, or given to, a land trust that can often respond much more quickly than the Town can. It is important for the Town of Orange not to consider land under Chapters 61 (forest), 61A (farm) or 61B (open space/recreation) as permanently protected. At the same time, the value the program offers to the Town should not be disregarded.

B.1.3. Limited Protection

If a Town-owned parcel of land is under the legal authority of the Board of Selectmen, rather than the Conservation Commission, it is considered to have limited protection from development. The parcel could be called a wildlife sanctuary or a town forest, but may not have the long-term protection afforded by Conservation Commission lands. In this case, converting a town forest to a soccer field or a school parking lot could be decided by the Board of Selectmen or Town Meeting.

A parcel of land used for the purposes of water supply protection is considered in much the same way. Unless there is a legal restriction attached to the deed or if the deed reads that the land was acquired expressly for water supply protection, the level of protection afforded these types of parcels varies depending on the policies of each community. In most cases, the water district would be required to show the Massachusetts Department of Environmental Protection just cause for converting the use of the land. However, this is not an insurmountable hurdle. The Town of Athol took their surface drinking water supplies off-line after developing a productive well field. A change in land use around the reservoir from water supply protection to active recreational use may occur.

C. INVENTORY OF PROTECTED OPEN SPACE

The ways in which lands are protected from development produce different values. For example, lands that are permanently protected through the use of a conservation restriction (CR) or agricultural preservation restriction (APR) can stay in private ownership. This results in having the decisions regarding the property’s management in the hands of individuals, instead of a non-profit or a state or federal agency. In this case the land also remains on the local property tax rolls, and contributes to the local economy if actively managed for forestry or agriculture. Although public access is sometimes required in conservation restrictions purchased by state conservation agencies and land trusts, it is not guaranteed. Lands that are purchased in fee by

state agencies and large land trusts are likely to provide access to the general public and sometimes offer payments in lieu of taxes to the Town.

Table 5-1 is an inventory of land in Orange that is either permanently protected, temporarily protected, or under limited protection, and was prepared utilizing information from the Town of Orange Assessors records, Mass GIS data, and from Orange Open Space and Recreation Committee members. It also presents summary information including the sum total of acres in each of the categories of open space. These totals are estimates based on the information available. For land protected with a conservation restriction (CR) or agricultural preservation restriction (APR), the entire acreage of a parcel is counted as permanently protected, although it is likely that some of these restrictions only apply to major portions of a parcel. APR and CR parcels that are also enrolled in the Chapter 61 program are counted only once as permanently protected land, and are not included in the Chapter 61 acreage totals.

Table 5-1: Summary of Open Space by Level of Protection and Ownership

Level of Protection	Acres	Percent of Total Land in Orange*
Permanently Protected Land		
Publicly-Owned		
State Department of Conservation and Recreation (DCR)	1,005	4%
State Department of Fish and Game (DFG)	1,418	6%
Orange Conservation Commission	363	2%
Town of Orange-Cemeteries	61	0%
<i>Total Publicly-Owned</i>	2,846	12%
Owned by Non-Profit Conservation Organizations		
MGLCT, NEFF	353	2%
Privately-Owned		
Conservation Restrictions (CR)	4,487	19%
Agricultural Preservation Restrictions (APR)	442	2%
<i>Total Privately-Owned</i>	4,930	21%
TOTAL PERMANENTLY PROTECTED LAND	8,129	35%
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TOTAL TOWN-OWNED LAND WITH LIMITED PROTECTION	777	3%
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Temporarily Protected Land (privately-owned)		
Chapter 61	2,283	10%
Chapter 61A	1,264	5%
Chapter 61B	502	2%
TOTAL TEMPORARILY PROTECTED LAND	4,049	18%
<hr/>		
TOTAL LAND WITH SOME LEVEL OF PROTECTION	12,955	56%

* Total land area is 23,029 acres according to MassGIS 2005 land use data.

Source: Orange FY2015 Assessor's Records, MassGIS, and Committee input.

Approximately 12,955 acres in Orange are open space with some level of protection from development. This represents 56 percent of the total land area of the town (23,029 acres). As mentioned previously, roughly 2,129 acres were permanently protected from development since the 2008 Open Space and Recreation Plan. The largest increase in permanently protected land was in privately-owned parcels with either a conservation restriction or agricultural preservation restriction. Approximately 1,158 acres of privately-owned land were protected since 2008. State-owned land also increased by 823 acres, and Town of Orange Conservation Commission lands increased by 153 acres.

Currently private landowners are the largest owners of permanently protected open space in Orange. Almost 5,000 acres of permanently protected land, roughly 21 percent of land in town, is owned by private landowners. Non-profit conservation agencies own roughly 353 acres, or 2 percent, of land in town. The State owns roughly 2,423 acres in Orange, representing 10 percent of land in town, while the Town of Orange owns 424 acres of permanently protected land, or approximately 2 percent of land in town. Temporarily protected land enrolled in one of the Chapter 61 programs increased by 825 acres since 2008.

The tables on the following pages contain some of the lands of conservation and recreation interest in the Town of Orange. All of the parcels are separated by level of protection and ownership. In addition, information is provided for each publicly-owned parcel or property including, when available: the owner, property manager, site name, its current use, condition, recreation potential, public access, the type of public grant received, zoning, degree of protection, area in acres, and the Orange Assessor's map and lot numbers. The open space areas that have ecological, scenic, and historical values were considered in depth in Section 4, Table 4-5 Significant Scenic/Historic/Natural Landscapes/Environments in Orange.

The condition of these properties was assessed (on a scale from poor to excellent) based on interviews with residents and field surveys. The recreation potential for the properties was estimated (on a scale from low to high) based on the degree of the expected recreational activities. For example, the Tully Mountain Wildlife Management Area was assigned a 'high' ranking due to the presence of the Tully Loop Trail system that connects it to Tully Mountain and other accessible properties in three towns.

The parcel's level of public access was also considered and ranked (on a scale from poor to excellent) based on information presented within the Orange Assessor's Maps. Each property was considered on its own without the potential benefits gained from abutting parcels. Access to a public way, which abutting parcels could offer, was only considered when these lands were permanently protected public lands. Often a parcel was assigned a 'poor' ranking primarily because it was landlocked.

During the 2008 update of this plan, an inventory was attempted utilizing the federal 504 Guidelines: Handicapped Accessibility Self-Evaluation on six properties owned and under the authority of the Conservation Commission. Three of the parcels were primarily wetland with no visible access. The change in elevation between the road and an open space parcel across from Goddard Park in North Orange presents too much difficulty to try to provide access especially

since the exact location of the property in relation to wetland is unclear. Finally, the land off of Oxbow Road is a south-facing slope of mixed hardwood trees on soils that appear to have a high water table. For all of these reasons none of the six parcels could be inventoried using the federal guidelines.

Table 5-2: State-Owned Land Managed by State Conservation Agencies in Orange

Property Manager	Site Name	Acreage	Assessors Map	Assessors Lot(s)	Current Use	Condition	Recreation Value	Public Access
DCR	Packard Pond Access	0.5	103	7	Unknown	Unknown	Unknown	Unknown
DCR	UNKNOWN - Tully Rd.	1.4	201	11	Hunting	Good	High	Off Tully Road
DCR	UNKNOWN - Tully Rd.	23.6	201	12	Hunting	Good	High	Off Tully Road
DCR	Warwick State Forest	137	205	6	Hunting	Good	High	Via Warwick
DCR	Orange State Forest	110	226	1	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	73.3	227	3	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	60.5	227	10	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	3.9	236	1	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	3	236	14	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	128.4	238	1	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	26	238	3	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	24	238	4	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	63.3	238	6B	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	1	238	7	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	102.8	247	8	Hunting	Good	High	Gidney Road
DCR	Orange State Forest	197.4	248	15	Hunting/Hiking	Good	High	Gidney Road
DCR	Metro District Water Commission	31.5	253	36	Watershed	Good	Low	Fair
DCR	Metro District Water Commission	17.3	254	36	Watershed	Good	Low	Fair
DFG	Warwick Wildlife Management Area	37.6	205	2	Hunting/Fishing/Hiking	Good	High	Off Tully Road
DFG	Warwick Wildlife Management Area	115.8	205	22	Hunting/Fishing/Hiking	Good	High	Off Tully Road
DFG	Warwick Wildlife Management Area	80	208	1	Hunting/Fishing/Hiking	Good	High	Off Tully Road
DFG	Tully Mountain Wildlife Management Area	30.4	210	13	Hunting/Fishing/Hiking	Good	High	Via Mt. Road
DFG	Tully Mountain Wildlife Management Area	41	211	1	Hunting/Fishing/Hiking	Good	High	Via Mt. Road
DFG	Tully Mountain Wildlife Management Area	139	211	2	Hunting/Fishing/Hiking	Good	High	Via Mt. Road

Property Manager	Site Name	Acreage	Assessors Map	Assessors Lot(s)	Current Use	Condition	Recreation Value	Public Access
DFG	Tully Mountain Wildlife Management Area	332	211	3	Hunting/ Fishing/Hiking	Good	High	Via Mt. Road
DFG	Tully Mountain Wildlife Management Area	83	211	5	Hunting/ Fishing/Hiking	Good	High	Via Mt. Road
DFG	Warwick Wildlife Management Area	58.5	215	1	Hunting/Fishing/ Hiking	Good	Moderate	Difficult, via Brush Valley Rd. in Warwick
DFG	Warwick Wildlife Management Area	68	215	2	Hunting/Fishing/ Hiking	Good	Moderate	Difficult, via Brush Valley Rd. in Warwick
DFG	Warwick Wildlife Management Area	3.5	215	6	Hunting/Fishing/ Hiking	Good	Moderate	Difficult, via Brush Valley Rd. in Warwick
DFG	Orange Wildlife Management Area	280.1	218	10	Hunting/Fishing/ Hiking	Good	High	Via Pine Hill Road and North Main Street
DFG	Orange Wildlife Management Area	18.6	999	99M	Kayaking & Wildlife Viewing	Good	High	Good, via Pine Hill Rd. & N. Main Street
DFG	UNKNOWN - Fryeville Rd.	59	220	43				
DFG	UNKNOWN - North Main St.	30	224	41				
DFG	UNKNOWN - Cross Rd.	39	230	4				
DFG	Lake Rohunta Access	1.2	251	83	Boat Ramp	Good	High	Excellent
DFG	Lake Rohunta Access	1.3	251	84	Boat Ramp	Good	High	Excellent
Total Acreage		2,422.9						

Source: Orange FY2015 Assessor's Records, MassGIS, and Committee input.

Table 5-3: Town-Owned Land Permanently Protected from Development in Orange

Property Owner	Property Manager	Site Name	Acres	Assessors Map	Assessors Lot(s)	Zoning	Degree of Protection	Current Use	Condition	Recreation Value	Public Access
Town of Orange	Conservation Commission	East Main Street	36.5	112	39	A(c)	Permanent	Wetland	Good	High	None except via Millers River
Town of Orange	Conservation Commission	Robin Lane	7.8	117	8	A(c)	Permanent	Riverfront	Good	Low	None except via Millers River
Town of Orange	Conservation Commission	Conservation Land Near Athol Line off 2A	0.5	125	1	A(c)	Permanent	Riparian Zone Open Space	Unknown	Low	None except via Millers River
Town of Orange	Conservation Commission	South Main Street Randall Pond	5.6	129	13	C	Permanent	Wildlife habitat	Good	Low	Off Quabbin Blvd.
Town of Orange	Conservation Commission	Fairman Road Parcel Conservation Land	3.7	133	20	D	Permanent	Wetland	Good	Low	Fairman Road
Town of Orange	Conservation Commission	Conservation Land south of Goddard Park	14	213	6	D	Permanent	Horseback Riding, Hiking	Good	High	Off Main Street
Town of Orange	Conservation Commission	Conservation Land south of Goddard Park	1.7	219	13	D	Permanent	Horseback Riding, Hiking	Good	High	Off Main Street
Town of Orange	Conservation Commission	Tully Fire Station	11.9	213	81	D	Permanent	Fire station	Fair	Low	Millyard Road
Town of Orange	Conservation Commission	Tully Road	2.0	220	61	D	Permanent	Woodland adjacent to fire station	Fair	Low	Millyard Road
Town of Orange	Conservation Commission	Conservation Land off Oxbow Road	86	229	1	D	Permanent	Woodland	Good	High	Available but not used
Town of Orange	Conservation Commission	Ward Road Woods	11.0	231	7	D	Permanent	Woodland	Good	High	Good
Town of Orange	Conservation Commission	Henry Wood Tree Farm Conservation Land	49.6	239	2	C	Permanent	Open Space with trails & tree farm	Excellent	High	Via Bicentennial Park, Good to Excellent via Lake Avenue
Town of Orange	Conservation Commission	Bicentennial Park	27.8	239	58	C	Permanent	Picnic area, Hiking	Good	High	Good
Town of Orange	Conservation Commission	Conservation Land	83	249	2	D	Permanent	Woodland	Unknown	High	None

Section 5 –

Inventory of Lands of Conservation and Recreation Interest

2016 Orange Open Space and Recreation Plan

Property Owner	Property Manager	Site Name	Acres	Assessors Map	Assessors Lot(s)	Zoning	Degree of Protection	Current Use	Condition	Recreation Value	Public Access
Town of Orange	Conservation Commission	Sunset Drive	16.5	250	12	C	Permanent	Woodland	Good	Low	Off Sunset Drive
Town of Orange	Conservation Commission	West Orange Road	5	888	88KK	D	Permanent	Unknown	Unknown	Unknown	West Orange Road
Town of Orange	Department of Cemeteries	Central Cemetery	12.5	107	50 & 57	A(r)	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	North Orange Cemetery	1.43	213	12	D	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	Tully Cemetery	9.42	213	66	D	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	Jones Cemetery	6	223	20	D	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	Jones Cemetery	3.13	223	21	D	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	West Orange Cemetery	1.66	227	16	C	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	Holtshire Cemetery	1.93	246	2	C	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	South Cemetery	14.83	250	6	C	Permanent	Cemetery	Excellent	Low	Excellent
Town of Orange	Department of Cemeteries	South Cemetery (Expansion)	10	250	12B	C	Permanent	Cemetery	Excellent	Low	Excellent
Total Acreage		423.5									

Source: Orange FY2015 Assessor's Records, MassGIS, and Committee input.

Table 5-4: Privately-Owned Land Permanently Protected from Development in Orange

Owner	Holder of the Restriction	Location/Site Name	Acreage	Assessors Map	Assessors Lot(s)
Barger, Claire B.	CR	Beech Hill	59	216	1
Baruc, Richard/Habib, Deborah	MGLCT/CR	Baruc/Habib CR	30.3	255	3
Bittenbender, Doris H.	DFG	Bittenbender CR	48.0	219	23
Buell, Joshua C.	MGLCT/DAR - APR	Sentinel Elm Road	57.1	222	17.2
Busby, Robert W./Conte, Maureen H.	DFG	Tully Mountain	170	204	1
Busby, Robert W./Conte Maureen H.	DCR	Tully Rd.	71.5	205	4
Davis, Bernard D.	DFG	East Rd.	41.52	233	42
Desmond, Nancy M./Raney, James E.	MGLCT	Orcutt Brook	28.23	228	13
Feeaney, Douglas/Kleinfeldt, Sally	DCR	Chestnut Hill	30	248	6
Forster, Dorothy E.	Orange Conservation Commission	Chestnut Hill	114.0	248	16
Forster, Dorothy E.	Orange Conservation Commission	Gidney Road	50.0	248	17
Gaida, William & Carlie	DFG	Royalston Road	15.2	213	40
Gaida, William & Carlie	DFG	Royalston Road	47.8	213	83
Gaida, William & Carlie	DFG	Tully Rd.	9.4	220	30
Gerry, Peter	DFG	Flagg Rd.	72.87	201	6
Gerry, Peter	DFG	Tully Mountain	48.0	211	4
Hankins, Jean F.	MGLCT/CR	Bullard Farm	104.0	254	42
Heyes Family Forests LLC	DCR	Johnsonian Pond	128	201	7
Heyes Family Forests LLC	DFG	Tully Mountain	87.0	205	23
Heyes Family Forests LLC	DCR	Flagg Road	76	210	9
Heyes Family Forests LLC	DFG	Pinehill Road	196.6	224	15
Heyes Family Forests LLC	DFG	Oxbow Road	100.2	224	16
Heyes Family Forests LLC	DCR	Haskins Rd.	49.01	227	21
Heyes Family Forests LLC	DFG	Wheeler Avenue	53.0	230	1
Heyes Family Forests LLC		Gidney Road	40.0	247	2
Heyes Family Forests LLC		Gidney Road	37.0	247	3
Heyes Family Forests LLC	DFG	Chestnut Hill	45.9	248	7

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Owner	Holder of the Restriction	Location/Site Name	Acreage	Assessors Map	Assessors Lot(s)
Heyes, Fred	MGLCT/CR	Foye CR	212.3	210	12
Heyes, Fred		Mountain Road	23.1	212	2.2
Heyes, Fred	DFG	Foye I CR	69.0	220	32
Heyes, Fred	DFG	Foye I CR	44.8	221	127
Heyes, Fred	DCR	Fall Hill	95	235	31
Howe, Leona B.	DFG	Lower Chestnut Hill	142.0	254	46
Johnson, Leon D.	DCR	Johnsonian Pond	23.0	206	3
Johnson, Stephen & Diane	DFG	Wheeler Avenue	32.0	230	6
Johnson, Stephen & Diane	DFG	Wheeler Avenue	53	230	7
Johnson, Stephen & Diane	DFG	Jones Cemetery Road	5.0	230	15
Katz, Neil/Subritzky K.		Warwick Rd.	28	228	3
Leblanc, Sally	DFG	North Main Street	61.3	218	1
Leblanc, Sally	DFG	North Main Street	121	218	19
Leger, Anthony & Grace		Chestnut Hill	52.9	246	4
Lord, Robert J.	DCR	Johnsonian Pond	27.4	206	4
Macleod, Norman Alexander & Beverly	DCR	Chestnut Hill	49.5	248	14
Mock Realty Trust	DFG	Mock Realty Trust	84	223	12
Moore, John M.	DFG	North Main Street	131.9	224	43
Moore, John M.	DFG	North Main Street	75.8	229	11
Moore, John M.	DFG	Cross Road	116.2	229	15
Mount Grace Land Conservation Trust	DFG	Gifford CR	33.0	221	126
New England Forestry Foundation	DCR	Battle Dorrance	50.8	227	14
New England Forestry Foundation	DCR	Webb Forest	38.6	228	12
New England Forestry Foundation	DCR	Hosmer Woods	236.6	235	27
New England Forestry Foundation	Orange Conservation Commission	Chestnut Hill Road	75.0	248	2
New England Forestry Foundation	Orange Conservation Commission	Holtshire Road	34.1	249	3
Oleksiw, Susan	MGLCT/CR	Ryan CR	43.63	210	2
Oleksiw, Susan	MGLCT/CR	Ryan CR	100.16	213	15

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Owner	Holder of the Restriction	Location/Site Name	Acreage	Assessors Map	Assessors Lot(s)
Pratt, Frances L.	DFG	Taylor, F. CR	85	219	4
Rouleau, Robert Jr.	DFG	Rouleau CR	51.5	219	3
Scherer, Bruce & Rachel	DCR	Gidney Road	74	247	7
Scherer, Samuel & Kathleen	DCR	Gidney Road	59	246	13
Stell, Robert J.	CR	Warwick Road	50	216	2
Stell, Robert J.	CR	Pine Hill Road	44.0	217	7
Taylor, Ward A. & Frances L.	DFG	Taylor, R. CR	55	219	7
The Farm School	DAR - APR	Rouleau	178	222	22
The Farm School	DAR - APR	Waslaske	13.5	222	32
The Farm School	DAR - APR	Waslaske	58.0	222	33
The Farm School	DAR - APR	Sentinel Elm Road	11.4	222	34
The Farm School	DAR - APR	The Farm School	124.31	231	2
Valliere, Michael L.		North Main Street	5.9	218	9
Whetstone Wood Trust Fund	Mass Audubon	Chestnut Hill Rd.	49.9	255	1
Whetstone Wood Trust Fund	Mass Audubon	Chestnut Hill Rd.	20.0	255	2
Whetstone Wood Trust Fund	Mass Audubon	Chestnut Hill Rd.	100.9	255	4
Whetstone Wood Trust Fund	Mass Audubon	Chestnut Hill Rd.	8.0	255	6
Whetstone Wood Trust Fund	Mass Audubon	Chestnut Hill Rd.	31.5	255	9
Willhite, Valmore & Ann	DFG	Tully Mountain	12	203	1
Wright, Gregory & Michaele	DCR	Tully Rd.	29	202	1
Total Acreage			4,929.6		

Source: Orange FY2015 Assessor's Records, MassGIS, and Committee input.

Table 5-5: Town-Owned Parcels of Land with Limited Protection from Development

Property Owner	Property Manager	Site Name	Current Use	Condition	Recreation Potential	Public Access	Type of Public Grant Received	Zoning	Degree of Protection	Area	Assessors Map	Assessors Lot
Town of Orange	School Dept.	Dexter Street and Fisher Hill Schools	Fields Sports/ Playground	Good	High – Develop a Joint Use Agreement for public use during non-school hours	Good		D	Limited	30.2	104	10
Town of Orange	Town of Orange	Lincoln Ave.	Vacant land, partially wooded					Ar	Limited	0.3	104	69
Town of Orange	Town of Orange	Landfill, additional land	Vacant land	Poor	Low	Limited		D	Limited	5.0	106	52
Town of Orange	Town of Orange	Landfill	Landfill	Poor	Low	Limited		D	Limited	29.6	106	53
Town of Orange	Town of Orange	Town Hall	Auditorium	Excellent	High – Increase programming	Excellent		CARD	Limited	0.3	107	1
Town of Orange	Town of Orange	Town Hall	Auditorium	Excellent	High – Increase programming	Excellent		CARD	Limited	0.1	107	272
Town of Orange	Town of Orange	Historical Society	Historical Society	Excellent	High - Increase hours	Limited		Ar	Limited	0.2	107	4
Town of Orange	Town of Orange	Orange Armory	Senior Center	Poor	High – Increase programming	Excellent		Ac	Limited	2.9	107	149
Town of Orange	Town of Orange	Former Putnam Hall	Vacant lot	Good	Low – Current open space, may be redeveloped as new building	Good	FRCOG Brownfields RLF	CARD	Limited	0.3	107	184
Town of Orange	Town of Orange	13 East Main Street	Vacant land	Fair	High – Redevelop into pocket park	Limited	Mass-Development Commonwealth Places	CARD	Limited	0.1	107	30
Town of Orange	Town of Orange	Wheeler Memorial Library	Library	Good	High – Continue library programming	High		Ac	Limited	0.5	107	54
Town of Orange	Town of Orange	West River Street Woods	Open Space	Good	High – Improve public access	Poor		Ar	Limited	5.6	108	29
Town of Orange	Town of Orange	Millers River wetland west	Riparian Zone, sewage treatment plant	Good	Low	Poor		D/Ac	Limited	10.5	108	70
Town of Orange	Town of Orange	Water Street	Vacant land, Millers River waterfront	Excellent	High – Develop waterfront access	Excellent		Ac	Limited	0.6	110	11
Town of Orange	Department of Highways	Veteran's Memorial Park	Memorial Park	Excellent	High – Connect to waterfront	Excellent		CARD	Limited	0.6	110	13
Town of Orange	Town of Orange	Riverfront Park and Boathouse	Park, boat ramp, boat house	Excellent	High – complete ADA improvements and dock and gazebo	Excellent	DEP s.319; Urban Self-Help	Ac	Limited	0.8	110	16
Town of Orange	Town of Orange	95 East River Street	Skate park, salt shed	Poor	High – Move salt shed	High		Ac	Limited	1.7	110	20
Town of Orange	Department of Highways	Butterfield Park	Popular Playground	Good	High – Complete improvements to park	Excellent	PARC Grant	Ar	Limited	9.0	110	29
Town of Orange	School Department	Butterfield Playground	Playground	Good	Moderate –Continue to maintain playground	Excellent		Ac/Ar	Limited	0.5	110	120
Town of Orange	School Department	Butterfield Elementary School	School grounds	Good	Low	Excellent		Ar	Limited	0.3	110	121
Town of Orange	School Department	Butterfield Elementary School	School grounds	Good	Low	Excellent		Ar	Limited	0.3	110	122
Town of Orange	Town of Orange	Millers River wetland east	Wetland	Good	Low	Poor		Ac	Limited	5.7	112	41

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Property Owner	Property Manager	Site Name	Current Use	Condition	Recreation Potential	Public Access	Type of Public Grant Received	Zoning	Degree of Protection	Area	Assessors Map	Assessors Lot
Town of Orange	Town of Orange	Blodgett Street Woods	Woodland	Good	Low	Possible		Ar	Limited	2.0	119	10
Town of Orange	Town of Orange	Blodgett Street Woods	Woodland	Good	Low	Possible		Ar	Limited	2.3	119	24
Town of Orange	Orange Little League	Muzzey Field	Baseball field	Excellent	High – Maintain current condition	Excellent		Ar	Limited	0.2	119	82
Town of Orange	Orange Little League	Muzzey Field	Baseball field	Excellent	High – Maintain current condition	Excellent		Ar	Limited	2.2	119	83
Town of Orange	School Dept.	Mahar Regional H.S	Field sports	Excellent	High – Develop Joint Use Agreement for public use during non-school hours	High		Ar/B	Limited	37.0	122	34
Town of Orange	Town of Orange	524 East River Street	Vacant land, adjacent to Highway Building	Good	High	Excellent		B	Limited	1.6	124	16
Town of Orange	Town of Orange	Riverside Drive	Vacant land, Millers River waterfront	Fair	High – Access from river	Possible via Millers River		Ac	Limited	0.5	125	1
Town of Orange	Town of Orange	Tully Road	Woodland			Excellent		D	Limited	14.8	201	13
Town of Orange	Town of Orange	Town Farm Road	Woodland	Fair	Low	Possible		D	Limited	4.5	209	21
Town of Orange	Town of Orange	Town Farm Road	Woodland	Fair	Low	Possible		D	Limited	4.3	209	22
Town of Orange	Town of Orange	Goddard Park	Small park	Good	Low	Excellent		D	Limited	0.8	213	30
Town of Orange	Town of Orange	Royalston Road	Vacant land	Excellent	Moderate	Possible		D	Limited	1.1	213	80
Town of Orange	Town of Orange	Moore-Leland Library	Library, playground	Excellent	High – Consider Joint Use Agreement with Headstart for use of playground during non-school hours	Excellent (library grounds); none (playground)		D	Limited	2.5	213	86
Town of Orange	Town of Orange	Millers River Riparian Land	Wetland	Good	Low	Fair		D	Limited	3.0	236	14
Town of Orange	Town of Orange	Parcel due north Lake Mattawa	Open Space	Good	Low	Fair		C	Limited	4.0	246	19
Town of Orange	Town of Orange	East River Street Boat Ramp	Public boat ramp	Good	High – Maintain current conditions	Excellent		Ac	Limited		111	79
Town of Orange	Town of Orange	Orange Airport	Airport, ballfields	Excellent	High – Maintain current conditions	Limited		B	Limited	433.8	124	14
Town of Orange	Town of Orange	Orange Airport	Wooded, wetland	Good	Low	Limited		C	Limited	9	250	20
Town of Orange	Town of Orange	Orange Airport	Wooded, wetland	Good	Low	Limited		C	Limited	1.5	250	19
Town of Orange	Town of Orange	Orange Airport	Wooded	Good	Low	Limited		C	Limited	3.4	250	21
Town of Orange	Town of Orange	Orange Airport	Wooded	Good	Low	Limited		C	Limited	6.1	250	22
Town of Orange	Town of Orange	Orange Airport	Wooded	Good	Low	Limited		C	Limited	3.6	250	23
Town of Orange	Town of Orange	Orange Airport	Wooded, wetland	Good	Low	Limited		B	Limited	20.1	250	24
Town of Orange	Town of Orange	Orange Airport	Wooded	Good	Low	Limited		B	Limited	4.4	250	25
Town of Orange	Town of Orange	Orange Airport	Wooded	Good	Low	Limited		B	Limited	4.8	251	1
Town of Orange	Department of Highways	Bicentennial Park	Water Supply	Good	Good – Maintain current conditions	Good (through 239-58)		C	Limited	62.9	239	3
Town of Orange	Department of Highways	Water Supply	Public Water Supply	Good	Low	None		C, D	Limited	5.6	246	5

Property Owner	Property Manager	Site Name	Current Use	Condition	Recreation Potential	Public Access	Type of Public Grant Received	Zoning	Degree of Protection	Area	Assessors Map	Assessors Lot
Town of Orange	Water Department	Town Water Tank	Water Supply	Good	Low	None		C	Limited	4	120	43
Town of Orange	Water Department	Town Water Tank	Water Supply	Good	Low	None		D	Limited	3.6	229	18
Town of Orange	Water Department	Well #3	Water Supply	Good	Low	Possible		B	Limited	14.7	253	9

Table 5-6: Privately Owned Parcels of Land in the Chapter 61, 61A, and 61B Land Classification and Taxation Program

Location	Program	Area	Assessors Map	Assessors Lot
Lake Mattawa Rd	CH 61	16.0	121	23
Tully Rd	CH 61	103.7	202	3
Flagg Rd	CH 61	51.6	206	7
Main St	CH 61	13.7	209	1
Town Farm Rd	CH 61	56.4	209	24
Main St	CH 61	51.0	209	9
Tully Rd	CH 61	8.5	210	10
Royalston Rd	CH 61	56.0	211	6
Royalston Rd	CH 61	17.4	212	12
Mountain Rd	CH 61	23.1	212	2.1
Creamery Hill Rd	CH 61	11.2	213	22
Creamery Hill Rd	CH 61	38.9	213	25
Main St	CH 61	38.1	213	31
North Main St	CH 61	58.0	214	1
Pine Hill Rd	CH 61	122.7	214	11
Pine Hill Rd	CH 61	57.0	214	12.1
Pine Hill Rd	CH 61	88.7	215	4
Pine Hill Rd	CH 61	39.0	215	5
Pine Hill Rd	CH 61	14.2	215	8
Beech Hill	CH 61	59.0	216	1
Pine Hill Rd	CH 61	62.4	217	5
Pine Hill Rd	CH 61	44.0	217	6
Tully Rd	CH 61	24.0	220	31
Sentinel Elm Rd	CH 61	22.5	222	21
Oxbow Rd	CH 61	30.7	224	9
Oxbow Rd	CH 61	48.9	224	12
Warwick Rd	CH 61	90.0	224	14

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Location	Program	Area	Assessors Map	Assessors Lot
Oxbow Rd	CH 61	16.3	224	17
Oxbow Rd	CH 61	64.3	224	31
North Main St	CH 61	30.0	224	35A
Warwick Rd	CH 61	36.0	225	5
Oxbow Rd	CH 61	70.0	225	6
West Orange	CH 61	53.1	227	11
Warwick Rd	CH 61	64.1	228	17
Warwick Rd	CH 61	27.7	228	17.1
Oxbow Rd	CH 61	24.0	229	14
East Rd	CH 61	94.1	230	21
East Rd	CH 61	12.6	233	28
East Rd	CH 61	38.5	233	30
Holtshire Rd	CH 61	68.2	235	9
Warwick Rd	CH 61	32.2	235	24.1
Warwick Rd	CH 61	60.7	235	25
Chestnut Hill Rd	CH 61	7.4	248	9
Eagleville Rd	CH 61	21.7	251	77
Eagleville Rd	CH 61	20.8	251	99.1
Horton Rd	CH 61	20.2	252	14
Horton Rd	CH 61	5.3	252	17
Horton Rd	CH 61	56.6	252	30
Horton Rd	CH 61	55.2	252	31
Magoon Rd	CH 61	15.1	253	37
Holtshire Rd	CH 61	31.0	254	43
Chestnut Hill Rd	CH 61	104.5	255	11
Chestnut Hill Rd	CH 61	7.0	255	12
TOTAL CH 61 ACREAGE		2,283.3		

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Location	Program	Area	Assessors Map	Assessors Lot
North Main St	CH 61A	12.0	104	1
Dexter St	CH 61A	2.0	104	12
Fairman Rd	CH 61A	9.8	133	37
Tully Rd	CH 61A	1.9	201	1
Town Farm Rd	CH 61A	135.1	206	5
Town Farm Rd	CH 61A	78.7	209	11
Town Farm Rd	CH 61A	35.0	209	27
Mountain Rd	CH 61A	6.7	212	2
Creamery Hill Rd	CH 61A	7.0	213	27
Wheeler Pond Rd	CH 61A	90.2	214	27
Oxbow Rd	CH 61A	12.9	217	1
Oxbow Rd	CH 61A	15.7	217	3
Pine Hill Rd	CH 61A	2.8	217	4
North Main St	CH 61A	5.4	218	13
North Main St	CH 61A	98.0	218	18
Wheeler Ave	CH 61A	16.3	218	27
Wheeler Ave	CH 61A	4.0	218	29
East Rd	CH 61A	4.3	222	7
East Rd	CH 61A	68.0	222	8
Wheeler Ave	CH 61A	54.0	230	2
Ward Rd	CH 61A	18.6	230	8
Wheeler Ave	CH 61A	164.7	233	12
Wheeler Ave	CH 61A	37.0	233	14
Wheeler Ave	CH 61A	176.0	233	18
East Rd	CH 61A	3.2	233	41
Warwick Rd	CH 61A	13.0	235	24
South Main St	CH 61A	41.1	250	18
Route 2	CH 61A	9.0	252	61
Daniel Shays Hwy	CH 61A	0.2	252	62

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Location	Program	Area	Assessors Map	Assessors Lot
South Main St	CH 61A	14.5	253	1
South Main St	CH 61A	1.0	253	2
Daniel Shays Hwy	CH 61A	26.8	253	3
Old South Rd	CH 61A	32.9	253	14
Magoon Rd	CH 61A	2.4	253	35
Magoon Rd	CH 61A	3.9	253	40
Holtshire Rd	CH 61A	23.0	254	35
North Main St	CH 61A	35.0	888	88R
Sentinel Elm Rd	CH 61A	1.7	888	88X
TOTAL CHAPTER 61A ACREAGE		1,263.8		

Location	Program	Area	Assessors Map	Assessors Lot
Royalston Town Line	CH 61B	170.0	204	1
Butterworth Rd	CH 61B	171.0	205	7
Sentinel Elm Rd	CH 61B	25.0	222	16
West Orange	CH 61B	10.9	227	12
Warwick Rd	CH 61B	7.7	228	14
Mechanic St	CH 61B	20.3	229	24
West River St	CH 61B	17.3	239	35
Holtshire Rd	CH 61B	71.0	239	5
Holtshire Rd	CH 61B	9.0	254	40
TOTAL CH 61B ACREAGE		502.2		

TOTAL CHAPTER 61, 61A AND 61B	4,062.1
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Source: Orange FY2015 Assessor's Records, Massachusetts Department of Conservation and Recreation (DCR), and Committee input.

D. INVENTORY OF RECREATIONAL RESOURCES

The Recreation Map shows the parks and playgrounds in Orange that are open to the public. Most of these facilities are located within downtown Orange and the surrounding neighborhoods. These include Butterfield Park, Muzzey Field, Riverfront Park, Memorial Park, and fields and playgrounds at the public schools: Dexter Park and Fisher Hill School, Butterfield School (currently closed) and at the Ralph C. Mahar Regional School, which includes a track as well as fields and open areas. Residents need to get prior permission for using the playground and fields at the elementary schools. Some of the fields used by school sports teams at the regional school need prior agreements before being used, while other areas can be used by the public on a more informal basis. The Butterfield School building, which was used as an elementary school until 2015, has potential to be used for indoor recreational programs. There are also two locations to access the Millers River for kayaking and boating: Riverfront Park (rentals are available at the Boathouse) and the East River Street boat ramp.



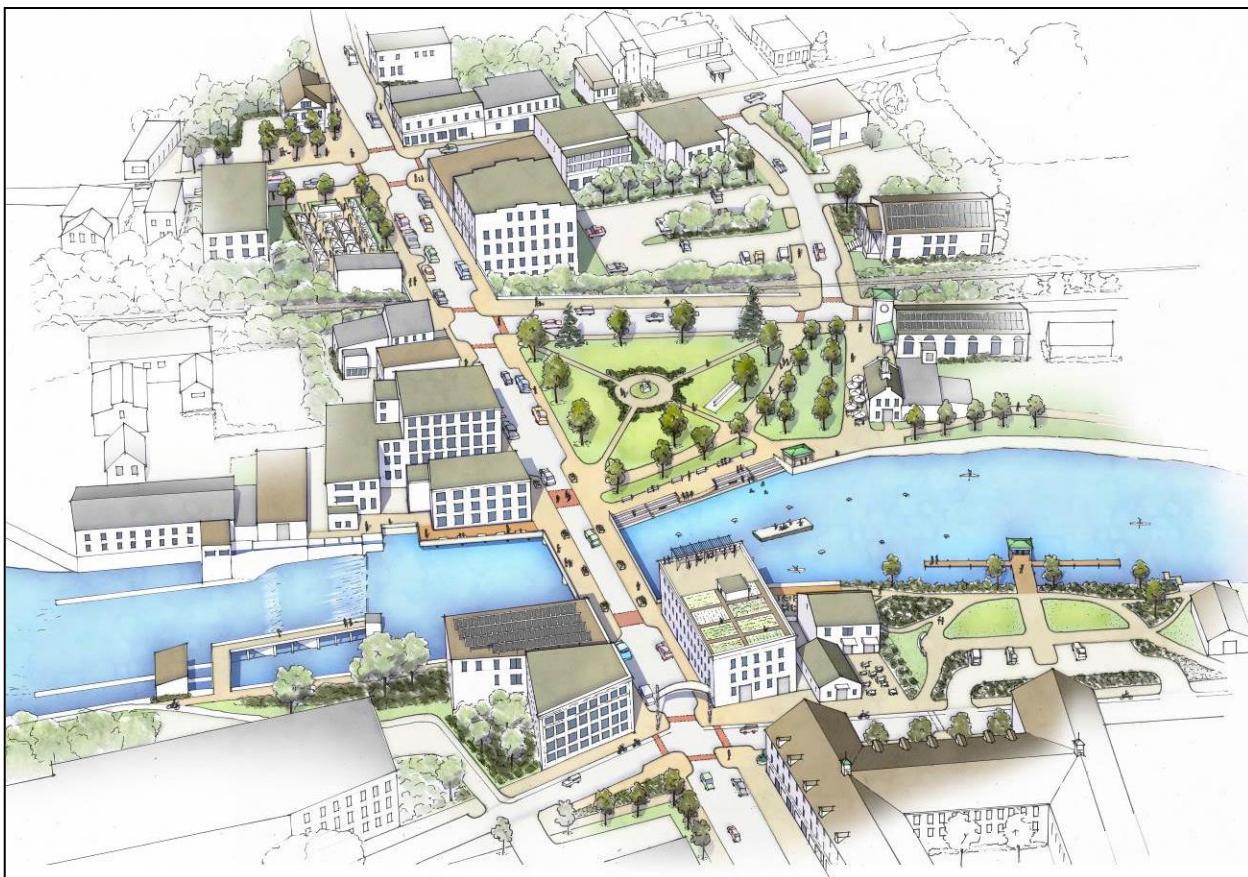
Left: Butterfield Park playground in downtown Orange. Right: A view of the Millers River from the East River Street Boat Ramp.

Outside of downtown Orange there are many opportunities for passive recreation such as hiking, picnicking, and boating. Bicentennial Park is located off of Holtshire Road, and includes a picnic area. Goddard Park is located in north Orange next to the church. Lake Mattawa Beach and the Lake Rohunta boat ramp provide access to these waterbodies for swimming or boating. Trail systems, such as the Chestnut Hill Trail and the Tully Trail, create opportunities for passive recreation including hiking, cross country skiing, and horseback riding in the rural areas of town. The Franklin County Bikeway, a network of on-road and off-road bicycle routes, is located along West Main Street, West Orange Road, Warwick Road, Moss Brook Road, and West River Street in Orange, providing on-road connections to Warwick and Wendell.

Respondents to the 2015 Orange Open Space and Recreation Survey identified the town's sidewalks, Butterfield Park, Riverfront Park and boathouse, Lake Mattawa Beach, and trails as the most used recreational and open space areas in town. When asked about Town recreation priorities for the future, over half of respondents identified making the town more bike friendly, such as creating a bike trail between downtown Orange and downtown Athol; continuing

development of riverfront recreation opportunities downtown; and adding more recreation programs for kids and teenagers as top priorities.

In 2015, MassDevelopment, in partnership with the Town and the Franklin Regional Council of Governments, funded a consultant team led by Union Studio to conduct a downtown Orange visioning process focusing on revitalization around the riverfront. Several well-attended public meetings gauged resident and business owner ideas for the future of downtown. A plan and conceptual designs were created out of this process that highlight opportunities for redevelopment and new infill development, along with many improvements to the public spaces in downtown. Among the proposed changes include closing Water Street to traffic and extending Memorial Park; creating river access and a pavilion along the north side of the river off of Water Street; adding boardwalks and trails along the river; improving pedestrian safety and amenities; adding a dock and pavilion to Riverfront Park; and adding a bike lane to River Street.



Above: The conceptual design for downtown Orange developed as part of the Vision for Downtown Orange process in 2015.

E. PARK AND OPEN SPACE EQUITY

Park and open space equity means taking a look at conservation and recreation opportunities available in the town and determining if there are areas of the town that seem to be lacking

resources. In particular, access to recreation and open space in low income areas of town is assessed. Sections of Orange qualify as Environmental Justice Population areas, where median household incomes are below 50% of the state median household income according to the 2010 U.S. Census (see the Recreation Resources map). Moreover, Orange as a whole has a lower median household income and a higher poverty rate than Franklin County and the State. Residents may be unable to afford recreational opportunities that require a fee, and may lack transportation to open space and recreation resources in other areas of Town. It is therefore important to ensure free access to an adequate amount of well-maintained open space and recreational resources within walking distance of EJ areas and downtown, and to provide free or affordable recreational programming for residents.

The Trust for Public Land (TPL), a conservation organization that works with communities across the country to develop parks and outdoor recreation opportunities, has established a half mile, or 10 minute, walk from home to a park or publicly accessible open space as a common national standard for communities to strive for.³ In more developed areas, this could mean a park, playground, or bike path within a ten minute walk from all homes. In more rural areas, this standard is more challenging. However, a community could still strive for residents to have access to a village park, for instance, or a trailhead within a 10 minute walk from their homes.

When applying this standard to Orange, the downtown area, where a large number of residents live, has good access to parks within walking distance from homes. There are several areas of town, however, where close access to a public park or trail is lacking. A particular area of concern for residents and Town Officials is the need for more park facilities accessible to the neighborhoods of North Main Street. The playing fields and playgrounds at the Dexter Park and Fisher Hill Schools are open for public use when school is not in session, but only by getting permission first. This leaves a gap of available playground and park space when school is in session for families with young children not yet of school age, and also makes it difficult for impromptu use of the playground on the weekends or in the summer if prior permission has not been granted. The Town and School could explore developing a joint use agreement that would allow the public to use school grounds after hours without having to gain permission first. The Massachusetts Joint Use Toolkit, developed by the Center for Health Law and Policy Innovation at Harvard Law School, provides guidance to towns in developing these types of agreements.⁴

Town-owned parcels within the neighborhoods north of the Millers River could also be assessed to determine whether a small park (such as a single building lot) could be developed in this area to serve the immediate surrounding neighborhood. Residents of this area could then be engaged in a process to identify the needs of the neighborhood and design for the park. Another way the Town could address this need is by purchasing the development rights on vacant lots in these areas. The Town could redevelop these lots as small parks and playgrounds. The Health Board also suggested that when buildings are demolished, or as property is seized for non-payment of back taxes, the Town should prioritize the greening of these neighborhoods through landscaping, park, and pedestrian design.

³ <http://www.tpl.org/our-work/parks-for-people>.

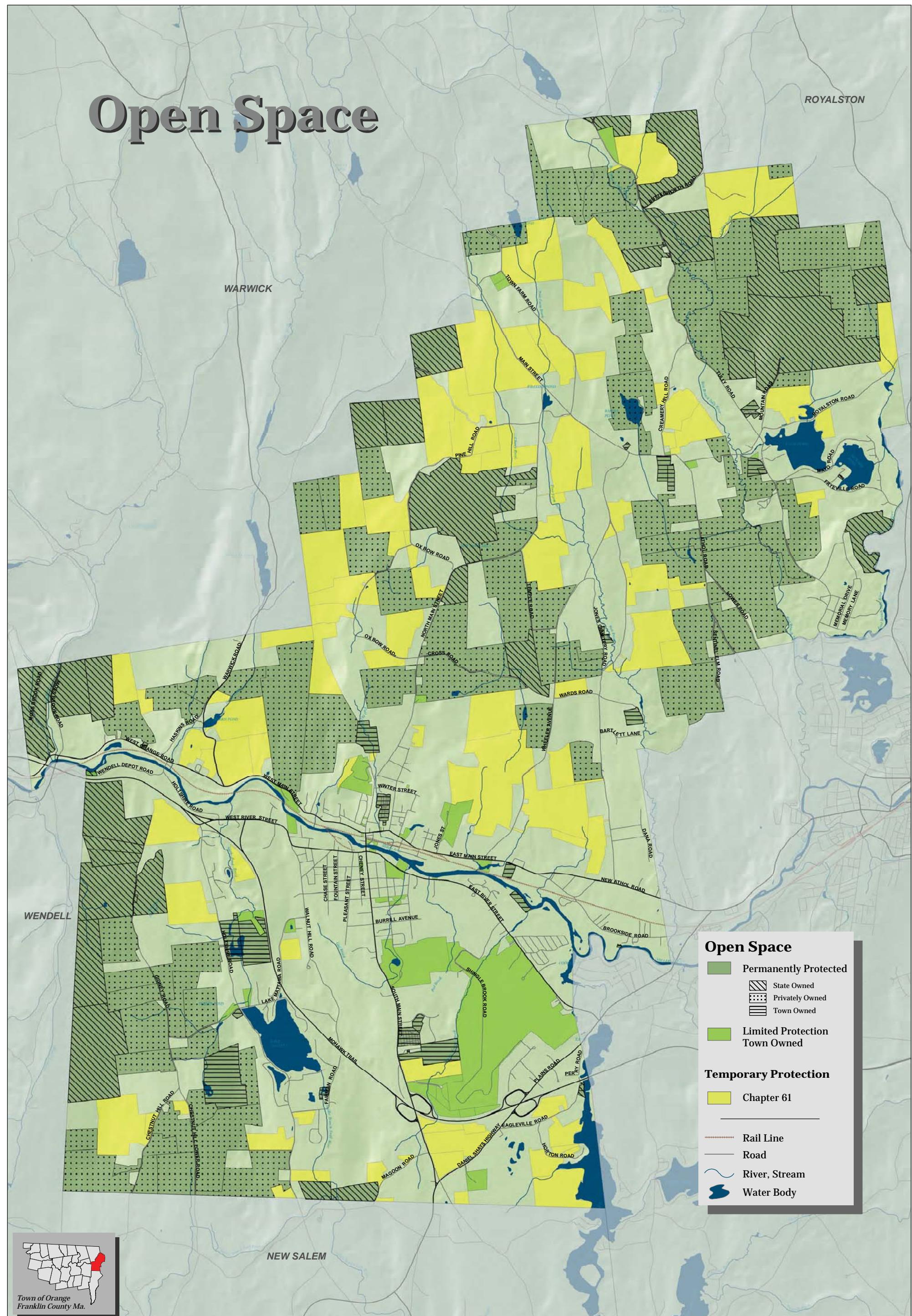
⁴ Access the toolkit online at: https://cdn1.sph.harvard.edu/wp-content/uploads/sites/84/2014/03/JUA_Toolkit_FINAL-12-6-13.pdf

The lack of a public playground in North Orange has also been identified as an issue. A playground is located on Town-owned property next to the Moore-Leland Library in North Orange, and is used by the Community Action Headstart program. According to Headstart staff, the playground equipment was purchased and is maintained using federal Headstart funding, and is currently not open to the public. Further exploration is needed to determine if it is possible to develop an agreement for public use of the playground after school hours. An open field with picnic tables is located next to the library and playground, which is open for public use.

Within the Environmental Justice areas, the neighborhoods located off of Route 2A east of the town center lack close access to parks and playgrounds. Residents in the Environmental Justice area in the northwest section of town generally have access to trailheads, but lack access to active recreation sites. With the exception of the North Main Street neighborhoods, already discussed above, this area is sparsely populated.

Overall there appears to be a need to better connect the downtown parks and open spaces with the passive recreation opportunities located outside of downtown. Off-road trails, sidewalks, and on-road bicycle improvements could all be explored as options to improve access between recreation opportunities and neighborhoods. A project currently under development by the North Quabbin Trails Association will create a “Nature Fit” trail on the Hosmer Woods property owned by the New England Forestry Foundation located off of West Main Street, close to downtown. The project will add different exercise stations along an existing historical turnpike, and will include information kiosks and a trail guide. Trail users will be encouraged to park at the Orange Innovation Center, where they will receive a trail guide and other possible equipment, such as a yoga mat, before walking to the trailhead. This is an example of a project that could provide a new outdoor recreation experience close to downtown. To improve access from downtown and the OIC, the Town should work with MassDOT to improve pedestrian access along West Main Street (Route 2A) to connect to the trailhead from the OIC.

Open Space



Town of Orange Open Space & Recreation Plan 2016

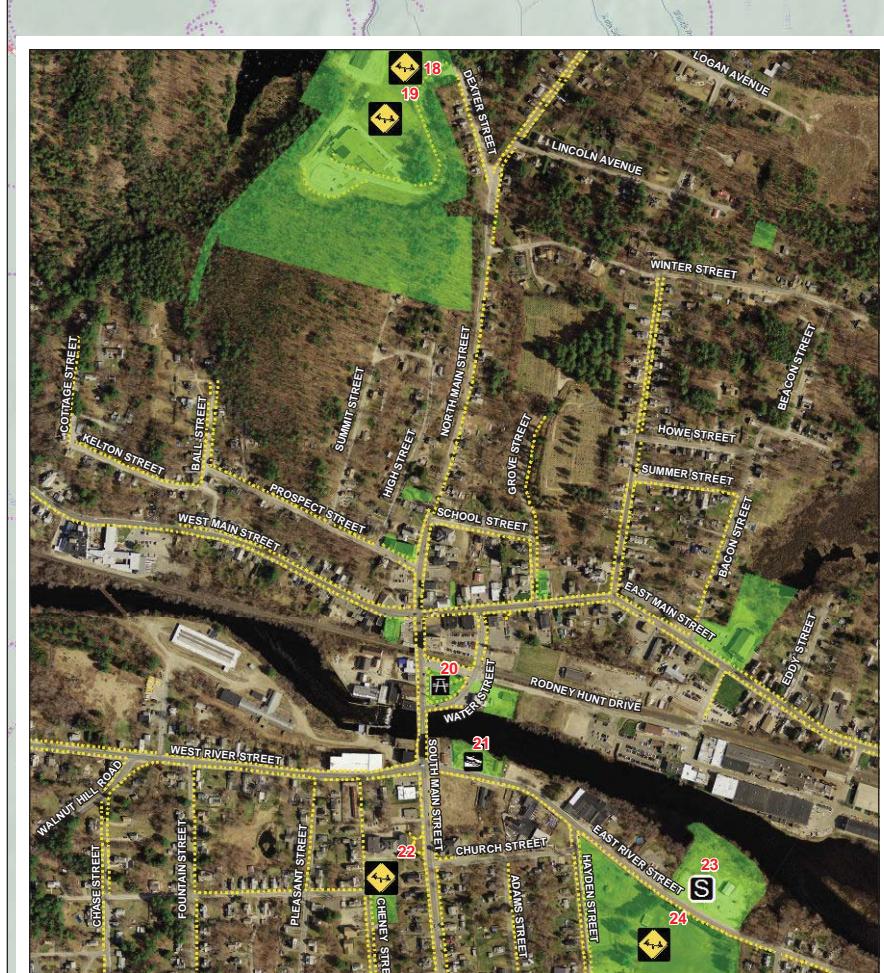
0 0.5 1 2 Miles

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.

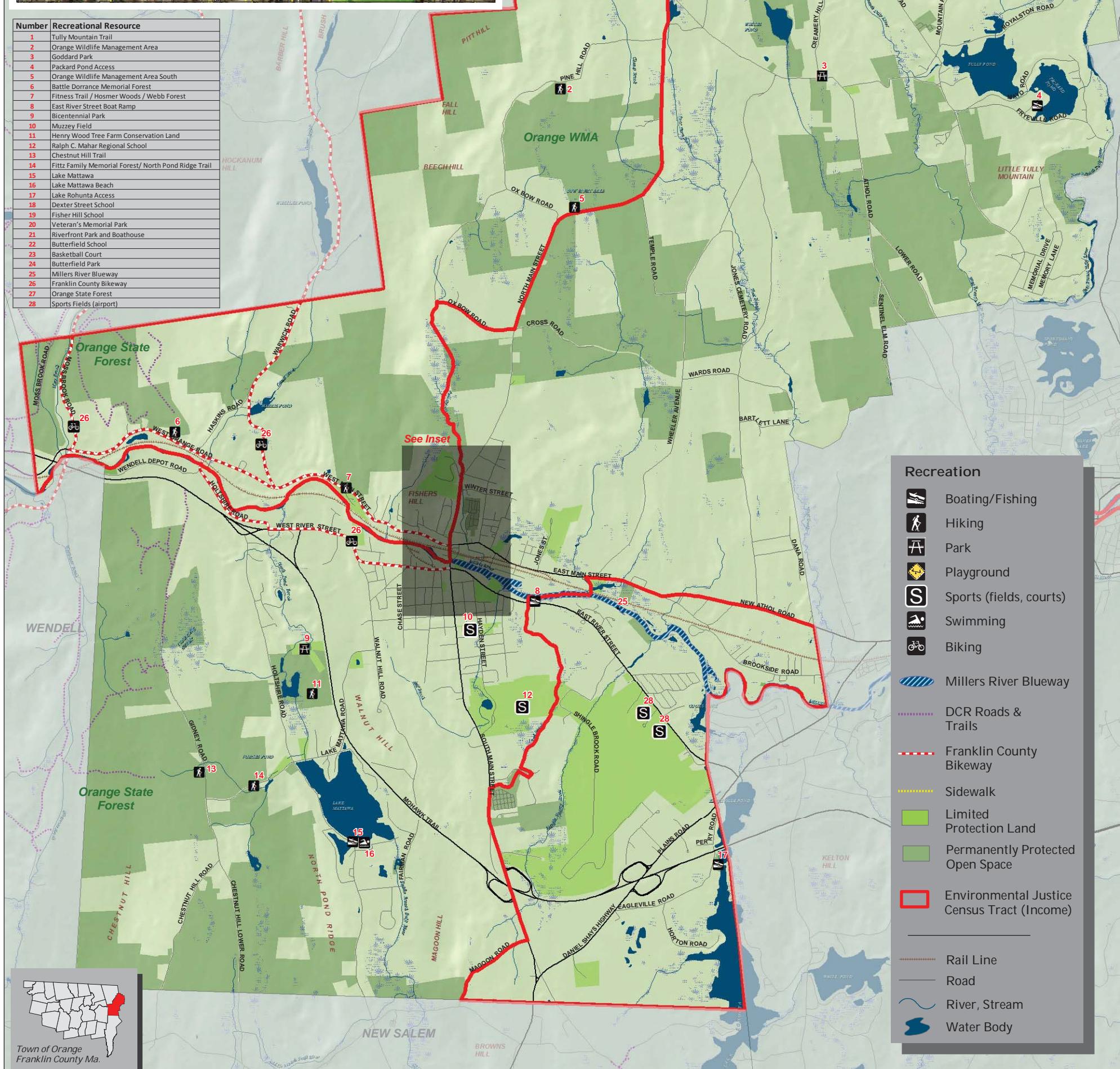


Franklin Regional
Council of Governments

Recreation Resources



Number	Recreational Resource
1	Tully Mountain Trail
2	Orange Wildlife Management Area
3	Goddard Park
4	Packard Pond Access
5	Orange Wildlife Management Area South
6	Battle Dorrance Memorial Forest
7	Fitness Trail / Hosmer Woods / Webb Forest
8	East River Street Boat Ramp
9	Bicentennial Park
10	Muzzey Field
11	Henry Wood Tree Farm Conservation Land
12	Ralph C. Maher Regional School
13	Chestnut Hill Trail
14	Fitz Family Memorial Forest/ North Pond Ridge Trail
15	Lake Mattawa
16	Lake Mattawa Beach
17	Lake Rohunta Access
18	Dexter Street School
19	Fisher Hill School
20	Veteran's Memorial Park
21	Riverfront Park and Boathouse
22	Butterfield School
23	Basketball Court
24	Butterfield Park
25	Millers River Blueway
26	Franklin County Bikeway
27	Orange State Forest
28	Sports Fields (airport)



Town of Orange
Open Space &
Recreation Plan 2016

0 0.5 1 2 Miles

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.



Franklin Regional Council of Governments

SECTION

6

COMMUNITY GOALS

A. DESCRIPTION OF PROCESS

The Town of Orange's open space and recreation goals were developed through the following planning process:

- In 2014, the Orange Open Space and Recreation Planning Committee was formed to work on the update of the 2008 plan. The Committee included Town officials and interested residents, and met 12 times between November 2014 and July 2016 to complete the update. Staff from the Franklin Regional Council of Governments Planning Department facilitated the meetings and assisted with drafting the updated sections of the plan and maps.
- In 2015 the Committee developed the Orange Open Space and Recreation Survey, which was available at Town Hall, Wheeler Memorial Library, Moore-Leland Library, the Police Station, Trail Head Outfitters, and the Riverfront Park Boathouse, and available on the Town's website. Three of these locations are within Environmental Justice areas. In addition, the survey was distributed to low-income residents through the Orange Housing Authority and the Franklin County Housing and Redevelopment Authority. The survey was publicized in the local newspapers, on the Town's website, and at a Park(ing) Day event in downtown Orange. A total of 88 responses were collected.
- On June 27, 2016, a public forum was held at 7 p.m. to present the draft Open Space and Recreation goals, objectives, and action items, and to gather feedback on priorities for the next seven years. Approximately 27 people attended the forum. Input from the forum was used to identify priorities in the Seven-Year Action Plan.

Previous editions of the Open Space and Recreation Plan incorporated input from various public outreach and planning efforts. These include the 1991 and 2002 Master Plan surveys, each with high rates of return from residents (28% and 12% respectively). Public forums were held for both the 2001 and 2008 Orange Open Space and Recreation Plans. For both plans, committees were formed to develop and revise the plan over the course of many months and numerous public meetings. The 2016 Orange open space and recreation goals build off of this history of planning and public outreach.

B. STATEMENT OF OPEN SPACE AND RECREATION GOALS

People live in Orange because they like the rural, small town character. They like the combination of having a rural community that also has an historic downtown. Not surprisingly, they would largely prefer a more active downtown area that would provide economic opportunities for local business owners and residents. The continued development of riverfront recreation opportunities on the Millers River is intended to improve the quality of life in downtown Orange and to stimulate the local economy through an increase in visitors to town.

An analysis of the 2015 Orange Open Space and Recreation Survey results found that:

- When asked what they like most about living in Orange, 81% of survey respondents identified the rural, small town character of Orange, followed by outdoor recreation opportunities (50%) and an active agricultural community and access to local food (44%).
- The top three open space protection priorities of survey respondents are farmland protection for active agriculture (61%), land protection for passive recreation such as hiking (51%), and land protection for wildlife habitat and other natural resources (46%).
- The top recreation priorities identified by survey respondents are to make Orange more bike-friendly (57%), continue development of riverfront recreation opportunities in downtown (55%), add more recreational programs for teenagers (51%), make Orange more pedestrian-friendly (47%), and create small parks, playgrounds, and community gardens on vacant lots in downtown (42%).
- Most survey respondents (72%) supported a new mixed-use building on the former Putnam Hall lot.
- The recreational resources in town most used by survey respondents include sidewalks (65%), Butterfield Park (50%), Riverfront Park and boathouse (49%), Lake Mattawa Beach (45%) and trails (45%).
- Forty nine percent of survey respondents support new housing in the upper floors of existing buildings downtown, and removing abandoned, sub-standard housing in downtown and splitting the property among abutters.

As discussed in Section 5, in 2015 Orange residents and business owners participated in a downtown visioning process that resulted in the Downtown Orange Riverfront Revitalization Study, including an action plan and conceptual designs depicting the community's vision for the future of downtown. The designs show a revitalized downtown centered around expanded and improved open spaces and riverfront recreational opportunities. Vacant buildings have been rehabilitated and occupied by businesses and residents, while several new buildings have been built on currently vacant lots. In this vision, downtown is an enjoyable place to live, shop, and recreate.

According to the Open Space and Recreation Survey, the vision for downtown as shown in the Downtown Orange Riverfront Revitalization Study, and the Open Space and Recreation Plan

Update Committee, the ideal Orange has a revitalized downtown bustling with commerce, community-based cultural activities, and recreational programs for people of all ages, especially teenagers. Parks, open spaces, and recreational opportunities are affordable, accessible, and located within a close walk or bike-ride of all residents. Historic buildings have been rehabilitated and filled with new uses. Outside of downtown, new development is integrated into the rural landscape and is balanced with the protection of important natural resources. Working farms and forests are supported by markets for locally produced goods. Farms and forests, prominent hills and monadnocks, and cool running streams are protected from development due to the stewardship ethic of local private landowners and the ingenuity of regional conservation organizations with support from Orange residents and Town officials. Building on these efforts and implementing the recommendations of this Open Space and Recreation Plan, Orange will continue to be known for its clean water bodies and drinking water, its many protected forests and farms, its small community feel, and an economy that is fueled in part from vibrant regionally-recognized recreational activities and events.



View from downtown Orange of the Millers River and the Orange community boathouse.

SECTION 7

ANALYSIS OF NEEDS

The 2016 Orange Open Space and Recreation Plan Update incorporates the inventory of all the natural, scenic, and recreational resources that are available in Town (Section 4), identifies the most important parcels of land that contain these resources (Section 5), and based on the community's general goals (Section 6), makes comparisons between the supply of resources and the demand (Section 7). In the following subsection, a Summary of Natural Resource Protection Needs, the environmental values that have already been addressed in Sections 3, 4 and 5 are summarized. In the Summary of Community's Needs section, the recreation and open space needs of the residents are identified, using the 2012 Statewide Comprehensive Outdoor Recreation Plan (SCORP), the results of the 2015 Orange Open Space and Recreation Survey, the Park and Open Space Equity analysis in Section 5: Inventory of Lands of Conservation and Recreation Interest, and elements of Section 3, Community Setting. Finally, in Management Needs, the obstacles to the effective resolution of these needs are addressed including organizational barriers and the most significant land use conflicts concerning open space and natural resource use.

A. SUMMARY OF NATURAL RESOURCE PROTECTION NEEDS

Since the completion of the last Open Space and Recreation Plan in 2008, an additional 2,192 acres of land in Orange are estimated to have been permanently protected. Orange now has 8,129 acres of land permanently protected from development, accounting for 35% of the land in town. While this represents significant progress, this plan update has identified a number of continuing resource protection needs in Orange, which can be summarized within three broad categories: water resources, farmland and forests, and natural habitat.

A.1. Water Resources

The continued clean-up of the Millers River for both environmental and recreational benefits is a need identified throughout this plan. The revitalization efforts in downtown Orange rely in part on the health of the Millers River and its ability to support recreational uses, including boating and fishing. According to the MA Department of Environmental Protection, the 17.5 mile segment of the Millers River, which runs from South Royalston to the Erving Paper Co. is described as having issues of unknown toxicity, priority organics, metals, nutrients, and pathogens. In addition, a MA Department of Public Health fish advisory is in effect for this segment due to Mercury and PCBs found in fish flesh.

Primary contact (such as swimming) and secondary contact (such as boating) recreation along the section of the Millers River in Orange has not been assessed by the State due to limited data. However, bacteria monitoring done by the Millers River Watershed Council (MRWC) since 2011 has shown that immediately following a heavy rain event, the Millers River in Orange may not be suitable for primary contact recreation, but is likely suitable for secondary contact recreation. In dry weather, the Millers River appears to be acceptable for both primary and secondary contact recreation activities.

Stormwater runoff can carry pollutants from roads, roofs, farm fields and pastures, and lawns into streams and rivers, and likely contributes to the high bacteria counts in the Millers River after a heavy rain storm. Moving forward, the Town is interested in incorporating Low Impact Development (LID) stormwater management techniques into Town projects and in flood prone areas to reduce the amount of stormwater flowing to overwhelmed catch basins, which ultimately drain into the Millers River. LID features capture, treat, and infiltrate stormwater close to where it falls, reducing the amount of stormwater flowing untreated into rivers and streams. In addition, Orange could work with the MRWC and other communities to encourage the State to improve their research and reporting for the Millers River and its tributaries.

Among the smaller streams in Orange, West Brook and other brooks which flow through the predominantly agricultural landscapes of east central Orange may be the waterways most in jeopardy in the future. The land where these brooks flow is susceptible to residential development along Wheeler Avenue, Temple Road, Jones Cemetery Road, East Road, and Athol Road. On-site septic systems and lawn fertilizers and pesticides are two sources of non-point source pollution which affect rivers and wetlands. These are often associated with large lot residential development on former agricultural lands.

Permanently protecting farmland in these areas will help reduce the amount of development that could occur. In addition, the Planning Board has explored revising the zoning within the Rural Residential district to implement Natural Resource Protection Zoning (NRPZ). This type of zoning encourages development to avoid important resources on a site, such as farmland and stream corridors, and also seeks to balance the construction of new homes with open space protection by requiring a significant percentage of the site to be permanently protected from future development.

The Water Resource District in the Orange Zoning Bylaws prohibits certain land uses within the Zone I and II aquifer recharge areas for the Town's three public water wells in order to prevent contamination of the ground and surface water resources. Some of the land within the recharge areas is permanently protected from development, though most of the land is not, and is considered a priority for protection. The aquifers that provide drinking water to the town are also at risk from spills of hazardous materials from transportation accidents along the railroad or Route 2. Section C. Management Needs provides more information on potential ways to manage this risk.

A.2. Farms and Forests

Respondents to the 2015 Open Space and Recreation Survey selected farmland protection for active agriculture as the top open space protection priority for Orange. Since the last Open Space and Recreation Plan, farmland along Sentinel Elm Road and Athol Road has been permanently protected through the Agricultural Preservation Restriction (APR) program, adding a total of roughly 442 acres of farmland in Orange permanently protected from development. Another 1,264 acres of active farmland are enrolled in Chapter 61A, where the land is assessed at its agricultural value rather than its development value. While these lands are temporarily protected from development, they are still at risk for conversion to another use. Agricultural land in the southeast section of town, as well as farmland located along roads in North Orange, is particularly vulnerable to development and is identified as a priority for protection.

One strategy to protect more farms in Orange would be for the Agricultural Commission to conduct an inventory of farms in town, and to identify farmland owners who may be interested in permanently protecting their land. Farms can also be “protected” by remaining economically viable. Local markets for farm products, including farmers markets, cafes and restaurants, and food coops and grocery stores, help support farms while at the same time increase access to fresh food and contribute to the revitalization of the community. The Orange Farmers Market and the Quabbin Harvest Food Coop in downtown Orange are current examples of local markets for farm produce. The food coop is directly supported by the Mount Grace Land Conservation Trust, which purchased the property and leases it to the coop.



Orange is roughly 73% forested. Most of the permanently protected land in town is forested, and is either privately-owned, or owned by a State, non-profit, or Town conservation agency. Large areas of contiguous forestland provide habitat for a wide variety of wildlife species, and offer opportunities for creating recreational trail networks, such as the Tully Mountain and Chestnut Hill trail networks. Forests also protect the tributaries of the Town’s rivers, ponds, and lakes, provide clean air and drinking water, sequester carbon, and represent a significant scenic backdrop. Forested areas considered priorities for protection in Orange include unprotected parcels north of the Millers River that, if protected, would fill in gaps to create a larger block of protected forestland in this area of town.

Engaging landowners in the stewardship of their forestland will help to keep forests from being developed. Sustainable forest management can provide income to landowners while maintaining or improving the benefits that forests provide. Challenges to practicing sustainable forestry in Orange and the greater region include:

- a lack of local markets for low-grade wood, such as pellets and other products that could be made from small diameter trees, which would make sustainable long-term management more financially feasible;
- the need for assistance to local loggers and sawmills to upgrade equipment, cover insurance and energy costs, and meet regulations; and
- the need to educate landowners and the public about the benefits of working forests and sustainable forest management.

Working collaboratively with organizations such as the Mount Grace Land Conservation Trust, North Quabbin Woods (part of the North Quabbin Community Coalition), the New England Forestry Foundation, and the Massachusetts Department of Conservation and Recreation, the Town can continue to address these challenges.

A.3. Natural Habitat

BioMap2, produced by the Natural Heritage and Endangered Species Program (NHESP) and The Nature Conservancy, is a comprehensive biodiversity conservation plan for Massachusetts designed to guide strategic land protection in Massachusetts over the next decade by focusing on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems. The program includes mapping of core habitat and critical natural landscapes in every community in the state. These maps, along with individual town reports, are meant to help guide local and regional conservation efforts.

Numerous portions of Orange are identified as core habitat and/or critical natural landscapes that support rare or endangered species and biodiversity. Some of these areas correspond with large blocks of permanently protected land, such as in northeast Orange around Tully Mountain, and in southwest Orange around Chestnut Hill. Other areas identified in the *BioMap2* mapping are either not protected, temporarily protected through the Chapter 61 program, or have gaps in protection. These areas include the Orange airport, land along the Millers River, the southeastern corner of town, an area between Route 2 and Walnut Hill Road, land surrounding the north side of Tully Pond, and land along the East Branch and West Branch of the Tully River. The Orange Conservation Commission could maintain a list of Chapter 61 parcels within these areas. In the event one of these parcels becomes available for purchase through the Town's right of first refusal, the Town can work to act to preserve these important habitat areas.

B. SUMMARY OF COMMUNITY'S NEEDS

Planning for a community's open space and recreation needs must work to satisfy the present population's desires for facilities, spaces, landscapes, and services and also prepare for the future needs of Orange residents.

B.1. Recreation Needs

The Commonwealth has completed the 2012 Statewide Comprehensive Outdoor Recreation Plan (SCORP), an update of the SCORP 2006, five-year plan. SCORP plans are developed by individual states to be eligible for federal Land and Water Conservation Fund (LWCF) grants and serve as a tool for states to use in planning for future needs and uses of outdoor resources for public recreation and relaxation. The SCORP also provides information about use of and demand for outdoor recreational resources in the state that may be relevant to Orange's open space and recreational planning efforts. The planning process utilized statewide public meetings, a phone survey, and a youth survey to gather information on current supply and demand for outdoor recreational resources.

Demand is strongest for more trails that are close to where people live, such as town-wide trail systems that are accessible to most residents without having to drive to them. Residents in central and western Massachusetts more often mentioned hiking trails than residents in other regions as facilities they would like to see more of. Bike paths and making roads more bicycle friendly was another need identified. Increased access to water, for both swimming and boating, was often cited as a need. Forty-three percent of youth respondents stated they would like to try to canoe, kayak, and go rafting or tubing, and camp more frequently in the next five years.

The needs outlined in the SCORP are fairly consistent with recreational needs identified in the 2015 Orange Open Space and Recreation Survey. Eighty-eight respondents completed the survey in fall 2015. When asked what the Town's top recreation priorities should be, the top five responses were:

- Make Orange more bike-friendly, such as through the development of a bicycle route between downtown Orange and downtown Athol (57%);
- Continue development of riverfront recreation opportunities in downtown (55%);
- Add more recreational programs for kids and teenagers (51%);
- Make Orange more pedestrian-friendly through improvements to sidewalks and existing public spaces in downtown (47%); and
- Create small parks, playgrounds, and community gardens on vacant lots in downtown (42%).

There were also a number of comments that identified the completion of improvements at Butterfield Park as a top priority for the Town.

Improving the downtown areas' economic viability and appeal is a top priority for the Town. Recreation and public open spaces are a major component to the community's vision for a revitalized downtown. As presented in Section 5, a community visioning process was completed in 2015 that resulted in an action plan and conceptual designs highlighting opportunities in downtown for redevelopment and new infill development, along with many improvements to public spaces, with a focus on the Millers River. Among the proposed changes include closing Water Street to traffic and extending Memorial Park; creating river access and a pavilion along the north side of the river off of Water Street; adding boardwalks and trails along the river;

improving pedestrian safety and amenities; adding a dock and pavilion to Riverfront Park; and adding a bike lane to River Street.

As discussed in Section 3: Community Setting, Orange residents have less earnings to spend on recreation than those across the County and State as a whole. Poverty is known to create barriers to access (to health services, quality education, healthy food, housing, and other basic needs and opportunities) and to contribute to poor health status generally. According to the Massachusetts Department of Public Health (DPH), in 2012, the Ralph C. Mahar Regional School District, which includes Orange, had one of the highest percentages (36.6%) of students considered overweight or obese in Franklin County.¹ Orange also has one of the highest percentages of adults who are obese compared to other communities in the state, according to the DPH. The prevalence of lack of physical activity among adults in Orange was also reported at a higher rate than other communities in the state. Providing accessible and affordable open space and recreation facilities and programming in a community helps support residents in leading a healthier lifestyle. Section 3 also identifies the need to provide recreational programming and facilities for older residents in particular over the course of the next two decades, as the percentage of the population age 65 and over is expected to increase from 15 percent of the population in 2010, to 24 percent of the population by 2035.

The 2016 Orange Open Space and Recreation Plan process evaluated access for residents to the Town's recreational and open space resources. Section 5: Inventory of Lands of Conservation and Recreation Interest, includes a section on Park and Open Space Equity that evaluates access to parks and open spaces in Orange based on the Trust for Public Land's standard of having a park or publicly accessible open space available to every resident within a half a mile, or 10 minute walk, from their home. The analysis took into consideration the Environmental Justice areas in Orange, where residents may not have access to transportation to reach recreation and open space facilities beyond walking distance, or have the ability to pay for recreation opportunities.

Most of the park and playground spaces available for active recreation are within the downtown and the neighborhoods surrounding downtown, which is the most densely populated area of town. These facilities provide different recreation options such as playgrounds, soccer and baseball fields, and access to the Millers River for boating and fishing. Outside of downtown Orange there are many opportunities for passive recreation such as hiking, picnicking, and boating. The analysis identified several needs in recreational resources throughout town:

- More park facilities accessible to the neighborhoods of North Main Street are needed. The Town and elementary schools could explore developing a joint use agreement that would allow the public to use school grounds after hours without having to gain permission first. This still leaves a gap of available park and playground space during school hours for younger children and adults. Town-owned parcels within this neighborhood could be assessed to determine whether a small park could be developed to serve residents when the school playground is not available.

¹ Baystate Franklin Medical Center Community Health Needs Assessment, 2013. Data from the Massachusetts Department of Public Health, 2012.

- A need for park and playground space in the neighborhoods located off of Route 2A east of the town center, within an Environmental Justice area. Similar to the North Main Street neighborhoods, the Town could assess Town-owned properties within this area to determine if any could be suitable for a small park.
- The lack of a public playground in North Orange. A playground located next to the Moore-Leland Library in North Orange is used by the Community Action Headstart program, and is currently not open to the public after school hours. Further exploration is needed to determine if it is possible to develop an agreement for public use of the playground after school hours.

Overall there appears to be a need to better connect the downtown parks and open spaces with the passive recreation opportunities located outside of downtown. Off-road trails, sidewalks, and on-road bicycle improvements could all be explored as options to improve access between recreation opportunities and neighborhoods. A project currently under development by the North Quabbin Trails Association will create a “Nature Fit” trail on the Hosmer Woods property owned by the New England Forestry Foundation, located off of West Main Street, close to downtown. This is an example of a project that will provide a new outdoor recreation experience close to downtown. To improve access from downtown, the Town should work with MassDOT to improve pedestrian accommodations along West Main Street to the trailhead. The Town is also interested in developing a Complete Streets policy, which would require that all users of a public right-of-way, including pedestrians, bicyclists, and transit riders, be considered when conducting roadwork. Construction funding through MassDOT’s Complete Streets Program is currently available for communities that have adopted a Complete Streets policy and have identified priority projects.

B.2. Trails

There is interest in linking trail systems on public and privately-owned lands and in finding ways of increasing options for residents to use alternative forms of transportation. One example of recent trail projects is the development of land and river-based trails along the Millers River. The Millers River Blue Trail is a six-mile water trail created by the Millers River Watershed Council (MRWC) and inaugurated in 2011. Paddlers of all ages can use this flat water section of the river which extends from Riverfront Park in Orange to the Alan E. Rich Environmental Park in Athol. The MRWC has established a stewardship team of volunteers to help manage basic trail care along the Blue Trail, and is planning additional Blue Trail segments and adding more trail access points.

The Millers River Greenway is a project that has been under development for many years, and would create a bike route between downtown Orange and downtown Athol. The project has gained renewed interest recently, and is currently in the conceptual design phase. The Town has submitted the project to the Massachusetts Department of Transportation for inclusion in the Transportation Improvement Program (TIP), which would fund construction of the project.

Sidewalks and trails on roads and through wooded areas both for pedestrians and cyclists are very important. By providing access to trails and natural resources in Orange, people from the

region might be inclined to recreate in Orange, which would aid the local economy as well as support the health and well-being of residents of all ages.

Whatever the type of trail, there needs to be an effort to educate trail users. There is a need to develop trail maps; trail head parking and signs; and kiosks to communicate smart trail use principles that deal with trail safety and orienteering, communication, respecting private property, emergency preparedness and response, notification, litter and “leave no trace” best practices. Trail signs could also identify which trails could be used by different users, such as handicap accessible trails, cross county skiers, mountain bikers, snowmobilers, or horseback riders. In areas where trails cross actively managed forests, signage could be used to educate trail users about sustainable forest management.

B.3. ADA Accessibility

People who are physically handicapped are challenged to find conservation lands and spaces that are accessible in Orange. All the lands owned by the Conservation Commission are forests and wetlands, and are inaccessible and without any facilities for the handicapped. There is a need for open spaces and parks that are accessible to the physically handicapped and the elderly. The Riverfront Park is a recreational area that is accessible to the physically handicapped. In addition, fields at Mahar Regional School and at the Orange Airport are accessible. Another possible improvement would be an accessible entrance and facilities at Lake Mattawa Beach.

As noted in Section 5, in 2015 an EZ dock system was added at the Riverfront Park boat ramp to enable people with disabilities to access the water in a kayak or canoe more easily. The operator of the boat house, Peak North America LLC, and the Town are interested in pursuing additional improvements to the boat ramp to make it fully accessible to people with a range of disabilities.

The ADA Self-Evaluation and Transition Plan in Appendix A identified accessibility improvements for Memorial Park, Riverfront Park, and Butterfield Park. These include: identifying a better location for handicap parking at Memorial Park; installing additional grab bars in the boathouse bathrooms and making the side entrance to the boathouse accessible at Riverfront Park; and creating accessible walking paths and picnic areas at Butterfield Park, and incorporating accessibility into the redevelopment of the existing playground.

C. MANAGEMENT NEEDS

Management needs related to Town-owned land, facilities, and infrastructure are identified throughout the 2016 Open Space and Recreation Plan update. Addressing these needs will help the town move towards meeting the open space and recreation vision and goals described in Section 6: Community Goals.

To facilitate revitalization in the downtown, there are several issues that need to be addressed. Sewer capacity is currently a major issue to redevelopment and new development in the downtown area. Because the Orange wastewater treatment plant is operating at roughly 95% of

its design capacity, the Town is under a consent order from the MA Department of Environmental Protection that requires new sewer connections in town to be approved by the DEP and a fee be paid to a “sewer bank” to help replace aging pipes in the system. The Town recently completed an update to the Comprehensive Wastewater Treatment Master Plan and is moving forward with improvements to the collection system. The Town is awaiting a new discharge permit from the DEP and the U.S. Environmental Protection Agency (EPA), which imposes regulations on how wastewater needs to be treated before being discharged. Once the new permits are issued the Town will work to move forward with improvements to the treatment facility.

Several of the issues in downtown also present opportunities for improving recreation and open space assets. Water quality in the Millers River is a critical component to supporting the continued development of riverfront recreation opportunities downtown. The Town’s Highway Department salt shed is currently located adjacent to the river, across from Butterfield Park on East River Street. The Town would like to move the salt shed away from the river to reduce the potential for contamination, and to open up more riverfront space that will be accessible to the public. The Town is also interested in incorporating Low Impact Development (LID) stormwater management techniques in the flat, flood prone areas downtown to reduce the amount of stormwater flowing to overwhelmed catch basins. LID techniques such as swales, rain gardens, and street trees, will reduce flooding, improve water quality, and improve the pedestrian environment by adding green space to these more densely developed neighborhoods. The Town is also interested in implementing techniques along steep sections of roadways throughout town to slow the flow of water and reduce erosion.

The vision for downtown Orange includes the beautification of streetscapes and public spaces. Some of the suggested activities in the vision plan can be done by volunteers, minimizing the cost to the town. The plan recommends establishing a volunteer coordinator to be the point person for volunteer efforts and activities. The coordinator can help recruit volunteers as needed, direct efforts towards areas of highest priority, and assess the effectiveness of different activities. The coordinator can also build relationships over time with the various organizations in town that have an interest in the community and economic well-being of Orange.

The Town has taken steps to maintain the quality of the public drinking water supply, such as passing zoning that restricts certain types of uses and development within the aquifer recharge areas of the town’s public wells. In addition, the Town could work to develop a cooperative emergency management plan with MassDOT, the Orange Highway Department and the Board of Selectmen to help ensure that these drinking



Volunteers can assist with downtown beautification projects, such as these plantings along South Main Street.

water supplies do not get contaminated by hazardous materials that are being transported on Route 2.

Town-owned open space can be large assets to a community, but to reap the most benefit from publicly-owned open spaces and recreation areas, continued management is necessary. The level of management needed varies depending on the use. Parks and playgrounds need regular maintenance throughout the year, while hiking trails may need more periodic maintenance and trail clean-ups. In 2016, the Orange Conservation Commission worked with the Mount Grace Land Conservation Trust to inventory all parcels owned or under the control of the Commission, and to develop management approaches for these lands. Management goals for the parcels include sustainable forestry, passive recreation, and wildlife habitat. The next step is to seek funding to hire a consultant to work with the Conservation Commission to develop management plans with specific goals and timeframes, and to work to implement each plan.

As discussed above, the playing fields and playgrounds at the Dexter Park and Fisher Hill Schools are open for public use when school is not in session, but only by getting permission first. The Town and School could explore developing a joint use agreement that would allow the public to use school grounds after hours without having to gain permission first. The Massachusetts Joint Use Toolkit, developed by the Center for Health Law and Policy Innovation at Harvard Law School, provides guidance to towns in developing these types of agreements. The Town could also explore the use of the Butterfield School building for indoor recreation programs.

The Orange Recreation Association (ORA) is a volunteer organization that provides recreation programming to Orange residents at an affordable cost. Current programs include indoor and outdoor soccer, a basketball clinic, a drama program for grades 4-6, and a fit and fun program during the first week of summer for school children. The ORA is always looking to expand its programs if there is enough interest from the community, however, an obstacle to expanding programs is finding volunteers to run them. In addition to ORA programming, there are other recreation organizations, such as Pop Warner football, a travel basketball league, and a Little League, that use Town-owned parks and facilities.

The Town has large maintenance and management needs for Town-owned recreational facilities. Currently the Department of Public Works serves as the Parks Commission, but the department has few resources or staff to commit to park maintenance. An inventory of Town-owned recreation facilities is needed that identifies the maintenance and management needs of each park. Once specific needs are understood, sponsors and volunteers could be sought to assist with keeping facilities in shape. Having a point person in town to coordinate the various recreation activities at Town parks and facilities is another identified management need. In addition to coordinating the use of facilities, a central point person could also help pull together and disseminate information to residents about the different recreational programs that are available in town. An overall strategy to improve management of recreation facilities and the provision of recreational programming for residents is for the Town to consider establishing its own Parks and Recreation Commission and adding a Parks and Recreation Director position.

To protect more of Orange's active farmland and to promote farming in town, the Town's Agricultural Commission could be reactivated to work on specific tasks, such as conducting outreach to owners who might be interested in permanently protecting their land. Another task could be to install road signs at the major entrances to town stating that Orange is a right-to-farm community.

Orange is fortunate to have a great number of organizations interested in the environment and the economy in and around Orange, including the New England Forestry Foundation, Mount Grace Conservation Land Trust, the Trustees of Reservations, Massachusetts Audubon Society, Department of Conservation and Recreation, Division of Fisheries and Wildlife, the Department of Agricultural Resources, the North Quabbin Community Coalition, Greenworks, and the Millers River Watershed Council. There is a need for the Town to facilitate and coordinate the activities that occur within Orange so that they most benefit local residents. An appointed Open Space Committee could be given the responsibilities to act as the liaison to these organizations reporting back to Town officials as necessary. Similarly, if Town officials were kept abreast of these local and regional efforts, there would be more opportunities for cooperation with adjoining towns.

The Town's main management need is for the town to be more proactive in planning, which might include expanding the Community Development department. One challenge for Orange and many towns is how to consistently encourage economic development in ways that build opportunities for local businesses to expand, capitalize on the attributes of the North Quabbin region that set it apart from other destinations in Western Massachusetts, and increase the strength and resiliency of the community.

Eco-tourism is one avenue that the town could pursue for economic development among small local retail, service, and light manufacturing businesses. The Town could work more closely with the Chamber of Commerce, the New England Forestry Foundation, the Orange Revitalization Partnership, the Orange Recreation Association, the Orange Business Association, the North Quabbin Trails Association, Greenworks, Peak North America LLC, and others to bring visitors to Town attractions. These would include the Riverfront Park and Boathouse, Butterfield Park, the Orange Farmers Market, local and regional trail systems, the future Millers River Greenway, various entertainment events at the Town Hall throughout the year, the Orange Municipal Airport, and seasonal events including Starry Starry Night, the Garlic and Arts Festival, the Orange Solstice River Festival, the River Rat Race, Dinner by the River, Harvest Celebration, Community Band Concert Series at Butterfield Park, and the Steam, Gas, and Machinery Show. More work could be done to identify the local businesses which could benefit from an increase in visitors to these attractions and to incorporate them into a marketing plan.

The North Quabbin Region is different from other regions of Western Massachusetts in one critical way which could be better taken advantage of: there are significant tracts of forestland, many of them privately-owned and open to the public. By continuing to support the protection of privately-owned forest and farmland, the Town is helping to retain a landscape that others will seek out for appreciation, recreation, and possibly for relocation. People drawn to the landscapes of Orange may be more willing to support their conservation.

SECTION 8

GOALS AND OBJECTIVES

The goals and objectives outlined in this section are based on the vision of an ideal Orange that has emerged from multiple planning processes the Town has undergone in recent years. According to this vision, the ideal Orange would have a revitalized downtown bustling with commerce, riverfront recreation opportunities, community-based cultural activities, and support programs for children, teens, and elders. Rehabilitated buildings with new uses would preserve the historic character while bringing new businesses and residents to downtown. Surrounding the downtown area will be a largely protected greenbelt of forested hills, prominent monadnocks, pristine streams, and active farmland. Parks, playgrounds, sports fields and natural areas would be accessible to all users, connected by a network of paths and sidewalks, and be located within walking and biking distance of all residents. The hills, lakes, beaches, trails, and connected protected open spaces would provide almost unlimited recreation, scenic vistas, and wildlife viewing possibilities within a regionally recognized greenway that stretched from New Hampshire to the Connecticut River and the Quabbin Reservation.

Goal A: Preserve the rural and historic character of Orange, improve air and water quality and natural habitat, and support working farms and forests through the conservation of locally and regionally important natural and cultural resources.

Objectives:

1. Coordinate with all town boards to ensure that the findings and recommendations of the Orange Open Space and Recreation Plan are reflected in decisions dealing with, or affecting, Orange's natural, recreational, and open space resources.
2. Prioritize land protection for farmland and large contiguous blocks of forestland, particularly within the following areas:
 - farmland in the southeast section of town and along roads in North Orange;
 - unprotected forested parcels north of the Millers River;
 - BioMap2 Core Habitat and Critical Natural Landscape areas; and
 - aquifer recharge areas for the Town's public drinking water sources.
3. Continue to take advantage of the Town's right-of-first refusal with Chapter 61 parcels and of its right to assign the right to an appropriate third party.

4. Support farmland protection through the Agricultural Preservation Restriction Program and other methods, and through efforts that promote the economic viability of local farms.
5. Support the conservation and stewardship of large blocks of interior forest and connecting wildlife corridors through the purchase or donation of conservation restrictions and other methods, and through efforts that build local markets for sustainably-harvested forest products.
6. For Town-owned parcels of land determine: 1) potential uses and designated manager; 2) a stewardship work plan, if any; and, 3) a means for coordinating open space related issues among Town boards and committees.
7. Support efforts to maintain and improve surface and groundwater quality in Orange.
8. Promote and help protect historically significant landscapes, the National Historic District (NHD) in downtown Orange, the proposed NHD in North Orange, and the Priority Heritage Landscapes identified in the 2008 Orange Reconnaissance Report:
 - North Orange
 - Tully Village
 - Hunt Farm
 - Orange Municipal Airport
 - Chestnut Hill
 - Downtown industrial areas along the Millers River
 - Scenic roads

Goal B: Improve the quality, quantity, and accessibility of recreational resources in Orange for current and future generations.

Objectives:

1. Maintain and improve existing parks, play areas, beaches and sports fields.
2. Develop new parks, playgrounds, and other recreational facilities based on identified community needs.
3. Improve recreational programs for citizens of all ages and abilities.
4. Develop and expand multi-user trail systems that can be accessed from publicly owned land or private lands with trail easements, particularly where they can be tied into existing systems.
5. Support the continued development of the Riverfront Park, which adds needed public access to the Millers River and provides a handicap accessible open space in the downtown area.

6. Continue to support initiatives that enhance the recreational access along the Millers River between Orange and Athol Town Centers.

Goal C. Support the redevelopment and revitalization of downtown Orange by investing in infrastructure improvements and cultural, recreational, and open space assets that will benefit residents and businesses while attracting tourists and new businesses to town.

Objectives:

1. Implement improvements to public spaces and infrastructure in line with the Vision for Downtown Orange.
2. Redevelop vacant and blighted properties in Downtown Orange.
3. Promote the cultivation of arts and culture as a driver for tourism and business development in Downtown.
4. Support existing community festivals and events, such as the Garlic & Arts Festival, Celebrate the Harvest, Town Hall events, and Starry, Starry Night, and the development of new events.
5. Promote initiatives that create greater connection between Downtown and the Orange Innovation Center.
6. Support various non-profits in building the creative and recreation based economy in Orange.
7. Play a key role in developing access to the Lower Millers River which is currently inaccessible to the public.

SECTION 9

SEVEN – YEAR ACTION PLAN

The Seven-Year Action Plan outlines the 2016 Open Space and Recreation Plan Update's objectives. The objectives address both the open space and recreation goals because the quantity and quality of accessible open space relates directly to the availability of recreational opportunities. The objectives are listed in the far left column of Table 9-1 in the same order as they appear in Section 8, and are followed by recommended actions, responsible board or group, start date, and potential funding source. Objectives identified as top priorities at the June 2016 public forum are identified with a check mark in the far right column. By implementing the recommended actions, each objective will begin to be realized.

Sometimes the objective and the action(s) listed are preliminary measures. Many of the objectives will take much time and effort to implement. Enacting these objectives by developing new programs and pursuing the conservation of the Town's resources are new initiatives even though individual boards have been addressing some of these issues separately for years. The difference comes from having a group of volunteers dedicated specifically to enacting the recommendations of the Open Space and Recreation Plan.

Many towns in Franklin County have established official Open Space Committees to implement their OSRPs. An Open Space Committee is typically an official town committee but with an advisory role. However, as is shown in the third column in Table 9-1, the Select Board, Planning Board, Conservation Commission, Board of Health, Department of Public Works, Historical Commission, Historical Society, Airport Commission, Capital Planning Committee, Orange Revitalization Partnership, Riverfront Park Committee, Agricultural Commission, and community and regional non-profit organizations are all necessary participants in the implementation of the Open Space and Recreation Plan.

Table 9-1: Recommended Actions of the Open Space and Recreation Plan

Goal A: Preserve the rural and historic character of Orange, improve air and water quality and natural habitat, and support working farms and forests through the conservation of locally and regionally important natural and cultural resources.					
OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
1. Coordinate with all town boards to ensure that the findings and recommendations of the Orange Open Space and Recreation Plan are reflected in decisions dealing with, or affecting, Orange's natural, recreational, and open space resources.	Appoint an Open Space Committee.	Board of Selectmen	2016	Town Meeting	
2. Prioritize land protection for farmland and large contiguous blocks of forestland, particularly within the following areas: <ul style="list-style-type: none"> farmland in the southeast section of town and along roads in North Orange; unprotected forested parcels north of the Millers River; BioMap2 Core Habitat and Critical Natural Landscape areas; and aquifer recharge areas for the Town's public drinking water sources. 	Identify parcels that are most important to protect.	Open Space Committee	2016	Volunteers	
3. Continue to take advantage of the Town's right-of-first refusal with Chapter 61 parcels and of its right to assign the right to an appropriate third party.	Utilize the prioritized parcel list (see Objective 2 above) to assist in determining when to execute the Town's right-of-first-refusal.	Board of Selectmen, Open Space Committee	Ongoing	Land trusts, State conservation agencies, LAND grant	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
4. Support farmland protection through the Agricultural Preservation Restriction Program and other methods, and through efforts that promote the economic viability of local farms.	Reactivate the Orange Agricultural Commission.	Board of Selectmen, Agricultural Commission	2017	Town Meeting	✓
	Work with land trusts to reach out to farmland owners about land protection options.	Agricultural Commission	2019	Volunteers; AmeriCorps Program	
	Review the Open Space Development (OSD) bylaw to increase protected open space. Identify farmland and prime agricultural soils as priorities for protection.	Planning Board, Town Meeting	2020	DHCD Local Technical Assistance	
	Design and install road signs at the major entrances to town highlighting that Orange is a right-to-farm community.	Agricultural Commission, Department of Public Works	2018	Town funds	
	Continue to support the Orange Farmers Market and other “buy local” efforts that connect residents with local farm products.	Agricultural Commission, Community Development Office	Ongoing	Volunteers, grants	
5. Support the conservation and stewardship of large blocks of interior forest and connecting wildlife corridors through the purchase or donation of conservation restrictions and other methods, and through efforts that build local markets for sustainably-harvested forest products.	Work with land trusts and other organizations to host trainings and information sessions for landowners and the public about forest conservation and stewardship.	Open Space Committee, land trusts	Ongoing	Volunteers, AmeriCorps Program, MA DCR, grants	✓
	Work with land trusts to conduct targeted outreach to forest landowners of priority protection parcels to provide information about land protection options.	Open Space Committee, land trusts	2019	Volunteers, AmeriCorps Program	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
5. Encourage local economic development and support local wood products.	Review the Open Space Development (OSD) bylaw to increase protected open space. Identify forests that contribute to larger blocks of contiguous open space as priorities for protection.	Planning Board, Town Meeting	2020	DHCD Local Technical Assistance	
	Support “buy local” efforts for local wood products and the development of new woodworking businesses, such as the proposed makerspace in the Orange Innovation Center.	Community Development Office, Orange Innovation Center, Greenworks, Inc., North Quabbin Community Coalition	Ongoing	Volunteers, MassDevelopment, grants	
6. For Town-owned parcels of land determine: 1) potential uses and designated manager; 2) a stewardship work plan, if any; and, 3) a means for coordinating open space related issues among Town boards and committees.	Each year, develop a management plan for one town-owned parcel that includes priority volunteer stewardship projects.	All land-managing Boards and the Capital Planning Committee	2016	Forest Stewardship Planning Grant, volunteers	
	Acquire the services of a consultant to develop management plans for Conservation Commission lands with specific goals and timeframes.	Conservation Commission, land trusts	2017	Forest Stewardship Planning Grant, AmeriCorps Program	
7. Support efforts to maintain and improve surface and groundwater quality in Orange.	Support the Millers River Watershed Council (MRWC) water quality monitoring program for the rivers, brooks, streams, lakes, and ponds in Orange.	Open Space Committee, Conservation Commission, Board of Health	Ongoing	Volunteers	✓
	Create and maintain a database on the Town of Orange website of water quality testing data for waterbodies in Orange	Conservation Commission, Board of Health, MRWC, Peak North America LLC.	2018	Volunteers	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
	Integrate Low Impact Development (LID) stormwater management techniques into public projects where practicable.	All boards and committees involved in public infrastructure, building, or land projects	Ongoing	MA DEP s.319 funding, public project grants	
	Integrate LID stormwater management techniques into private development where practicable through revising the Site Plan Review criteria in the Orange Zoning Bylaw.	Planning Board, Town Meeting	2019	MA DEP s.319, DHCD Local Technical Assistance	
	Identify parcels within the aquifer recharge areas of the Town's public drinking water supplies for permanent protection.	Open Space Committee, Water Department, Conservation Commission	2017	DWSP grant program; LAND program	
8. Promote and help protect historically significant landscapes, the National Historic District (NHD) in downtown Orange, the proposed NHD in North Orange, and the Priority Heritage Landscapes identified in the 2008 Orange Reconnaissance Report: <ul style="list-style-type: none"> • North Orange 	Complete or update historical survey forms for all significant properties and other historical resources for inclusion in the Massachusetts Cultural Resource Information System (MACRIS), and create a pamphlet to highlight the most spectacular sites on a map.	Historical Commission, Historical Society, the Orange Revitalization Partnership	2019	Massachusetts Historical Commission Survey and Planning Grants	✓
	Reactivate the Orange Historical Commission	Board of Selectmen	2017	Town Meeting	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
<ul style="list-style-type: none"> • Tully Village • Hunt Farm • Orange Municipal Airport • Chestnut Hill • Downtown industrial areas along the Millers River • Scenic roads 	Complete and submit the application for listing North Orange as a National Register Historic District.	Historical Commission	2018	MHC Survey and Planning Grant	

Goal B: Improve the quality, quantity, and accessibility of recreational resources in Orange for current and future generations.

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
1. Maintain and improve existing parks, beaches, play areas, and sports fields.	Establish a Parks and Recreation Commission to oversee park maintenance and management activities.	Board of Selectmen, Town Meeting	2016	Town, volunteers	✓
	Conduct an inventory of Town-owned recreation facilities and develop a comprehensive park maintenance plan. Coordinate volunteers to assist with certain maintenance needs.	Parks and Recreation Commission, Department of Public Works, Community Development Office, Open Space Committee	2017	DHCD Local Technical Assistance, volunteers, Franklin County Sheriff's Department	
	Complete improvements to Butterfield Park.	Parks and Recreation Commission, Department of Public Works, Community Development Office	2017	PARC grant	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
2. Develop new parks, playgrounds, and other recreational facilities based on identified community needs.	Identify a point person to coordinate the various recreation activities and events at Town parks and facilities.	Parks and Recreation Commission, Department of Public Works, Board of Selectmen	2017	Town	
	Develop a policy for use of Town parks for organized recreation and events, including a fee structure and trash protocol.	Department of Public Works, Board of Selectmen	2018	Town	
	Add one full time or two seasonal part-time positions in the DPW for park maintenance.	Parks and Recreation Commission, Department of Public Works, Select Board, Town Administrator, Human Resource Board	2019	Town	
	Collaborate during the design of all park projects to work towards minimizing long-term maintenance costs.	All Town Boards and Departments	Ongoing	Not Applicable	
2. Develop new parks, playgrounds, and other recreational facilities based on identified community needs.	Develop a joint use agreement between the Town and the public schools to allow the public to use the playgrounds and fields when school is not in session without having to gain permission first.	Board of Selectmen, Parks and Recreation Commission, Orange elementary schools, Ralph C. Mahar Regional School	2017	Not Applicable	
	Consider utilizing the Butterfield School building for indoor recreational programs. Develop a protocol for use of the facilities by different organizations.	Board of Selectmen, Parks and Recreation Commission	2017	Town Meeting	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
3. Improve parks and recreation facilities.	Assess Town-owned properties within the North Main Street, East Main Street, and other neighborhoods, to determine if any could be suitable for small parks. Engage residents in the development of a new park in these neighborhoods.	Parks and Recreation Commission, Community Development Office, Board of Selectmen	2018	PARC grant; CDBG; Volunteers	
	Explore options for a playground in North Orange, including: <ul style="list-style-type: none"> Develop a joint use agreement with the Community Action Headstart program for use of their playground after hours; Develop a new playground on Town-owned land at the Moore-Leland Library. 	Community Development Office, Board of Selectmen	2020	PARC grant; Volunteers	
	Seek funding to move the Highway Department salt shed located on East River Street adjacent to the Millers River, and conduct community outreach to develop a new use for the lot.	Department of Public Works, Board of Selectmen, Community Development Office	2016	MA DEP s.319 funding; LWCF; PARC grant	
3. Improve recreational programs for citizens of all ages and abilities.	Increase recreational programs for teenagers and seniors.	Parks and Recreation Commission, Council on Aging, Orange Recreation Association, North Quabbin Community Coalition	2018	Volunteers, grants	✓

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
	Establish an Orange Parks and Recreation Director to oversee recreational programming in town.	Board of Selectmen, Parks and Recreation Commission, Town Meeting	2020	Town Meeting	
4. Develop and expand multi-user trail systems that can be accessed from publicly owned land or private lands with trail easements, particularly where they can be tied into existing systems.	Explore opportunities to create trails and paths that make connections between neighborhoods, parks and playgrounds, schools, and existing trail networks outside of downtown. Obtain permission from landowners for trails planned to cross privately-owned land.	Open Space Committee, Conservation Commission, Community Development Office, Department of Public Works	2018	Volunteers, DCR Recreational Trails Program, Complete Streets Program	
	Improve trailhead areas and install trail signs, maps, and information kiosks. Develop an Orange Trail Map showing all publicly accessible trails in town.			Volunteers, DCR Recreational Trails Program	
	Create handicap accessible nature trails on Town-owned conservation land.	Conservation Commission, Open Space Committee	2020	Recreational Trails Program, LWCF, Volunteers	
	Adopt a Complete Streets Policy to work towards integrating pedestrian, bicycle, and transit accommodations in roadway projects. Identify priority projects and seek funding for construction.	Department of Public Works, Community Development Office, Select Board, Town Meeting	2016	Complete Streets Program	
	Work with Mass DOT to explore opportunities to improve pedestrian and bicycle access along West Main Street from downtown to the Nature Fit trailhead (see also Goal C, Objective 5).	Department of Public Works, Community Development Office	2016	MassWorks, Complete Streets Program	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
5. Support the continued development of the Riverfront Park, which adds needed public access to the Millers River and provides a handicap accessible open space in the downtown area.	Complete the construction of the docks and gazebo.	Riverfront Park Committee, Community Development Office, Peak North America LLC	2022	PARC grant, Recreational Trails Program, LWCF	
	Pursue additional improvements to the boat ramp to make it fully accessible to people with a range of disabilities.		2017	PARC grant, Recreational Trails Program	
6. Continue to support initiatives that enhance the recreational access along the Millers River between Orange and Athol Town Centers.	Work closely with the Town of Athol to secure funding for the design and development of the Millers River Greenway bike route.	Community Development Office, Department of Public Works, Open Space Committee	Ongoing	Regional Transportation Program (TIP), Recreational Trails Program, Complete Streets Program, LWCF	✓
	Support the development of additional segments to the Millers River Blue Trail.	Millers River Watershed Coalition, Conservation Commission, Community Development Office	Ongoing	Recreational Trails Program, Volunteers	

Goal C: Support the redevelopment and revitalization of downtown Orange by investing in infrastructure improvements and cultural, recreational, and open space assets that will benefit residents and businesses while attracting tourists and new businesses to town.

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	
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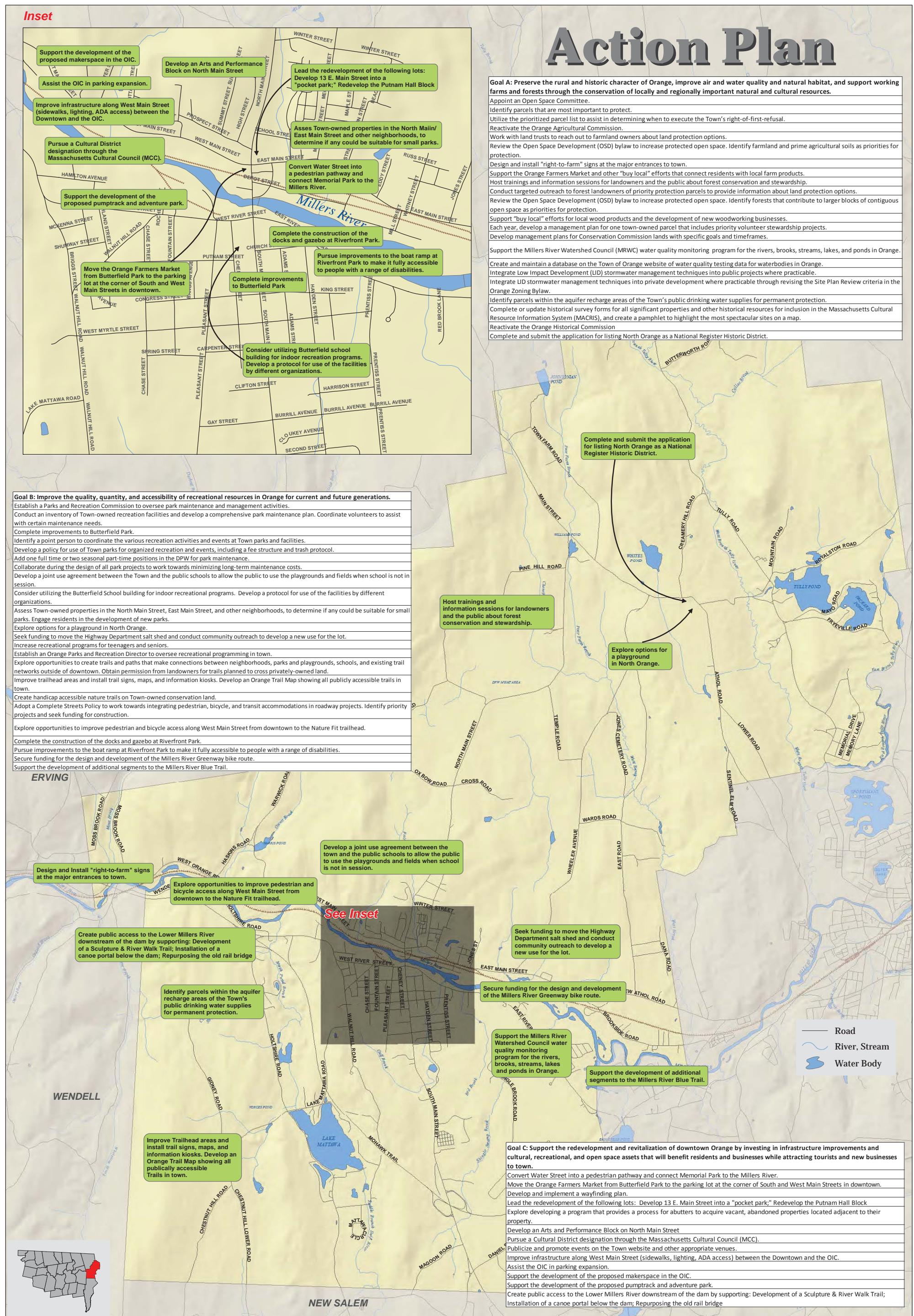
OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
1. Implement improvements to public spaces and infrastructure in line with the Vision for Downtown Orange.	Convert Water Street into a pedestrian pathway and connect Memorial Park to the Millers River.	Community Development Office, Department of Public Works, Board of Selectmen	2016	Complete Streets Program, PARC grant, CDBG, LWCF	✓
	Move the Orange Farmers Market from Butterfield Park to the parking lot at the corner of South and West Main Streets in downtown.	Community Development Office, Farmers Market Association, Board of Selectmen	2017	Not Applicable	
	Develop and implement a wayfinding plan.	Community Development Office, Department of Public Works	2018	MA Downtown Initiative, Complete Streets Program	
2. Redevelop vacant and blighted properties in Downtown Orange.	Lead the redevelopment of the following lots: <ul style="list-style-type: none"> • Develop 13 E. Main St. into a "pocket park" • Redevelop the Putnam Hall lot 	Community Development Office, Orange Revitalization Partnership, Downtown Action Team, Orange Teen Housing, Inc.	2017	PARC grant, CDBG, Volunteers	✓
	Explore developing a program that provides a process for abutters to acquire vacant, abandoned properties located adjacent to their property.	Community Development Office, Assessor's Office	2020	Town	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
3. Promote the cultivation of arts and culture as a driver for tourism and business development in Downtown.	Develop an Arts and Performance Block on North Main Street	Community Development Office, Cultural Council, Orange Revitalization Partnership Downtown Action Team, NQ Chamber of Commerce	2018	Massachusetts Cultural Council	✓
	Pursue a Cultural District designation through the Massachusetts Cultural Council (MCC).	Community Development Office, Cultural Council	2016	Massachusetts Cultural Council	
4. Support existing community festivals and events, such as the Garlic & Arts Festival, Celebrate the Harvest, Town Hall events, and Starry, Starry Night, and the development of new events.	Publicize and promote events on the Town website and other appropriate venues.	Community Development Office	Ongoing	Not Applicable	
5. Promote initiatives that create greater connection between Downtown and the Orange Innovation Center.	Work with Mass DOT to improve infrastructure along West Main Street (sidewalks, lighting, ADA access) between the Downtown and the OIC.	Department of Public Works, Community Development Office, Orange Innovation Center, NQ Chamber of Commerce	2016	MassWorks, Complete Streets Program, Chapter 90	
	Assist the OIC in parking expansion.	Department of Public Works, Community Development Office, Orange Innovation Center, NQ Chamber of Commerce	2016	MassWorks	
6. Support various non-profits in building the creative and recreation based economy in Orange.	Support the development of the proposed makerspace in the OIC.	Community Development Office, Greenworks, Inc, Orange Innovation Center, NQ Chamber of Commerce	2016	MassDevelopment	
	Support the development of the proposed pumprack and adventure park.	Community Development Office, Greenworks, Inc, Orange Innovation Center, NQ Chamber of Commerce	2016	Foundation grants	

OBJECTIVE	ACTION	RESPONSIBLE BOARD/GROUP	START DATE	POTENTIAL FUNDING SOURCE	TOP PRIORITY
7. Play a key role in developing access to the Lower Millers River which is currently inaccessible to the public.	<p>Create public access to the Lower Millers River downstream of the dam by supporting the following:</p> <ul style="list-style-type: none"> • Development of a Sculpture & River Walk Trail • Installation of a canoe portal below the dam • Repurposing the old rail bridge. 	Community Development Office, Greenworks, Inc., Erving Paper Mill	2016	Foundation grants	

Notes: DHCD = Massachusetts Department of Housing and Community Development; DWSP = Drinking Water Supply Protection grant program; LAND = Massachusetts Local Acquisitions for Natural Diversity program; PARC = Massachusetts Parkland Acquisitions and Renovations for Communities Program; CDBG = Community Development Block Grants; DCR = Massachusetts Department of Conservation and Recreation; MHC = Massachusetts Historical Commission; MA DEP = Massachusetts Department of Environmental Protection; LWCF = Land and Water Conservation Fund; OIC = Orange Innovation Center.

Action Plan



Town of Orange Open Space & Recreation Plan 2016

0 0.5 1 2 Miles

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.



Franklin Regional
Council of Governments

SECTION 10

PUBLIC COMMENT

Public feedback was sought during the open space and recreation planning process through the public survey and public forum. In addition the final draft plan was available for review on the Orange Town website.

Public feedback provided during the entire planning process is difficult to document because the plan incorporated changes as the planning process moved forward. Survey results are incorporated into the needs analysis in Section 7 which helped shape the goals, objectives, and actions of the plan. Full survey results are presented in the Appendices. At the June 2016 public forum, participants prioritized the Open Space and Recreation objectives, and the top priorities are identified in the Seven-Year Action Plan.

At the June 2016 forum, the main comment received was the need to better publicize and distribute the Open Space and Recreation Survey for future updates. Specifically, posting the survey on the Town's social media outlets would have reached more residents and could have improved the response rate.

The letters of support provided in the following pages reflect the broad base of support that the 2016 Orange Open Space and Recreation Plan update has received from Town boards and commissions, the regional planning agency, and conservation organizations in the region.



TOWN OF ORANGE
Board of Selectmen
6 Prospect Street
Orange, MA 01364
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www.townoforange.org

July 13, 2016

Alyssa Larose
Land Use Planner
Franklin Regional Council of Governments
12 Olive Street, Suite 2
Greenfield, MA 01301

RE: *2016 Orange Open Space and Recreation Plan*

Dear Ms. Larose:

The Orange Board of Selectmen supports the efforts to create and implement the newly revised 2016 Orange Open Space and Recreation Plan (OSRP). We fully support the substance and intent of the OSRP and will work toward implementation of its specific initiatives and use the general directions presented in it as guidance. When we are confronted with land conservation opportunities and issues, as well as when we make decisions regarding management of existing Town-owned lands, we will consult and reference the Plan.

Thank you so much for the time and effort spent in assisting the Open Space Committee in developing the Plan. We are excited to submit the Plan, carry out the Action Plan and use its concepts and goals as fundamental guidance in planning and conservation to the benefit of the Town of Orange.

Sincerely,


Kathy J. Reinig
Chair, Board of Selectmen

The Town of Orange is an Equal Opportunity Provider

Planning Board

6 Prospect Street
Orange, MA 01364
T: (978) 544-1100, X105



Richard Sheridan,
Chairman

July 12, 2016

Alyssa LaRose
Franklin Regional Council of Governments
12 Olive Street, Suite 2
Greenfield, MA 01301

RE: Update to Open Space and Recreation Plan

The Orange Planning Board met on July 12, 2016 to review and discuss the proposed update to the Orange Open Space and Recreation Plan. The Planning Board is generally in support of the direction that the updated plan is taking the Town and we take all of the individuals that spent the time to do this work.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Sheridan".

Richard Sheridan, Chairman
Orange Planning Board

The Town of Orange is an equal opportunity provider.

ORANGE CONSERVATION COMMISSION

*TOWN HALL, 6 PROSPECT STREET
ORANGE, MA 01364*

July 6, 2016, 2008

Alyssa Larose
Land Use Planner
Franklin Regional Council of Governments
12 Olive Street, Suite 2
Greenfield, MA 01301

RE: *2016 Orange Open Space and Recreation Plan*

Dear Ms. Larose:

The Orange Conservation Commission has received the newly revised draft of the 2016 Orange Open Space and Recreation Plan (OSRP) and has reviewed its contents. The Conservation Commission supports the substance and intent of the OSRP and will work to support the specific initiatives and general directions presented in it. When we are confronted with land conservation opportunities and issues, as well as when we make decisions regarding management of existing Town-owned lands, we will consult and reference the Plan.

The Conservation Commission expresses sincere gratitude for the time and effort spent by FRCOG Planning Staff in assisting the Ad Hoc Open Space Committee in developing the Plan. We fully support the 2016 Orange Open Space and Recreation Plan and will be using its concepts and goals as basic guidance for use in planning and conservation to the benefit of the Town of Orange.

Sincerely,



Alec MacLeod, Chair
Orange Conservation Commission



Franklin Regional Council of Governments

July 6, 2016

Ms. Melissa Cryan
Division of Conservation Services
251 Causeway Street, Suite 600
Boston, MA 02114

Dear Ms. Cryan,

The Franklin Regional Council of Governments is pleased to endorse the work of the Orange Open Space and Recreation Planning Committee. We enthusiastically support their submission of the 2016 Orange Open Space and Recreation Plan (OSRP) to the Massachusetts Division of Conservation Services for final review and approval.

The plan was developed by the Orange Open Space and Recreation Planning Committee with technical assistance from the Franklin Regional Council of Governments Planning Department. It represents over a year and a half of work to build consensus on the most important natural, recreational, and scenic resources in Town and to gather and analyze data in order to update the text, maps, and action plan from the 2008 plan. In addition, the goals, objectives, and actions in the plan reflect the vision and priorities of Orange residents gathered through the public input process for the update. We commend the committee members for their dedication to this project.

The 2016 OSRP will provide Town officials and volunteers with an invaluable resource to help inform decisions regarding land use, recreation, and open space. This plan update, once approved by the State, will make Orange eligible for funding to implement land conservation and recreation projects. In addition, the Town will be better able to collaborate with neighboring towns, local land trusts, the Franklin Regional Council of Governments, and others to work towards revitalization and development that is balanced with the protection of Orange's significant natural, cultural, and recreational resources. We congratulate the members of the Orange Open Space and Recreation Planning Committee for completing this project!

Sincerely,

A handwritten signature in blue ink that reads "Kimberly N. MacPhee".

Kimberly Noake MacPhee
Land Use and Natural Resources Program Manager



[Mt. Grace Land Trust Letter of Support Placeholder]

[Franklin Land Trust Letter of Support Placeholder]



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Matthew A. Beaton
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
<http://www.mass.gov/eea>

September 26, 2016

Alyssa Larose
Franklin Regional Council of Governments
12 Olive Street, Suite 2
Greenfield, MA 01301-3351

Re: Open Space and Recreation Plan

Dear Ms. Larose:

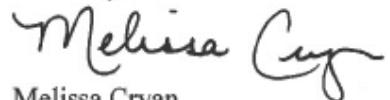
Thank you for submitting the draft Open Space and Recreation Plan for Orange to this office for review and compliance with the current Open Space and Recreation Plan Requirements. This plan was particularly thorough and has been conditionally approved through September 2023. Conditional approval will allow the town to participate in DCS grant rounds through September 2023, and a grant award may be offered to the city. However, no final grant payments will be made until the plan is completed.

When the following issues are addressed, the plan will receive final approval:

1. Population Characteristics – please include information on the population density and the town's Environmental Justice populations.
2. Growth and Development Patterns – the transportation section should include information on cycling and pedestrian options.
3. Fisheries and Wildlife – please add information on wildlife corridors in the town.
4. Environmental Challenges – sections on sedimentation and development must be added.
5. Section 5 – this section should begin with a discussion of why open space protection is so important. The table that lists of town-owned recreation and conservation lands should include columns on ownership, management agency, zoning, and degree of protection. The recreation potential column should list what can be developed at each site. It is insufficient to list "unknown" in the type of grant column. Butterfield Park was not listed as having received a PARC grant in this column. What does "town meeting" mean in the degree of protection column? Also, the APRs in town should be included in this section.
6. ADA – the inventory forms must be completed for all conservation commission properties as well.
7. Maps – the Inventory map should show ownership of the protected open space.

Congratulations on a great draft plan! Please contact me at (617) 626-1171 or melissa.cryan@state.ma.us if you have any questions or concerns, and I look forward to reviewing your final plan.

Sincerely,



Melissa Cryan
Grants Manager



*The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114*

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Matthew A. Beaton
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
<http://www.mass.gov/eea>

November 23, 2016

Alyssa Larose
Franklin Regional Council of Governments
12 Olive Street, Suite 2
Greenfield, MA 01301-3351

Re: Open Space and Recreation Plan

Dear Ms. Larose:

Thank you for submitting Orange's Open Space and Recreation Plan to this office for review for compliance with the current Open Space and Recreation Plan Requirements. I am pleased to write that the plan is approved. This final approval will allow Orange to participate in DCS grant rounds through September 2023.

Congratulations on a great job. Please call me at (617) 626-1171 if you have any questions or concerns about the plan.

Sincerely,

A handwritten signature in cursive script that reads "Melissa Cryan".

Melissa Cryan
Grant Programs Supervisor

SECTION 11

REFERENCES

American Farmland Trust Farmland Information Center. Fact Sheet Cost of Community Service Studies. 2010. http://www.farmlandinfo.org/sites/default/files/COCS_08-2010_1.pdf

American Farmland Trust. *The Economic and Fiscal Contribution of Farm and Open Land in Deerfield, Massachusetts*. September 2009.

Center for Health Law and Policy Innovation. *Massachusetts Joint Use Toolkit*. 2014. Harvard Law School. https://cdn1.sph.harvard.edu/wp-content/uploads/sites/84/2014/03/JUA_Toolkit_FINAL-12-6-13.pdf

Conway School of Landscape Design. *Franklin County Farmland and Foodshed Study*. 2012. www.frcog.org.

Curtis, Chris. "Orange: Bikes, boats, and fun at river." *The Recorder*, December 12, 2014.

Field Geology Services. *Ammonoosuc River Fluvial Erosion Hazard Map for Littleton, NH*. 2010.

Franklin County Commission. The Franklin County Rural Historic Landscape Preservation Plan. 1992.

Franklin County Regional Emergency Planning Committee. *Franklin County Hazardous Material Emergency Plan and Maps*. 2006.

Franklin Regional Council of Governments. *Downtown Orange Market Assessment: A Project to Attract and Keep Businesses in Downtown Orange*. 2013. <http://frcog.org/wp-content/uploads/2014/02/Downton-Orange-Market-Assessment.pdf>

Franklin Regional Council of Governments. *Franklin County Regional Housing Study*. 2014. <http://frcog.org/publication/franklin-county-regional-housing-study-2014/>

Franklin Regional Council of Governments. *Franklin County Regional Transportation Plan*. 2012. <http://frcog.org/program-services/transportation-planning/>

Franklin Regional Council of Governments. *Sustainable Franklin County: Franklin County's Regional Plan for Sustainable Development*. 2013. www.frcog.org

Franklin Regional Council of Governments. *2013 Franklin County Water and Sewer Survey*.
www.frcog.org

Harvard Forest, Harvard University. *Changes to the Land: Four Scenarios for the Future of the Massachusetts Landscape*. Smithsonian Institution, 2014.
<http://harvardforest.fas.harvard.edu/changes-to-the-land>

Hines, S.J.; Daniels, A. *Private Forestland Stewardship*. October 10, 2011. U.S. Department of Agriculture, Forest Service, Climate Change Resource Center.
www.fs.usda.gov/ccrc/topics/forest-stewardship/.

Massachusetts Department of Agricultural Resources. Massachusetts Agricultural Preservation Restriction Program: <http://www.mass.gov/eea/agencies/agr/land-use/agricultural-preservation-restriction-program-apr.html>.

Massachusetts Department of Agricultural Resources. Right to Farm model bylaw.
<http://www.mass.gov/eea/agencies/agr/land-use/right-to-farm-by-law.html>.

Massachusetts Department of Fish and Game and The Nature Conservancy. *BioMap2: Conserving the Biodiversity of Massachusetts in a Changing World*. 2010.
<http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/land-protection-and-management/biomap2/>

Massachusetts Department of Environmental Protection. *Millers River Watershed 2000 Water Quality Assessment Report*. 2004.
<http://www.mass.gov/eea/agencies/massdep/water/watersheds/water-quality-assessments.html>

Massachusetts Department of Environmental Protection. *Final Massachusetts Year 2012 Integrated List of Waters*.

Massachusetts Division of Fisheries and Wildlife. Natural Heritage & Endangered Species Program. <http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/>

Massachusetts Department of Labor and Workforce Development. Labor Force and Unemployment data. <http://www.mass.gov/lwd/economic-data/>

Massachusetts Department of Workforce Development. Employment and Wages (ES-202) data.
<http://www.mass.gov/lwd/economic-data/>

Massachusetts Division of Conservation Services. Landscape Partnership Program.
<http://www.mass.gov/eea/grants-and-tech-assistance/grants-and-loans/dcs/grant-programs/landscape-partnershipprogram.html>

Massachusetts Executive Office of Energy and Environmental Affairs. *Massachusetts Climate Change Adaptation Report*. 2011. <http://www.mass.gov/eea/air-water-climate-change/climate-change/climate-change-adaptation-report.html>

Massachusetts Executive Office of Energy and Environmental Affairs. Massachusetts Smart Growth / Smart Energy Toolkit. http://www.mass.gov/envir/smart_growth_toolkit/

Millers River Watershed Coalition. *MRWC Bacteria Monitoring Program 2013 Report: Millers and Otters Rivers*. January 2014.
<http://millersriverwatershed.files.wordpress.com/2011/11/mrwc-2013-bac-t-report-final.pdf>

Mount Grace Land Conservation Trust. “Partnership: Quabbin to Wachusett Grant Ranks Second in Nation.” <http://www.mountgrace.org/partnership-quabbin-wachusett-grant-ranks-second-nation>

Orange Fire Chief, personal communication, June 2014.

Orange Municipal Airport staff, personal communication, July 2, 2014.

Orange Wastewater Treatment Facility staff, personal communication, June 30 and December 11, 2014.

Orange Water Department Superintendent, personal communication, December 11, 2014.

Smallidge, Peter J. *What is Sustainable Forestry?* NYS Extension Forester, Cornell Forestry Extension Program.

The Nature Conservancy. *Resilient Sites for Terrestrial Conservation in the Northeast and Mid-Atlantic Region*. 2013.
<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx>

Town of Orange Assessor Records, FY2015.

Town of Orange. *Orange Heritage Landscape Reconnaissance Report*. 2008.

Town of Orange. *2014 Multi-Hazard Mitigation Plan*.

Town of Orange Zoning Bylaw. June 30, 2014.

Trust for Public Land. <http://www.tpl.org/our-work/parks-for-people>.

Union Studio and Rustpoint Advisory, LLC. *Downtown Orange Riverfront Revitalization Study: Final Report*. October 2015.
http://www.townoforange.org/sites/orangema/files/uploads/15_0924-dor-final_report-draft.pdf

U.S. Census of Agriculture, 2002, 2007, and 2012. <http://www.agcensus.usda.gov/>

U.S. Census Bureau 2008-2012 American Community Survey Five-Year Estimates.

U.S. Census Bureau Decennial Census of Population, 1990, 2000, 2010.

U.S. Census Bureau poverty thresholds.

<https://www.census.gov/hhes/www/poverty/data/threshld/index.html>.

U.S. Census Bureau annual building permit data, as reported by municipalities.

<http://censtats.census.gov/bldg/bldgprmt.shtml>.

U.S. Department of Agriculture Forest Service. *Diameter Limit Cutting and Silviculture in Northeastern Forests: A Primer for Landowners, Practitioners, and Policy Makers*. 2005.

Verite Healthcare Consulting, LLC, and Community Health Advisors, LLC. *Community Health Needs Assessment*. Prepared for Baystate Franklin Medical Center, 2013.

APPENDIX A

ADA SELF-EVALUATION AND TRANSITION PLAN

Office of the Selectmen

6 Prospect Street
Orange, MA 01364
T: (978) 544-1100, X107



June 3, 2016

Employment Practices

The Town of Orange does not discriminate in its recruitment, hiring, personnel actions, leave administration, training, tests, medical exam requirements, programs, or wage and salary administration. There is one collective bargaining unit representing Town employees.

A handwritten signature in black ink that reads "Kevin Kennedy".

Kevin Kennedy,
ADA Coordinator

Office of the Selectmen

6 Prospect Street
Orange, MA 01364
T: (978) 544-1100, X107



Equal Access to Town Facilities and Activities

The Town of Orange is committed to making its facilities and the activities it offers open to all citizens. Citizens who believe they have been denied access or have complaints or comments regarding accessibility will have their concerns addressed using the following procedure.

1. The ADA Coordinator will be available to meet with citizens and employees during normal business hours (9AM and 4PM, Monday through Thursday) or at other times by appointment.
2. Unless the citizen requests anonymity, the ADA Coordinator will record the complaint, comment or request and include the name, address, and contact information of the person(s) involved. If known, the ADA Coordinator will make a record of the access or relief requested. If the person(s) wish to file a written complaint, comment or request, assistance will be made available to them.
3. Copies of the complaint, comment or request will be shared with the Town Administrator and any relevant staff. A response will be prepared and communicated to the person(s) involved in a format that is appropriate for their communications needs. The response will be completed and communicated in ten (10) working days or less.
4. If the response is unsatisfactory, the citizen(s) will be afforded the opportunity to meet with the Board of Selectmen to resolve the matter.

Town of Orange, MA

ADA Inventory of Public Access Lands

The Town of Orange has five (5) public access lands controlled and maintained by the Department of Public Works: Memorial Park (25 South Main Street), Riverfront Park (25 East River Street), Butterfield Park (95 East River Street), Goddard Park (Main Street) and Lake Mattawa Beach (Lake Mattawa Road).

Memorial Park – 25 South Main Street (*Map 110, Lot 13*)

Memorial Park is 0.6 acres of land, located on South Main Street in the center of downtown Orange and is the home the Peace Statue, WWI and WWII memorial wall. The park is primarily a place of sitting and contemplation. It is located in the center of downtown and is separated by a road from the Millers River to the South and PanAm freight rails to the North. The park is a series of monuments, benches and paths (concrete and brick). There is parking along Depot Street which is directly adjacent to the Park.

Riverfront Park – 25 East River Street (*Map 110, Lot 16*)

Riverfront Park is 0.76 acres of land, located on East River Street along the Millers River in downtown Orange and is home to the Community Boathouse. The Park is a former gas station and DPW garage that has been cleaned up with State funds. Low Impact Development (LID) best practices have been used to clean surface water before it enters the Millers River to the North. The park contains the Community Boat House, concrete boat ramp and paths (concrete and permeable brick).

Butterfield Park – 100 East River Street (*Map 110, Lot 29*)

Butterfield Park is 9 acres of land, located on East River Street near downtown Orange and is home to the Community Bandstand, Ballfield, Restrooms, Grandstand, 3 Tennis Courts and Playground. The primary park in the Town intended for general recreation and events, the Butterfield Park was renovated in 2015. State PARC funds and local funds were used to fix the main ballfield and associated grandstand structure. A new pre-fabricated concrete bathroom structure was installed to provide ADA accessible bathrooms to the park. The existing Bandstand was repaired structurally and brought up to comply with the current building code. A number of pieces of art and wood carvings were added to the park produced by local artists. Plans for Butterfield Park show continued development and expansion (across the street onto the existing salt shed property) to include a walking path, street tree farm and covered pavilion for seasonal basketball and ice hockey. The playground in Butterfield Park has a plan in place to replace much of the existing outdated equipment.

Goddard Park – Main Street (*Map 213, Lot 30*)

Goddard Park is 0.82 acres of land, located on Main Street in rural North Orange. This park is primarily a place of contemplation and socialization. It consists primarily of benches and brick paths and is adjacent to the Community Church of North Orange and Tully.

Lake Mattawa Beach – Lake Mattawa Road

The unsupervised beach at Lake Mattawa is approximately one quarter acre in size. There is parking available that runs right to the sand. There are no barriers to prevent the handicapped from gaining access to the water.

LOCATION

Memorial Park

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓		
Disembarking area at accessible entrance	✓		
Surface evenly paved or hard-packed	✓		
No ponding of water	✓		
Path of Travel			
Path does not require the use of stairs	✓		
Path is stable, firm and slip resistant	✓		
3 ft wide minimum	✓		
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).		✓	PITCH OF ROAD
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane	✓		
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"	✓		
Curb on the pathway must have curb cuts at drives, parking and drop-offs	✓		
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and <i>not</i> be the service entrance	N/A		No structures
Level space extending 5 ft. from the door, interior and exterior of entrance doors	N/A		No structures
Minimum 32" clear width opening (i.e. 36" door with standard hinge)	N/A		
At least 18" clear floor area on latch, pull side of door	N/A		
Door handle no higher than 48" and operable with a closed fist	N/A		
Vestibule is 4 ft plus the width of the door swinging into the space	N/A		
Entrance(s) on a level that makes elevators accessible	N/A		
Door mats less than 1/2" thick are securely fastened	N/A		
Door mats more than 1/2" thick are recessed	N/A		
Grates in path of travel have openings of 1/2" maximum	N/A		
Signs at non-accessible entrance(s) indicate direction to accessible entrance	N/A		
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted	N/A		

NOTES

LOCATION

MEMORIAL PARK

FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface	N/A		No floors
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored	↓		↓
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor	↓		↓
Drinking Fountains			
Spouts no higher than 36" from floor to outlet	N/A		No drinking fountains
Hand operated push button or level controls	↓		
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach	↓		↓
Telephones			
Highest operating part a maximum 54" above the floor	N/A		No telephones
Access within 12" of phone, 30" high by 30" wide	↓		↓
Adjustable volume control on headset so identified	↓		↓
SIGNS, SIGNALS, AND SWITCHES			
Specification			
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach	N/A		No controls
Electrical outlets centered no lower than 18" above the floor	↓		↓
Warning signals must be visual as well as audible	↓		↓
Signs			
Mounting height must be 60" to centerline of the sign	N/A		No signs
Within 18" of door jamb or recessed	↓		
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color	↓		↓

NOTES

LOCATION

RIVERFRONT PARK

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓		
Disembarking area at accessible entrance	✓		
Surface evenly paved or hard-packed	✓		
No ponding of water	✓		
Path of Travel			
Path does not require the use of stairs	✓		
Path is stable, firm and slip resistant	✓		
3 ft wide minimum	✓		
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	✓		
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane	✓		
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"	✓		
Curb on the pathway must have curb cuts at drives, parking and drop-offs	✓		
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and <i>not</i> be the service entrance	✓		ACCESSIBLE ENTRANCE IS IN FRONT OF BOATHOUSE.
Level space extending 5 ft. from the door, interior and exterior of entrance doors	✓		
Minimum 32" clear width opening (i.e. 36" door with standard hinge)	✓		
At least 18" clear floor area on latch, pull side of door	N/A		
Door handle no higher than 48" and operable with a closed fist	N/A		
Vestibule is 4 ft plus the width of the door swinging into the space	✓		
Entrance(s) on a level that makes elevators accessible	N/A		
Door mats less than 1/2" thick are securely fastened	N/A		
Door mats more than 1/2" thick are recessed	N/A		
Grates in path of travel have openings of 1/2" maximum	N/A		
Signs at non-accessible entrance(s) indicate direction to accessible entrance		✓	
Emergency egress - alarms with flashing lights and audible signals, sufficiently lighted		✓	

NOTES

LOCATION EAST MAIN ST (112-39) CON COM LAND

PARKING		Required Accessible Spaces	
Total Spaces		Yes	No
Up to 25	1 space		N/A
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Comments/Transition Notes		
Accessible space located closest to accessible entrance			N/A
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMPS			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			N/A
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION East Main St (112-39) Con Con Land

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			<u>N/A</u>
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			<u>N/A</u>
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than $\frac{1}{2}$ inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			<u>N/A</u>
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than $\frac{1}{2}$ " thick are securely fastened			
Door mats more than $\frac{1}{2}$ " thick are recessed			
Grates in path of travel have openings of $\frac{1}{2}$ " maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION**EAST MAIN ST. (112-39) CON CON LND****STAIRS and DOORS**

Specification	Yes	No	Comments/Transition Notes
Stairs			N/A
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 $\frac{1}{4}$ " and 1 $\frac{1}{2}$ "			
1 $\frac{1}{2}$ " clearance between wall and handrail			
Doors			N/A
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION*East Main St. (112-39) ConCom Land***RESTROOMS** – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			<i>NA</i>
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION *East Main St (112-39) Corr Corr Lnd*

FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specification	Yes	No	Comments/Transition Notes
Floors			<i>N/A</i>
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			

SIGNS, SIGNALS, AND SWITCHES

Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			<i>N/A</i>
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION *East Main St (112-39) ConCo Hwy*

SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			<i>N/A</i>
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			<i>N/A</i>
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION

PICNICKING

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			<i>N/A</i>
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION**ROBIN LANE (117-7.14) Con Con Hand****PARKING**

Total Spaces	Required Accessible Spaces
Up to 25	1 space
26-50	2 spaces
51-75	3 spaces
76-100	4 spaces
101-150	5 spaces
151-200	6 spaces
201-300	7 spaces
301-400	8 spaces
401-500	9 spaces

Specification for Accessible Spaces**Yes****No****Comments/Transition Notes**

Accessible space located closest to accessible entrance

N/A

Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.

N/A

Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle

Van space - minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.

Sign with international symbol of accessibility at each space or pair of spaces

Sign minimum 5 ft, maximum 8 ft to top of sign

Surface evenly paved or hard-packed (no cracks)

Surface slope less than 1:20, 5%

Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present

Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow

RAMPS**Specification****Yes****No****Comments/Transition Notes**

Slope Maximum 1:12

N/A

Minimum width 4 ft between handrails

Handrails on both sides if ramp is longer than 6 ft

Handrails at 34" and 19" from ramp surface

Handrails extend 12" beyond top and bottom

Handgrip oval or round

Handgrip smooth surface

Handgrip diameter between 1 1/4" and 2"

Clearance of 1 1/2" between wall and wall rail

Non-slip surface

Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction

LOCATION*ROBIN LORE (117-7.14) Con Con Lnd***SITE ACCESS, PATH OF TRAVEL, ENTRANCES**

Specification	Yes	No	Comments/Transition Notes
Site Access			<i>N/A</i>
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION

ROBIN LANE (117-714) CONCOURS

STAIRS and DOORS

Specification	Yes	No	Comments/Transition Notes
Stairs			N/A
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION 88 IN LAKE (1F-7.14) CON CON LAKE

RESTROOMS – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			N/A
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION*Robin House (17-714) Con Con Hand***FLOORS, DRINKING FOUNTAINS, TELEPHONES**

Specification	Yes	No	Comments/Transition Notes
Floors			<i>N/A</i>
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			<i>N/A</i>
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION**Robin Lane (117-714) Condo Land****SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area**

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use**

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			N/A
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING****Specification**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			N/A
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION Savitt Main St (129-B) Con Con Inv#7

PARKING

Total Spaces	Required Accessible Spaces	
Up to 25	1 space	N/A
26-50	2 spaces	
51-75	3 spaces	
76-100	4 spaces	
101-150	5 spaces	
151-200	6 spaces	
201-300	7 spaces	
301-400	8 spaces	
401-500	9 spaces	
<i>Specification for Accessible Spaces</i>	Yes	No
Accessible space located closest to accessible entrance		
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.		
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.		
Sign with international symbol of accessibility at each space or pair of spaces		
Sign minimum 5 ft, maximum 8 ft to top of sign		
Surface evenly paved or hard-packed (no cracks)		
Surface slope less than 1:20, 5%		
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present		
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow		

RAMPS

Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			N/A
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

Soufia Moon Sr (129-B) Con Con Land

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			N/A
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than $\frac{1}{2}$ inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than $\frac{1}{2}$ " thick are securely fastened			
Door mats more than $\frac{1}{2}$ " thick are recessed			
Grates in path of travel have openings of $\frac{1}{2}$ " maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION*500 Main St (129-13) Con Con Law***STAIRS and DOORS**

Specification	Yes	No	Comments/Transition Notes
Stairs			<i>NY</i>
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			<i>↓</i>

NOTES

LOCATION

Stone Man Sr. (129-B) on Com Land

RESTROOMS – also see **Doors and Vestibules**

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			<i>N/A</i>
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			<i>✓</i>

NOTES

LOCATION**South Main St (129-13) Con Con Lnd****FLOORS, DRINKING FOUNTAINS, TELEPHONES**

Specification	Yes	No	Comments/Transition Notes
Floors			<i>N/A</i>
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			<i>N/A</i>
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION*Santo Moon Sr. (129-13) Con Con Hand***SWIMMING POOLS** - accessibility can be via ramp, lifting device, or transfer area

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS** - Showers must accommodate both wheel-in and transfer use

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			N/A
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			N/A
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

**LOCATION
PARKING**

FAIRMONT RD (133-20) CON CON LAND

Total Spaces	Required Accessible Spaces	
Up to 25	1 space	N/A
26-50	2 spaces	
51-75	3 spaces	
76-100	4 spaces	
101-150	5 spaces	
151-200	6 spaces	
201-300	7 spaces	
301-400	8 spaces	
401-500	9 spaces	
Specification for Accessible Spaces	Yes	No
Accessible space located closest to accessible entrance		
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.		
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.		
Sign with international symbol of accessibility at each space or pair of spaces		
Sign minimum 5 ft, maximum 8 ft to top of sign		
Surface evenly paved or hard-packed (no cracks)		
Surface slope less than 1:20, 5%		
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present		
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow		
RAMPS	Comments/Transition Notes	
Specification	Yes	No
Slope Maximum 1:12		N/A
Minimum width 4 ft between handrails		
Handrails on both sides if ramp is longer than 6 ft		
Handrails at 34" and 19" from ramp surface		
Handrails extend 12" beyond top and bottom		
Handgrip oval or round		
Handgrip smooth surface		
Handgrip diameter between 1 1/4" and 2"		
Clearance of 1 1/2" between wall and wall rail		
Non-slip surface		
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction		

LOCATION*Fairmont Rd (133-20) CONCERN***SITE ACCESS, PATH OF TRAVEL, ENTRANCES**

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			<i>N/A</i>
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/8 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION

FIRMAMENT FID (193-20) CON COM LANE

STAIRS and DOORS

Specification	Yes	No	Comments/Transition Notes
Stairs			N/A
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION *FORMAN RD (B3-20) CON CON LAND*

RESTROOMS – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			<i>N/A</i>
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			<i>V</i>

NOTES

LOCATION *Fairman Rd (133-20) Con Con Land*

FLOORS, DRINKING FOUNTAINS, TELEPHONES			
Specification	Yes	No	Comments/Transition Notes
Floors			<i>N/A</i>
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			<i>N/A</i>
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION Fairman Rd (133-2a) Con Con Land

SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			N/A
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION

PICNICKING

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			N/A
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION*OBOS Rd (229-1) ConCom Land***PARKING**

Total Spaces	Required Accessible Spaces
Up to 25	1 space
26-50	2 spaces
51-75	3 spaces
76-100	4 spaces
101-150	5 spaces
151-200	6 spaces
201-300	7 spaces
301-400	8 spaces
401-500	9 spaces

*N/A***Specification for Accessible Spaces****Yes****No****Comments/Transition Notes**

Accessible space located closest to accessible entrance

N/A

Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.

Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle

Van space - minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.

Sign with international symbol of accessibility at each space or pair of spaces

Sign minimum 5 ft, maximum 8 ft to top of sign

Surface evenly paved or hard-packed (no cracks)

Surface slope less than 1:20, 5%

Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present

Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow

RAMPS**Specification****Yes****No****Comments/Transition Notes**

Slope Maximum 1:12

N/A

Minimum width 4 ft between handrails

Handrails on both sides if ramp is longer than 6 ft

Handrails at 34" and 19" from ramp surface

Handrails extend 12" beyond top and bottom

Handgrip oval or round

Handgrip smooth surface

Handgrip diameter between 1 1/4" and 2"

Clearance of 1 1/2" between wall and wall rail

Non-slip surface

Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction

LOCATION*OBOUT 80 (229-1) CONCRETE LAND***SITE ACCESS, PATH OF TRAVEL, ENTRANCES**

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			<i>N/A</i>
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than $\frac{1}{2}$ inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than $\frac{1}{2}$ " thick are securely fastened			
Door mats more than $\frac{1}{2}$ " thick are recessed			
Grates in path of travel have openings of $\frac{1}{2}$ " maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION**Oxbow Rd (229-1) Con Con Land****STAIRS and DOORS**

Specification	Yes	No	Comments/Transition Notes
Stairs			N/p
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION Oxbow Rd (229-11) ConCom Land

RESTROOMS – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			<u>N/A</u>
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION**Oxbow Rd (229-1) Con Con Land****FLOORS, DRINKING FOUNTAINS, TELEPHONES**

Specification	Yes	No	Comments/Transition Notes
Floors			N/A
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			↓
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			N/A
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			↓

NOTES

LOCATION*Oxbow Rd (229-1) ConCom Land***SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area**

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			<i>N/A</i>
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use**

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			<i>N/A</i>
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING****Specification**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			<i>N/A</i>
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION
PARKING

LAKE MATTAWA RD (239-2) CON CON LAND

Total Spaces	Required Accessible Spaces
Up to 25	1 space
26-50	2 spaces
51-75	3 spaces
76-100	4 spaces
101-150	5 spaces
151-200	6 spaces
201-300	7 spaces
301-400	8 spaces
401-500	9 spaces

Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			N/A
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			

Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			N/A
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

1/2 E MATTAWA RD. (239-2) CONCRETE

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			N/A
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/8 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress - alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION
STAIRS and DOORS

Linee Matthews Rd (239-2) ConCom Lanes

Specification	Yes	No	Comments/Transition Notes
Stairs			<i>N/A</i>
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 $\frac{1}{4}$ " and 1 $\frac{1}{2}$ "			
1 $\frac{1}{2}$ " clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum $\frac{1}{2}$ " high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION LOVE MASTERS RD. (239-2) CON CON 1000

RESTROOMS - also see Doors and Vestibules			
Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			N/A
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			✓

NOTES

LOCATION

Lake Martin Rd (239-2) Con Con Land

FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			

SIGNS, SIGNALS, AND SWITCHES

Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION**Lake MERRAWA Road (239-2) ConCem Land****SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area**

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use**

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			N/A
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			N/A
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION
PARKING

Holtsville Rd (2d9-2) Con Con Land

Total Spaces	Required Accessible Spaces		
Up to 25	1 space		N/A
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			N/A
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMPS	Yes	No	Comments/Transition Notes
Specification			
Slope Maximum 1:12			
Minimum width 4 ft between handrails			N/A
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

Holtsville Rd (249-2) ConCom Land

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			N/A
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress -- alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION**Holtsmire Rd (249-2) ConCon Lndz****STAIRS and DOORS**

Specification	Yes	No	Comments/Transition Notes
Stairs			N/A
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

HOLTSVILLE FD (249-2) CONCERN LANE

RESTROOMS - also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			1/2
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION**HOLTSBERRY RD (249-2) CONCOM LAND****FLOORS, DRINKING FOUNTAINS, TELEPHONES**

Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			N/A
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			N/A
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION*Holston Cr. (219-2) ConCom Lanes***SWIMMING POOLS** - accessibility can be via ramp, lifting device, or transfer area

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			<i>N/A</i>
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS** - Showers must accommodate both wheel-in and transfer use

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			<i>N/A</i>
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			<i>N/A</i>
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

LOCATION
PARKING

West Orange Rd (BB-BBK) Con Con Land

Total Spaces	Required Accessible Spaces
Up to 25	1 space
26-50	2 spaces
51-75	3 spaces
76-100	4 spaces
101-150	5 spaces
151-200	6 spaces
201-300	7 spaces
301-400	8 spaces
401-500	9 spaces
Specification for Accessible Spaces	Comments/Transition Notes
Accessible space located closest to accessible entrance	
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.	
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle	
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.	
Sign with international symbol of accessibility at each space or pair of spaces	
Sign minimum 5 ft, maximum 8 ft to top of sign	
Surface evenly paved or hard-packed (no cracks)	
Surface slope less than 1:20, 5%	
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present	
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow	
RAMPS	
Specification	Comments/Transition Notes
Slope Maximum 1:12	
Minimum width 4 ft between handrails	
Handrails on both sides if ramp is longer than 6 ft	
Handrails at 34" and 19" from ramp surface	
Handrails extend 12" beyond top and bottom	
Handgrip oval or round	
Handgrip smooth surface	
Handgrip diameter between 1 1/4" and 2"	
Clearance of 1 1/2" between wall and wall rail	
Non-slip surface	
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction	

LOCATION

West Orange Rd (888-8844) ConCo Lmt

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			NA
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress - alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION**WEST Orange Rd (838-88 KI) Con Con Land****STAIRS and DOORS**

Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

West Orange Rd. (888-BEKK) ConCom Land

RESTROOMS - also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			N/R
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION

West Orange Rd. (888-8844) ConCom Land

FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			N/A
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			

SIGNS, SIGNALS, AND SWITCHES

Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			N/A
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION

West Orange Road (888-6341) ConCom Land

SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area

Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION**SHOWER ROOMS** - Showers must accommodate both wheel-in and transfer use

Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			N/A
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handheld features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION**PICNICKING****Specification**

Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			N/A
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			

Town of Orange ADA Transition Plan

Due to the current fiscal situation within the State and local governments, it has become increasingly difficult to fund the improvements that are necessary to comply with the ADA requirements. However, the Town of Orange will move towards correcting these issues as funding becomes available. In the meantime, municipal staff will make accommodations upon request in order to facilitate services and programs to ensure accessibility to all citizens.

Memorial Park

1) Identify a handicap parking area that is not on a slope providing better access to the park. This Park may be expanded in the future and Water Street may become a pedestrian path. With this new orientation and work, better accessible will be looked at.

Date to be Completed – Spring 2018 Champion – Board of Selectmen, Public Works

Riverfront Park

- 1) Access to the side entrance of the Community Boathouse needs to be looked at closely. Right now the accessible entrance is the front door. Most able-bodied individuals use the side entrance.

Date to be Completed – Spring 2020 Champion – Boathouse Lessee

2) The bathrooms in the Community Boathouse need the full complement of grab bars.

Date to be Completed – Spring 2017 Champion – Boathouse Lessee

Butterfield Park

1) The developments of walking paths and picnic areas in Butterfield Park are future projects. Developing the path and picnic facilities need to be done with handicap accessibility in mind.

Date to be Completed – Spring 2019 Champion – Community Development, DPW

2) The redevelopment of the existing playground is a high priority and needs to be done with full inclusion and options provided for a range of abilities.

Date to be Completed – Fall 2017 Champion – Community Development, DPW

APPENDIX B

2015 OPEN SPACE AND RECREATION SURVEY RESULTS

2015 ORANGE OPEN SPACE AND RECREATION PLAN SURVEY

An Open Space and Recreation Plan contains conservation and recreation goals for the town. It includes an inventory of cultural, natural, and recreational resources, identifies open space and recreation needs, and outlines a seven-year action plan with specific recommendations. Public input is vital to creating a plan that reflects the needs and goals of Orange residents.

The last Orange Open Space and Recreation Plan was completed in 2008 and has recently expired. Having an up-to-date plan enables the town to apply for state grants for land conservation and recreation facility improvements. For example, the development of Riverfront Park and the improvements to Butterfield Park are projects that were made possible through grants that require an up-to-date plan. The plan also outlines strategies for the Town to work with private landowners, businesses, and organizations to accomplish open space and recreation goals.

Please help us update the plan by filling out this survey!

1. What do you like most about living in Orange? (Choose up to THREE)

- Rural, small town character
- Active agricultural community and access to local food
- Outdoor recreation opportunities
- Community and cultural events
- Access to transportation and social services
- Cost of housing
- Public schools
- Other: _____

2. Since the last Open Space and Recreation Plan (2008), over 2,000 acres of land have been permanently protected from development in Orange. Moving forward, what should be the OPEN SPACE protection priorities for Orange? (Choose up to THREE priorities)

- Farmland protection for active agriculture
- Forestland protection for sustainable forestry
- More land protection surrounding our public water supplies
- Land protection for passive recreation such as hiking
- Land protection for wildlife habitat and other natural resources
- I think we have enough protected land
- I'm not sure
- Other: _____

3. In the last Orange Open Space and Recreation Plan (2008), completion of the Riverfront Park and boat house was identified as a top priority. What should be the Town's next top RECREATION priorities? (Choose up to FIVE priorities)

- Continue development of riverfront recreation opportunities in downtown
- Make Orange more bike-friendly, such as through the creation of a bicycle route between downtown Orange and downtown Athol
- Rebuild the skate park
- Make Orange more pedestrian-friendly through improvements to sidewalks and existing public spaces in downtown
- Create small parks, playgrounds, and community gardens on vacant lots in downtown
- Develop more trails for passive recreation such as hiking, cross-country skiing, and horseback riding
- Develop more trails for motorized recreation such as snowmobiling and ATVs
- Add more recreational programs for kids and teenagers
- Add more recreational programs for adults
- Other: _____

4. The Town is considering offering the former Putnam Hall lot in downtown Orange to a private developer. What would you like to see this lot become? (Choose ONE)

- A new building with shops/restaurants
- A new building with apartments/condos
- A new building with a mix of shops/restaurants and residences
- Open space, such as a public gathering place
- Other: _____

5. Which of the following recreational and open space areas in Orange do you or your family use? (Choose all that apply)

- Butterfield Park
- Butterfield School Playground
- Dexter Street and Fisher Hill Fields and Playground
- Goddard Park (by church in North Orange)
- Bicentennial Park (Holtshire Road)
- Lake Mattawa beach
- Lake Rohunta Boat Ramp
- Mahar Regional High School fields
- Memorial Park
- Millers River Blue Trail (section of Millers River between downtown Orange and downtown Athol)
- Muzzey Little League Field
- Red Brook Boat Ramp (East River Street)
- Riverfront Park and Boathouse
- Sidewalks
- State Forests and Wildlife Management Areas
- Trails
- Other: _____

6. Where would you like new housing in Orange to go? (Choose all that apply)

- In rural areas such as North Orange and Tully where new housing is consistent with the rural character
- In lakeside communities (conversion of camps to year-round residences)
- In the upper floors of existing buildings downtown
- Remove abandoned, sub-standard housing in downtown and split the property among abutters (no new housing created)
- On vacant lots in downtown and surrounding neighborhoods
- I don't support new housing development anywhere in Orange
- Other: _____

7. Do you have any other ideas or suggestions about open space or recreation in Orange?

8. How old are you?

- 19 or younger
- 20 – 29
- 30 – 44
- 45 – 64
- 65 and older

9. How long have you lived in Orange?

- Less than 5 years
- 5 – 10 years
- 10 – 20 years
- More than 20 years

10. Where in Orange do you live?

- Downtown
- North Orange
- Tully area
- Lake Mattawa area
- Chestnut Hill
- West Orange
- South Orange
- Other: _____

11. How much property do you own in Orange?

- None
- Less than $\frac{1}{2}$ an acre
- $\frac{1}{2}$ acre – 2 acres
- 2 – 10 acres
- More than 10 acres

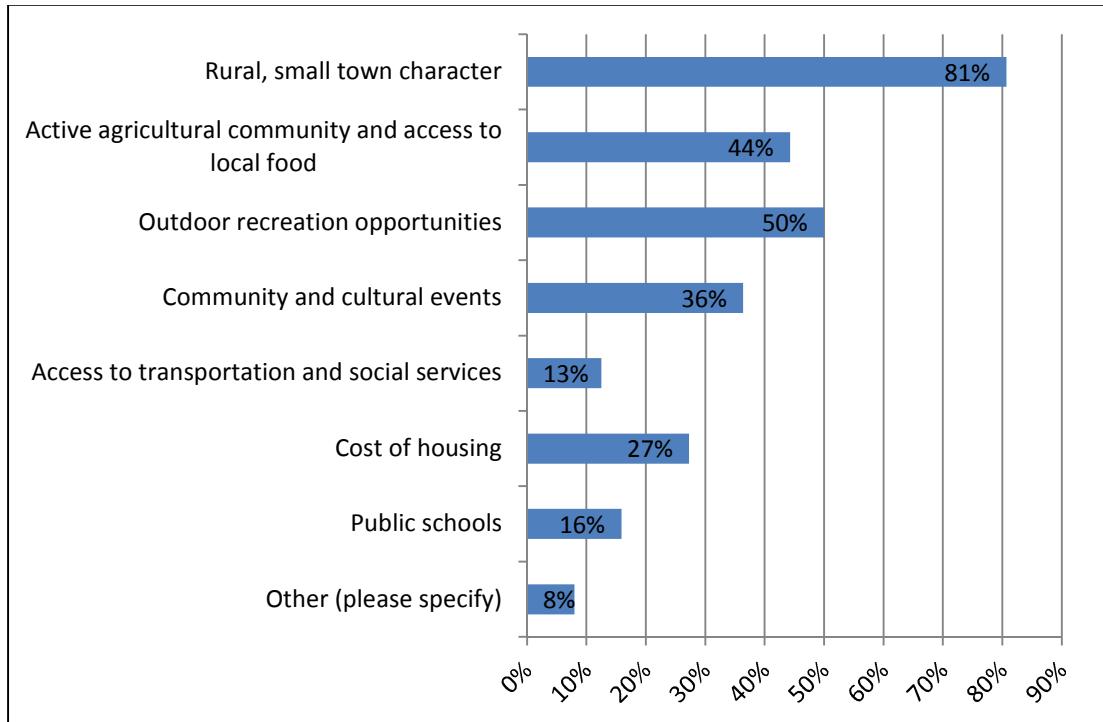
2015 Orange Open Space and Recreation Survey Results

Total survey respondents: 88

Question 1: What do you like most about living in Orange? (Choose up to THREE)

Answered question: 88

Skipped question: 0



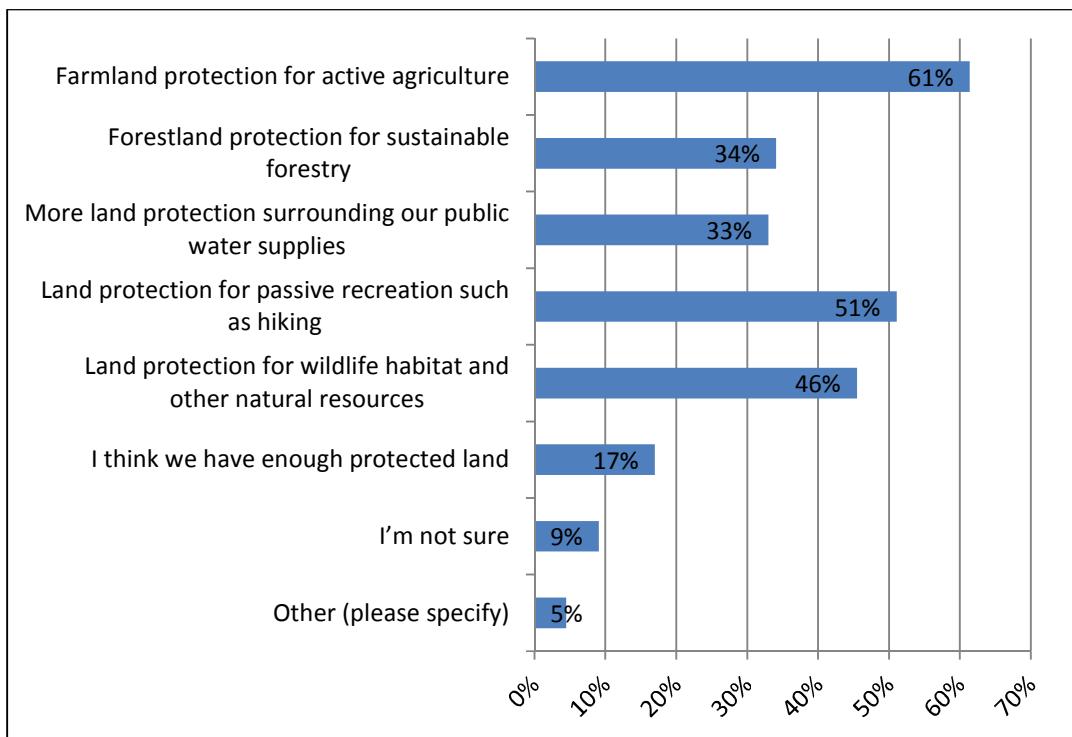
Other:

- Nice library
- The size of town is manageable for projects = The do it yourself spirit is strong and problems and challenges can be solved with some investment.
- I like the small library we have and the friendly people who work there.
- Two libraries - they are an important resource for the community culturally, entertainment wise. They should be expanded (esp. the Wheeler) and have central air to make them more user friendly in summer
- clean water, air, nature
- close to job
- walkable town center with friendly people

Question 2: Since the last Open Space and Recreation Plan (2008), over 2,000 acres of land have been permanently protected from development in Orange. Moving forward, what should be the OPEN SPACE protection priorities for Orange? (Choose up to THREE priorities)

Answered question: 88

Skipped question: 0



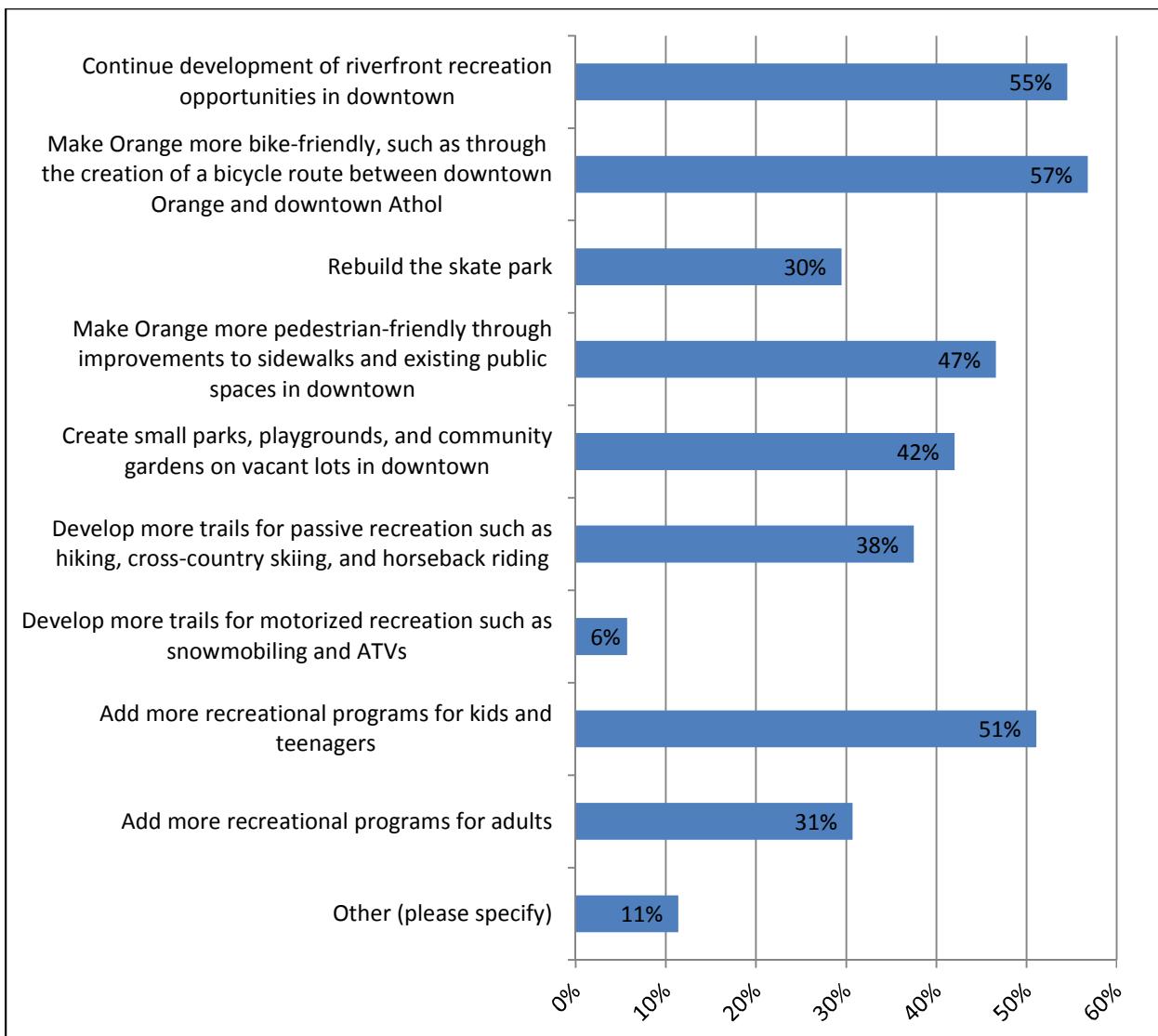
Other:

- Continuous habitat corridors
- Land protection for hunting and fishing
- insure public access to existing chapter land. insure proper taxation on all land
- churches

Question 3: In the last Orange Open Space and Recreation Plan (2008), completion of the Riverfront Park and boat house was identified as a top priority. What should be the Town's next top RECREATION priorities? (Choose up to FIVE priorities)

Answered question: 88

Skipped question: 0



Other:

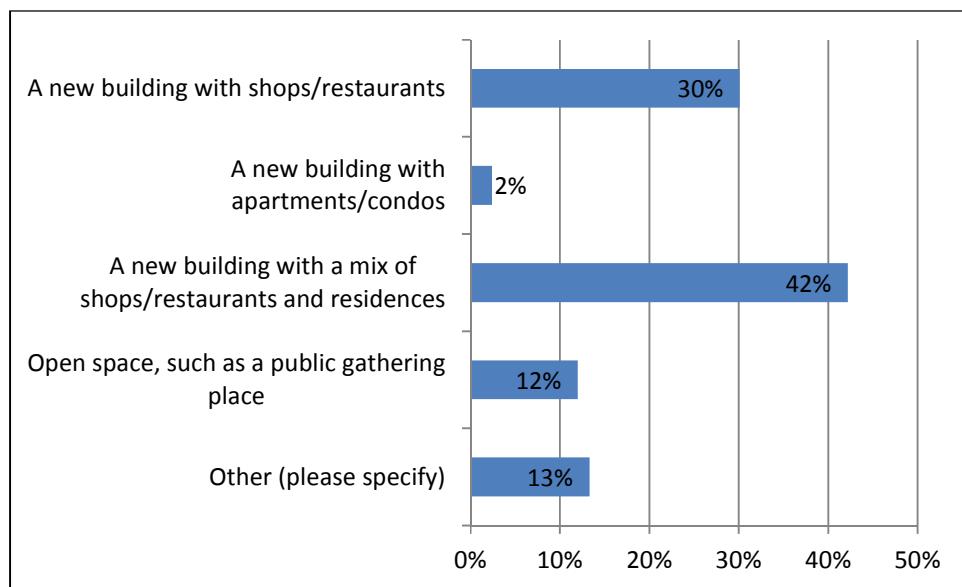
- Finish what was started Butterfield Park
- Let's complete what was started - Butterfield Park
- A scenic foot and bicycle bridge across the Millers River
- A new, modern, safer playground at Butterfield Park, designed for younger age children!
- improve access and options at Mattawa - point, south beach

- Develop Butterfield School into the Butterfield~ORA Community Center for recreation/entertainment and town facilities.
- Finishing the Butterfield Park renovations, mainly the sidewalk!
- add more recreational programs for the whole community.
- Would love to see this be a " walk about town" like Shelburne Falls.
- We have plenty of and very nice parks just the way they are!

Question 4: The Town is considering offering the former Putnam Hall lot in downtown Orange to a private developer. To help guide the Town in this process, what would you like to see this lot become? (Choose ONE)

Answered question: 83

Skipped question: 5



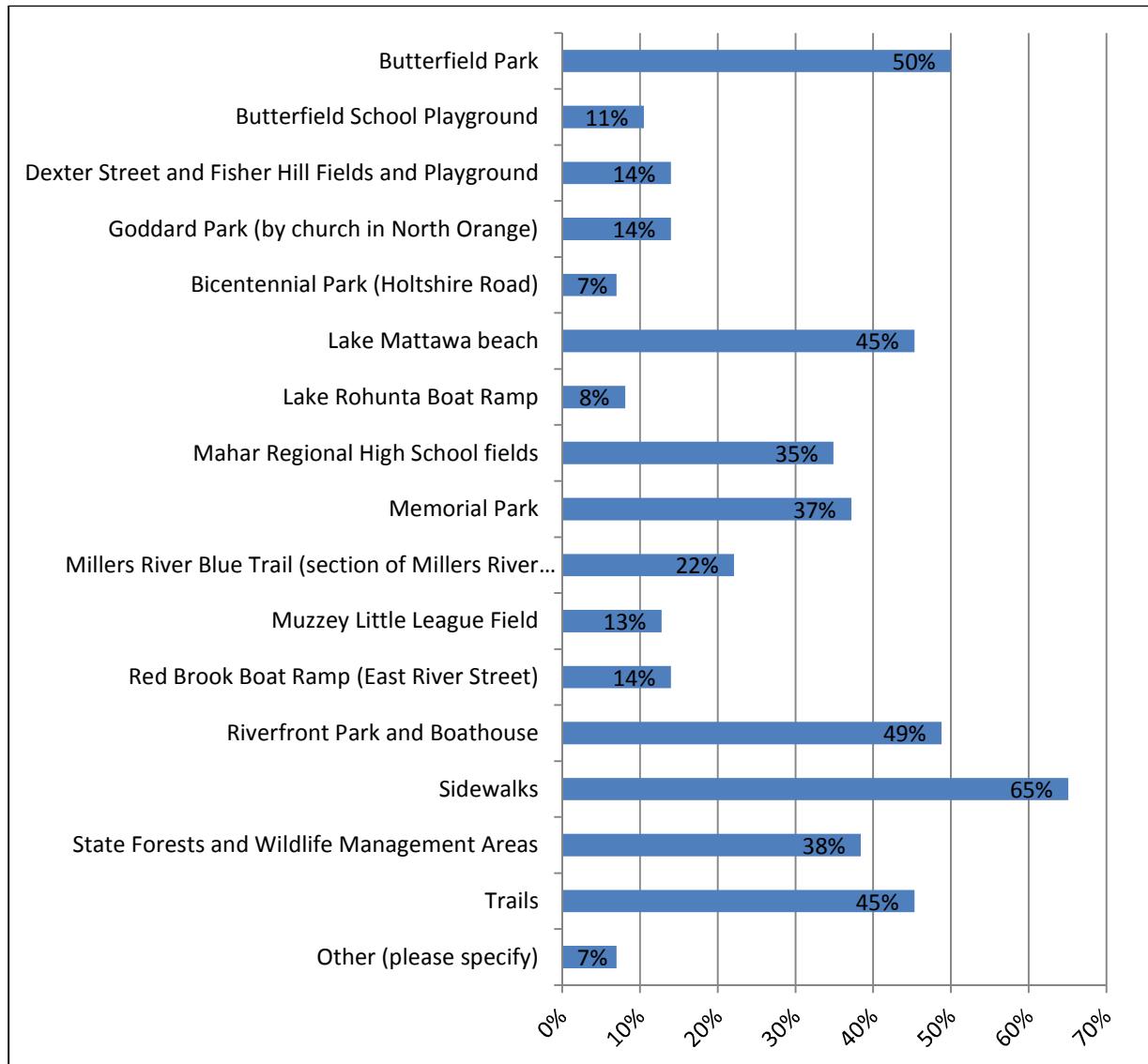
Other:

- Fix up some of the disaster areas - East River St (Ex)
- Community garden
- Community garden
- An outdoor performance space with covered stage and seating and call it "Putnam Hall"
- Make a nice grassy and trees open space with benches
- A true open space with grass, trees, benches
- Not sure
- As long as the town is compensated for the lot,whatever the developer deems profitable.
- Combination Parking (with Access from West Main) & Gathering Area.
- MOVIE THEATER
- Parking

Question 5: Which of the following recreational and open space areas in Orange do you or your family use? (Choose all that apply)

Answered question: 86

Skipped question: 2



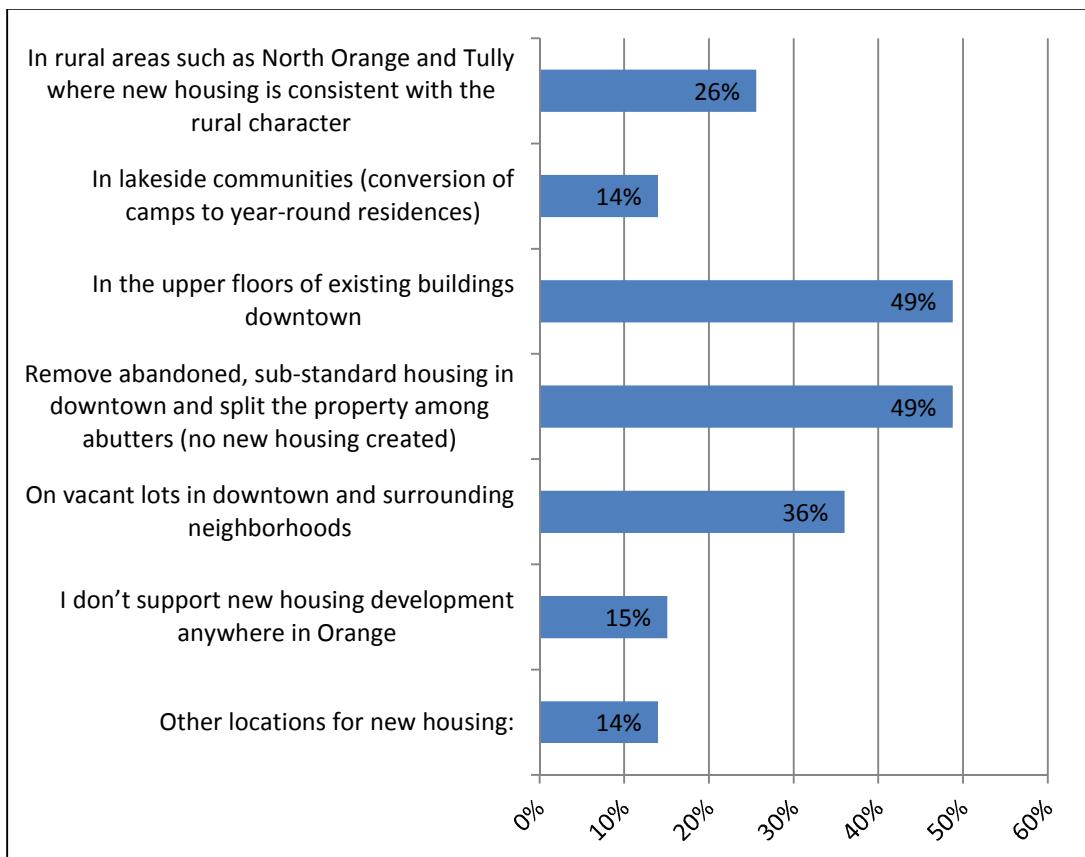
Other:

- I like to walk. Let's keep our sidewalks clean and sanded well in winter
- Farmers Market (Butterfield Park)
- Chapter Land?
- I would love to see some Solar lighting at teh Boat ramp on East River st.
- Lake Matawa boat ramp
- events only

Question 6: Where would you like new housing in Orange to go? (Choose all that apply)

Answered question: 86

Skipped question: 2



Other:

- We need to clean up a lot of areas
- Need to take care of all the abandoned houses
- Rehabilitate existing housing stock
- I think the old Butterfield School would be good for apartments
- Vacant houses should be rehabbed. How that is done, good question
- Market housing only - we are too dense on low income
- where ever people want live.
- apartment/elderly housing in the old building on opposite corner from post office .
- REMOVE ABANDONED HOUSES AND REBUILD
- I would love to see condo type of housing by teh Riverfront in the old brick buildings and maybe some Artisan lofts...
- areas near Lake Mattawa
- renovate existing but downfalen property

Question 7: Do you have any other ideas or suggestions about open space or recreation in Orange?

Answered question: 29

Skipped question: 59

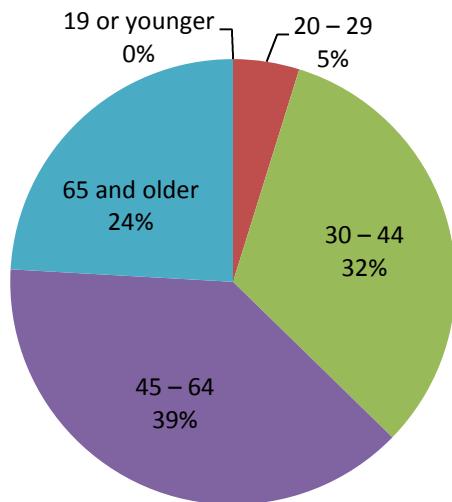
- Why is the top of the hill in the park all torn up and not completed
- Need to finish what was started - Butterfield Park
- Art and cultural development, sculpture - trails thru the downtown
- Let's keep downtown clean and beautify it. Get rid of the old Carroll's Building downtown and clean these spaces up.
- "If you can't do it right, don't do it at all." "Finish what you start." Old traditional values that are right on. FINISH BUTTERFIELD PARK FIRST. Finish the sundial on top of the hill. Finish the parking lot. Finish the rock light post in centerfield.
- No
- We need a master plan for space (including Chapter Land) and then a staff person to lead programming and the master plan.
- I would like to see further redevelopment along north and south waterfronts of the Millers River. I believe that the River Front Park is a welcome development and should be expanded into the vacant industrial lot across the street. I would also support redevelopment of the mill properties west of the S Main Bridge into either open space or mixed use (galleries, restaurants, light industrial). Until Orange can make necessary improvements to downtown (including enforcement of current zoning and health ordinances) it seems unlikely that outside investment will be forthcoming in any significant way. I would like to see the town make an improved effort to attract small entrepreneurs to the downtown and surrounding areas. The opening of the Quabbin Valley Market, Honest Weight, Trail Head, Peak, etc. make me hopeful that the trend has begun and that more creative people will find Orange to be an affordable, attractive place to live with some of the amenities that it so sorely lacked just a few years ago. I would also like to see further collaborations between the Community Development Office and entrepreneurs to redevelop downtown with the Boat House as a precedent and model for further projects between the town and entrepreneurs, artisans, farmers, etc.
- Work in conjunction with the Orange Recreation Association to maintain the current programs, encouraging new programs to serve the entire populace.
- none
- Small, enclosed, picturesque parks attractive to parents with small children. Incorporate themes to parks such as old historic village mini-buildings or replicas of Grout autos (early steam and gas cars manufactured in Orange). Market Orange as town of small parks.
- More trails that will attract people to hike in town
- The sidewalks in Orange really need to be repaired, and consistently maintained. I feel as though Downtown needs more trash bins, especially up North Main Street, in-front of Town Hall, and the Town Hall parking lot.
- Keep protected areas.
- Outdoor volleyball court,

- Look at what research shows attracts people into a community, both for short term use (tourism) and long term use (new families and young people who will live here). Is it better to have a little bit of everything or to focus in one area, such as hiking or developing bike trails?
- Use open spaces in downtown orange as an opportunity to further grow the town economically with business. View outside large chain businesses as a huge benefit to the community. Focus on relocating house and new low end housing further from downtown.
- Would like to see the Putnam Building Lot leveled to meet the neighboring parking lot, and joined to it.(Perhaps with a short walking bridge if necessary). Paving would allow for great maneuverability and areas could be cordoned off for downtown events. While some folks think there is plenty of parking, CONVENIENT Parking isn't plentiful. Parking along the street can be risky when traffic is heavy. It may be prudent to remove the street parking spaces on the west side of south main in front of the municipal lot. This, along with keeping the crosswalks and street parking lines painted will make visits to the downtown easier and less frustrating.
- "Drive- in movie theatre..
- Restaurants...
- Stores... Chains"
- I would love to see a park with gardens in the lot at the corner of East River and South Main
- "Finish one project before starting another one.
- Also form committees to look into things before just jumping in blindly."
- I love the idea of a Walk about town, I love the Chain Saw Carvings that could become our towns symbols for such a creative town.. They should be on every street corner...
- We do not need any more parks or recreation! This is little old Orange; not a big city. If it ain't broke, don't fix it!
- We already have a community garden on orange, it's near exit 14 rt2. I don't want to see a skate park if the kids won't step up and be involved.
- when I say no new housing development I mean none now - goal should be business and opportunity development as well as renovation of existing property first before new development is prioritized
- Improve current playground areas and find a location for and build a playground in the North Orange and Tully area.
- In addition to the great ideas mentioned above to develop and use existing open space, just need to remember that we also need to upkeep the recent projects that have been so great for the town such as the Riverfront park and Butterfield park.
- At the risk of being stoned out of town I feel the air port is a terrible waste of open space. I aware of federal regs. etc.but, the enormous area of flat cleared land could benefit a much larger number of citizens if it could used as an area for housing and small business. I believe the numbers published for it's usage are very inflated.
- There needs to be better signage and maps available so people can utilize it

Question 8: How old are you?

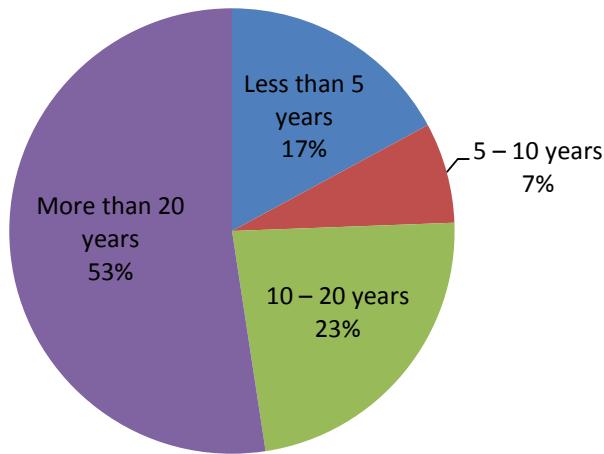
Answered question: 83

Skipped question: 5

**Question 9: How long have you lived in Orange?**

Answered question: 82

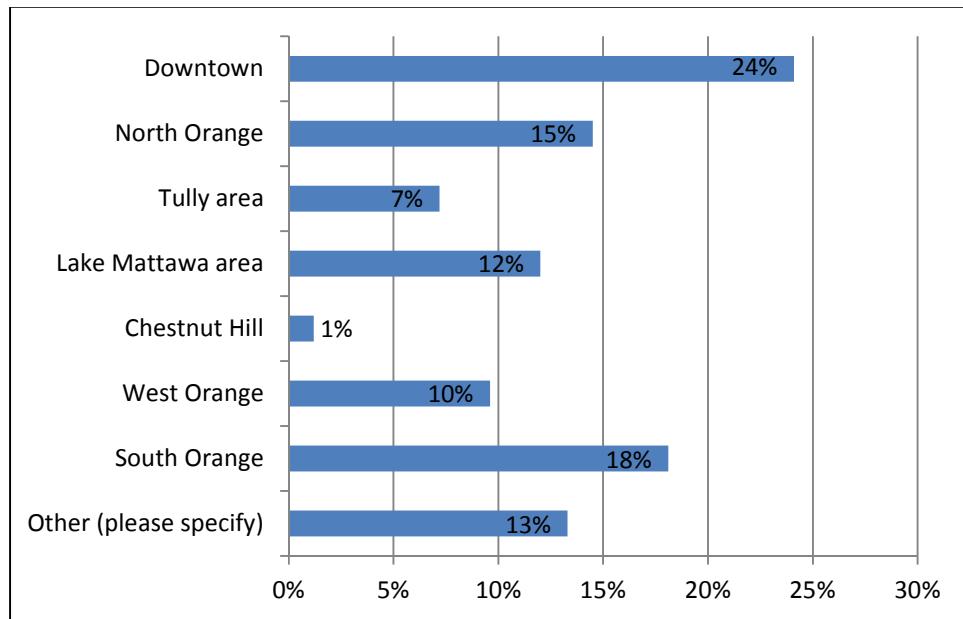
Skipped question: 6



Question 10: Which part of Orange do you live in?

Answered question: 83

Skipped question: 5



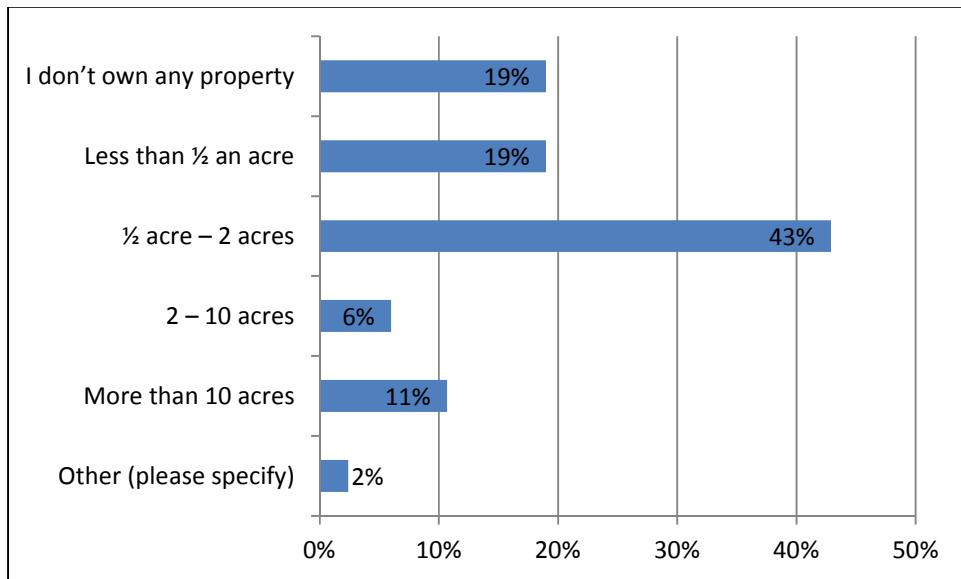
Other:

- East
- Wheeler
- High Street
- Pleasant St.
- Butterfield park neighborhood
- Upper Mechanic St
- 2A near Athol line
- Fountain St
- East side
- West River st.
- S. Main St.

Question 10: How much property do you own in Orange?

Answered question: 84

Skipped question: 4

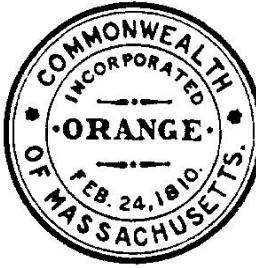


Other:

- I own my own home in Leisure Woods
- 75 acres

APPENDIX C

MEETING AGENDAS, SIGN-INS, & PUBLICITY



AGENDA

Orange Open Space and Recreation Plan Update Meeting

Thursday, November 20, 2014

6:00 p.m. – 8:00 p.m.

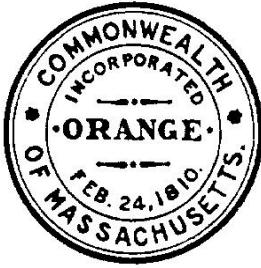
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 6:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 6:05 p.m. – Overview of the Orange Open Space and Recreation Plan update process (Alyssa Larose, Franklin Regional Council of Governments)
3. 6:15 p.m. – Review of draft Section 3: Community Setting (Alyssa Larose, FRCOG, and Committee)
4. 7:45 p.m. – Identification of next steps and set next meeting date
5. 8:00 p.m. – Adjourn meeting.





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Thursday, December 18, 2014

6:00 p.m. – 8:00 p.m.

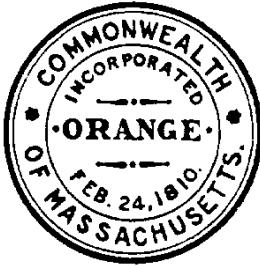
Tully Fire Station

15 Millyard Road

Orange, MA 01364

1. 6:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 6:05 p.m. – Review of changes to the second draft Section 3: Community Setting (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 6:30 p.m. – Review of draft Section 4: Environmental Inventory and Analysis (Alyssa Larose, FRCOG, and Committee)
4. 7:45 p.m. – Identification of next steps
5. 8:00 p.m. – Adjourn meeting.





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Thursday, February 19, 2015

6:00 p.m. – 8:00 p.m.

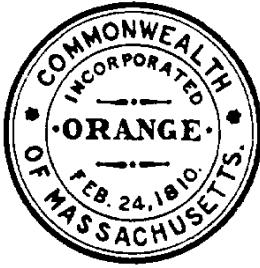
Tully Fire Station

15 Millyard Road

Orange, MA 01364

1. 6:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 6:05 p.m. – Review of changes to the second draft Section 4: Environmental Inventory and Analysis (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 7:05 p.m. – Review of Section 4 maps (Alyssa Larose, FRCOG, and Committee)
4. 7:25 p.m. – Review of Section 8: Goals and Objectives and Section 9: Five-Year Action Plan from the 2008 Orange Open Space and Recreation Plan (Alyssa Larose, FRCOG, and Committee)
5. 7:45 p.m. – Identification of next steps
6. 8:00 p.m. – Adjourn meeting.





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Tuesday, June 30, 2015

5:00 p.m. – 7:00 p.m.

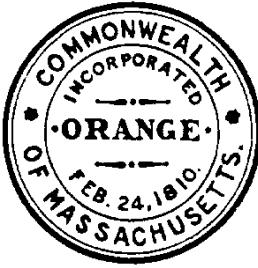
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review of Open Space and Recreation Plan maps (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 6:05 p.m. – Discuss public input strategy and timeframe (Alyssa Larose, FRCOG, and Committee)
4. 6:45 p.m. – Identification of next steps
5. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Monday, July 27, 2015

5:00 p.m. – 7:00 p.m.

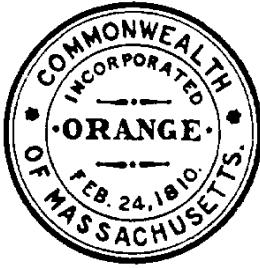
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m.– Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m.– Review of revised Open Space and Recreation Plan maps (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 5:45 p.m.– Finalize public input strategy and timeframe (Alyssa Larose, FRCOG, and Committee)
4. 6:45 p.m.– Identification of next steps
5. 7:00 p.m.– Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Monday, August 24, 2015

5:00 p.m. – 7:00 p.m.

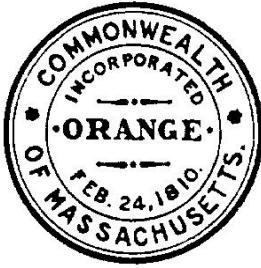
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review and finalize Open Space and Recreation Plan survey and outreach strategy (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 6:05 p.m. – Review revised open space maps and tables (Alyssa Larose, FRCOG, and Committee)
4. 6:45 p.m. – Identification of next steps
5. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Monday, November 23, 2015

5:00 p.m. – 7:00 p.m.

Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review 2015 Open Space and Recreation Survey Results (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 5:35 p.m. – Review draft Section 5: Inventory of Lands of Conservation and Recreation Interest, and draft Open Space Map and draft Recreation Map
4. 6:35 p.m. – Review revised Section 4 Maps (Alyssa Larose, FRCOG, and Committee)
5. 6:55 p.m. Identification of next steps
6. 7:00 p.m. – Adjourn meeting

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Affiliation

He Kennedy

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Orange

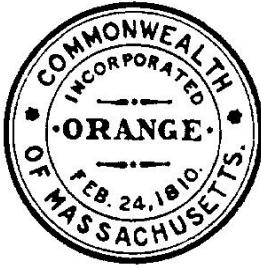
Fred Meyer

fred@meyerfirst.

.com

Acac MacLean

Pat Smith



AGENDA

Orange Open Space and Recreation Plan Update Meeting

Wednesday, March 30, 2016

5:00 p.m. – 7:00 p.m.

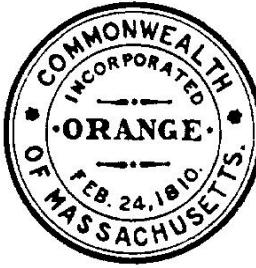
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review OSRP process and remaining work (Alyssa Larose, Franklin Regional Council of Governments, and Committee)
3. 5:15 p.m. – Review second draft of Section 5: Inventory of Lands of Conservation and Recreation Interest (Alyssa Larose, FRCOG, and Committee)
4. 6:15 p.m. – Review revised Section 4 Maps (Alyssa Larose, FRCOG, and Committee)
5. 6:30 p.m. Review first draft of Section 7: Analysis of Needs (Alyssa Larose, FRCOG, and Committee)
6. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Wednesday, April 27, 2016

5:00 p.m. – 7:00 p.m.

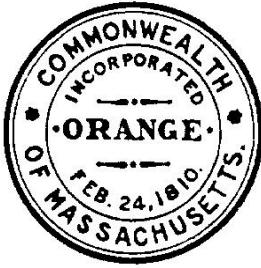
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review third draft of Section 5: Inventory of Lands of Conservation and Recreation Interest (Alyssa Larose, FRCOG, and Committee)
3. 5:35 p.m. – Review first draft of Section 6: Community Goals (Alyssa Larose, FRCOG, and Committee)
4. 6:00 p.m. Review first draft of Section 7: Analysis of Needs (Alyssa Larose, FRCOG, and Committee)
5. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Wednesday, May 18, 2016

5:00 p.m. – 7:00 p.m.

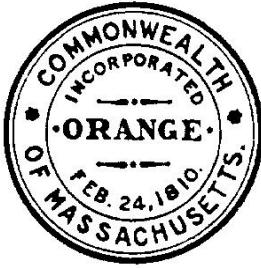
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review fourth draft of Section 5: Inventory of Lands of Conservation and Recreation Interest and the Open Space Map (Alyssa Larose, FRCOG, and Committee)
3. 5:15 p.m. – Review second drafts of Section 6: Community Goals, and Section 7: Analysis of Needs (Alyssa Larose, FRCOG, and Committee)
4. 6:00 p.m. Review first draft of Section 9: Seven Year Action Plan (Alyssa Larose, FRCOG, and Committee)
5. 6:50 p.m. Establish a date for the public forum (Alyssa Larose, FRCOG, and Committee)
6. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Update Meeting

Monday, June 6, 2016

5:00 p.m. – 7:00 p.m.

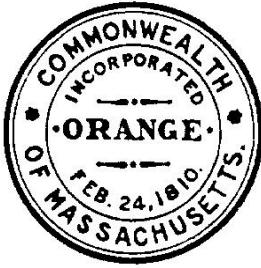
Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review second draft of Section 9: Seven Year Action Plan (Alyssa Larose, FRCOG, and Committee)
3. 6:30 p.m. Discuss the format of the public forum and publicity (Alyssa Larose, FRCOG, and Committee)
4. 7:00 p.m. – Adjourn meeting





AGENDA

Orange Open Space and Recreation Plan Public Forum

Monday, June 27, 2016

7:00 p.m.

Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 7:00 p.m. – Presentation of the DRAFT Open Space and Recreation Plan update process, key findings, and changes since the last plan
2. 7:20 p.m. – Review of the DRAFT Seven Year Action Plan
3. 7:40 p.m. – Prioritization of the Open Space and Recreation Plan Objectives
4. 8:00 p.m. – Review of DRAFT Open Space and Recreation Maps



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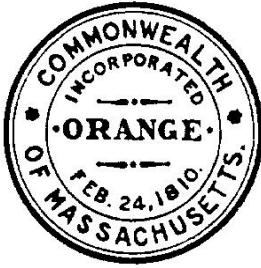
orange.org

Grzes.	Reston	
Heifer	Orange	
Amcan	"	
Vish Smit		
Deaice Hassan		deacieandrea@gmail.com

Marcia B. La Corte
Heather Stone
Alyssa Larose

resident
resident, OSR

78
hkey gmai



AGENDA

Orange Open Space and Recreation Plan Update Meeting

Thursday, June 30, 2016

5:00 p.m.

**Orange Town Hall
6 Prospect Street
Orange, MA 01364**

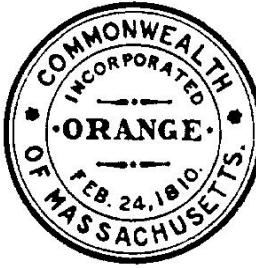
1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review final drafts of Sections 1 through 10 (Alyssa Larose, FRCOG, and Committee)
3. 5:45 p.m. – Review final drafts of all maps (Alyssa Larose, FRCOG, and Committee)
4. 6:00 p.m. – Discuss submission of the plan to the Division of Conservation Services and next steps (Alyssa Larose, FRCOG, and Committee)
5. 6:15 p.m. Adjourn meeting



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Alyssa Larose



AGENDA

Orange Open Space and Recreation Plan Update Meeting

Wednesday, November 16, 2016

5:00 p.m. – 6:00 p.m.

Orange Town Hall

6 Prospect Street

Orange, MA 01364

1. 5:00 p.m. – Introductions (Kevin Kennedy, Orange Community Development Director)
2. 5:05 p.m. – Review and vote on final revisions to the Orange Open Space and Recreation Plan and Open Space Map (Alyssa Larose, FRCOG, and Committee)
3. 6:00 p.m. – Adjourn meeting



THE RECORDER

Published on the *The Recorder* (<http://www.recorder.com>)

[Print this Page](#)

Orange seeks input on Open Space Plan

By AVIVA LUTTRELL

Recorder Staff

Tuesday, September 15, 2015

(Published in print: Wednesday, September 16, 2015)

ORANGE — The Town of Orange is looking for input from residents to help the Open Space and Recreation Planning Committee update its goals for the next seven years.

A public survey is now available that asks residents about open space protection efforts that are important to them, what recreational facilities are used or needed in town and where new housing should be located, among other questions.

Surveys can be found at Town Hall, Wheeler Memorial Library, Moore-Leland Library, the police station, Trail Head Outfitters and the Riverfront Park Boathouse, and online at:

www.surveymonkey.com/r/OrangeOSRP

According to a news release from the Franklin Regional Council of Governments, the Open Space and Recreation Plan contains conservation and recreation goals for the town and includes an inventory of cultural, natural and recreational resources, identifies open space and recreation needs and outlines a seven-year action plan.

Having an up-to-date plan enables the town to apply for state grants for land conservation and recreation facility improvements, according to the release.

The last Orange Open Space and Recreation Plan was completed in 2008, according to the release, and recently expired. The development of Riverfront Park and the improvements to Butterfield Park are recent examples of projects made possible through grants requiring an up-to-date plan.

You can reach Aviva Luttrell at: aluttrell@recorder.com or 413-772-0261, ext. 268 On Twitter follow: [@AvivaLuttrell](#)

Source URL:<http://www.recorder.com/home/18609990-95/orange-seeks-input-on-open-space-plan>

Athol Daily News

Tuesday, September 8, 2015

Orange seeks public input for Open Space and Recreation Plan

Tuesday, September 8, 2015

ORANGE - The town is updating its Open Space and Recreation Plan and is seeking input from town residents. A public survey is now available during regular business hours at the town hall, Wheeler Memorial Library, Moore-Leland Library, Orange Police Station, Trail Head Outfitters and the Riverfront Park Boathouse, and online at <https://www.surveymonkey.com/r/OrangeOSRP> for residents to fill out. Surveys will also be available at many other local stores.

The survey asks residents about open space protection efforts that are important to them, what recreational facilities are used or needed in town and where new housing should be located, among other questions. The survey will help the Open Space and Recreation Planning Committee update town goals and actions for the next seven years. Surveys should be completed by Monday, Oct. 12.

An Open Space and Recreation Plan contains conservation and recreation goals for the town, and includes an inventory of cultural, natural and recreational resources; identifies open space and recreation needs and outlines a seven-year action plan with specific recommendations.

Heather Stone, member of the Open Space and Recreation Planning Committee, said, "We're interested to hear what residents of Orange think about our open space and recreation resources, how they make use of them as well as what they would like to see added to this resource base. I think that residents and groups in the town have done a lot of great work in this area already and am excited about the opportunities that still exist."

The last Orange Open Space and Recreation Plan was completed in 2008 and has recently expired. Having an up-to-date plan enables the town to apply for state grants for land conservation and recreation facility improvements. The development of Riverfront Park and the improvements to Butterfield Park are recent examples of projects that were made possible through grants requiring an up-to-date plan.

Input from the public survey will be used to help craft new goals and actions for the town to pursue over the next seven years. The Open Space and Recreation Planning Committee has been working with the Franklin Regional Council of Governments (FRCOG) since last November on the update. The Committee includes Community Development Director Kevin Kennedy, members of the Conservation Commission, and residents.

For more information about the plan update, contact Alyssa Larose, FRCOG Land Use Planner, at 413-774-3167 x127 or alarose@frcog.org.

Related Links:

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[">Software © 1998-2015 1up! Software, All Rights Reserved](#)



Orange 2015 Open Space and Recreation Survey

**How do you feel about open space protection in Orange?
What recreation opportunities would you like to have in
town?**

**Where should new housing go?
Complete the survey and help the Town of Orange
update its Open Space and Recreation Plan!**

**Go to: <https://www.surveymonkey.com/r/OrangeOSRP> to fill
out the survey online.**

**Or pick up a hard copy at Town Hall, Wheeler Memorial Library,
Moore-Leland Library, the Police Station, Trail Head Outfitters or
the Boathouse at Riverfront Park**

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Public Forum On Orange Open Space And Recreation Plan

Wed, 06/22/2016 - 12:48pm 1625



ORANGE — The town of Orange is finalizing an update to its Open Space and Recreation Plan and seeks input from town residents. A public forum will be held on Monday, June 27, at 7 p.m., at the town hall auditorium.

Residents will have a chance to review findings from the draft plan, and recreation and open space maps, and help prioritize town open space and recreation objectives for the next seven years.

An Open Space and Recreation Plan contains conservation and recreation goals for the town, and includes an inventory of cultural, natural, and recreational resources; identifies open space and recreation needs, and outlines a seven-year action plan with specific recommendations. The last Orange Open Space and Recreation Plan was completed in 2008 and recently expired. Having an up-to-date plan enables the town to apply for state grants for land conservation and recreation facility improvements. The development of Riverfront Park and the improvements to Butterfield Park are recent examples of projects that were made possible through grants requiring an up-to-date plan.

A committee including Community Development Director Kevin Kennedy, members of the Conservation Commission, and interested residents, has met 11 times since November 2014 to update the plan and maps, with assistance from the Franklin Regional Council of Governments Planning Department. A public survey was distributed in fall 2015 to help gain input into open space and recreation goals and needs. Feedback from the June 27 forum will be incorporated into the final plan, which will be submitted to the state Division of Conservation Services for review and approval.

For more information about the public forum and plan update, contact Alyssa Larose, FRCOG land use planner, at 413-774-3167, Ext. 127, or by email at alarose@frcog.org.

Section: [TODAY'S NEWS](#)

Your name

7959

Subject

Comment *



ORANGE 2016 OPEN SPACE AND RECREATION PLAN UPDATE

PUBLIC FORUM

Monday, June 27, 2016

7:00 p.m.

Orange Town Hall

**Please come to a presentation of the DRAFT 2016
Orange Open Space and Recreation Plan and help
prioritize Town open space and recreation objectives
for the next seven years**

Light refreshments will be provided

Contact Alyssa Larose, Franklin Regional Council of Governments, at
alarose@frcog.org or 413-774-3167 x127 for more information