FERRISBURGH TOWN PLAN

2016-2024

Appreciations

Thanks to all who contributed to the up-dated Town Plan:

The citizens who answered the survey and attended the 2013 Open House, providing important guidance, Planning Commission members; the Selectboard; Zoning Board; the Volunteer Fire Department, the Conservation Commission, Historical Society and those who volunteer with the Lewis Creek Association; the Energy Committee, Conservation Commission, Ferrisburgh Recreational Committee and Safe Routes to School Committee; Lake Champlain Maritime Museum; the Road Foreman and Tree Warden; farmers and other businesses in town; those who attended planning meetings, edited sections of the plan, and provided information and ideas.

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Document layout and format adapted from the 2006 Ferrisburgh Town Plan, originally formatted by *Place Sense*, Brandy Saxton AICP

Table of Contents

NOTE REGARDING FUTURE REVISIONS and AMMENDMENTS TO THIS PLAN:

Currently this plan is formatted in Adobe InDesign. For the next planning cycle, this plan should be formatted in Microsoft Word so that the Town of Ferrisburgh is able to ammend and update the plan without technical support if they wish to.

CHAPTER 1. Foreword

1.1. INTRODUCTION

A. General Description

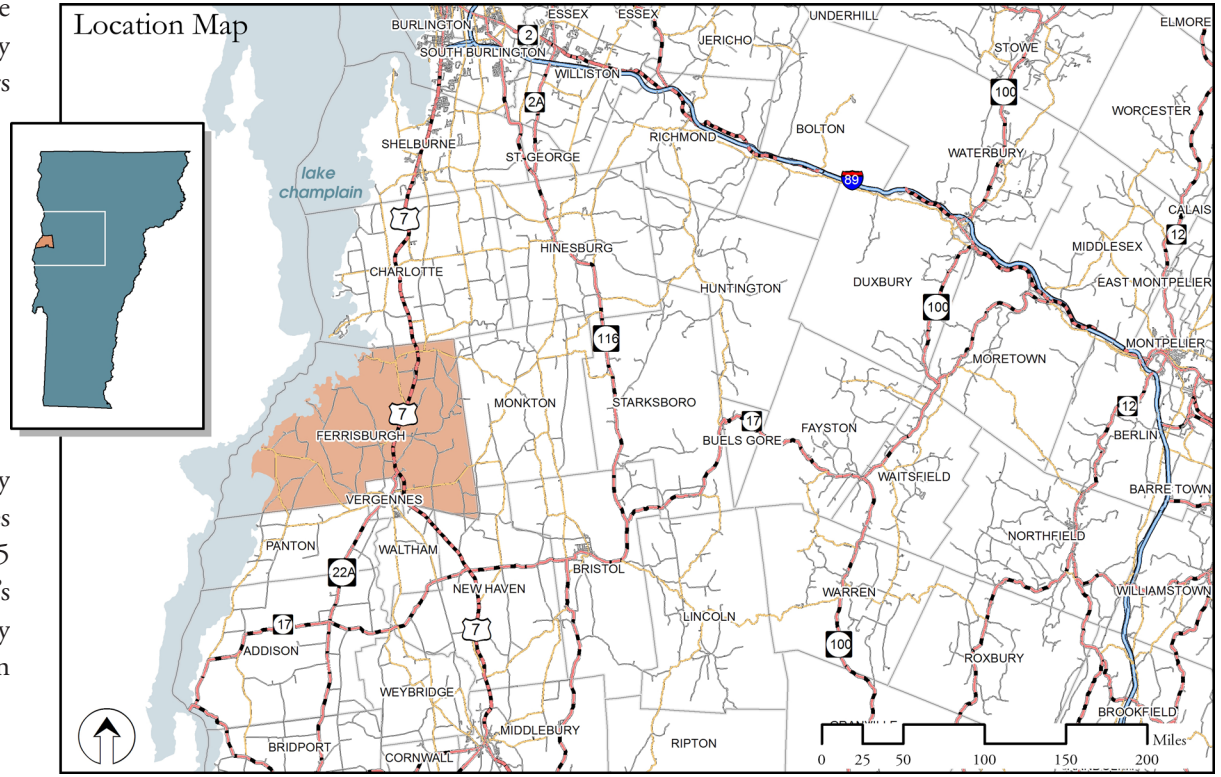
The Town of Ferrisburgh, Vermont, comprises roughly 61 square miles or 39,000 acres of land in the Lake Champlain Valley. It is ranked as Vermont's ninth largest town in area. Like much of the Champlain Valley, the town's landscape is generally flat to rolling, with few hilly areas, some fine forestlands and extensive areas of excellent, productive agricultural soils. Ferrisburgh is well watered by the Lewis, Little Otter, Dead and Otter Creeks; it also has large areas of ecologically significant wetlands. Ferrisburgh enjoys the longest shoreline frontage of any Vermont town bordering Lake Champlain, 21 miles.

Founded in 1762, Ferrisburgh has a rich history, especially from the pre-colonial era through the Revolutionary War, which is celebrated in our nationally renowned museums, the Lake Champlain Maritime Museum and the Rokeby Museum. Many of the earliest European settlers still have descendants living and working in town or in neighboring communities. Farming, forestry and sugaring are still significant land uses in Ferrisburgh. The town also serves as a rural "home town" for hundreds of residents who work in nearby communities and as a summer vacation spot for hundreds more from around the nation who seek rest from urban areas.

The busy, north-south U.S. Route 7 highway corridor bisects the town. The communities of Burlington and Middlebury lie roughly 15 miles north and south, respectively. Ferrisburgh's nearest commercial and service center is the City of Vergennes, about 2.5 miles south of the Town Clerk's Office.

B. Purpose of a Town Plan

Since the late 1960s, the citizens of Ferrisburgh have regularly assessed the natural and human resources in town and updated their town plan and the associated zoning bylaws and other regulations. The statutory authority for this planning work can be found in Chapter 117 of Title 24 of the Vermont Statutes Annotated (V.S.A.). This chapter was considerably amended in 2006 to meet changing land uses and demands for resources in Vermont, and is updated regularly. Under state law, town plans must be updated every five years. The statues of Chapter 117 can be found online at Vermont Statutes Online: http://www.leg.state.vt.us/statutes. As per Chapter 117 it is the responsibility of the towns planning commission to update the town plan.



The plan is then adopted by the planning commission and Selectboard via a public hearing process.

A successful town plan mirrors the needs and desires of the residents of the town and establishes clear non-regulatory and regulatory policy directives, based on a shared vision for the town now and into the future. Goals and policies guide future growth, development of land, provision of public services and facilities, and protect the environment.

Goals are long-range aspirations that serve as a broad planning and development guide. A goal describes the end condition that is sought.

Policies are specific, required actions that, when followed, will result in attainment of a goal. Policies are to be strictly adhered to in all regulatory actions and decisions involving development.

Recommended Actions are specific tasks the planning commission, the selectboard, residents and/or town other staff can take to address identified opportunities or challenges, to meet goals and better implement policies.

1.2. GUIDING PRINCIPLES

Goal A: To ensure and protect an active, working agricultural and rural landscape with a strong, diverse local economy.

1. Support and promote agriculture of all types, and encourage preservation of farm and forestlands for future generations through conservation easements and other mechanisms.

2. Minimize loss of primary agricultural soils.

3. Promote the adaptive reuse of vacant buildings, and encourage preservation of old and historic rural buildings.

4. Promote development that directly supports farming and its supporting businesses.

5. Promote and support home occupations and accessory uses of private property for small business growth, especially as it relates to the agricultural and rural nature of the local economy.

6. Promote local-grown food and fiber, farmers' markets and expanded market opportunities for value-added agricultural products and organic food.

Goal B: To preserve and protect significant natural areas, habitats, ecological corridors, wetlands, shorelines and historic features; protect the environment; and provide for recreation.

1. Work with groups – such as the Ferrisburgh Conservation Commission, Lewis Creek Association, Lake Champlain Trust, and the Vermont Land Trust – to protect natural resources, open space, forestland and farmland.

2. Maintain an inventory of critical habitats, wildlife corridors, areas with state rare or endangered species or ecological communities, deer wintering yards and wetlands, and establish policies for their protection.

3. Promote the preservation of historic structures and areas including villages, agricultural structures, public and private historic buildings, and remote areas of town.

4. Protect the Lake Champlain shorelands, wetlands, rivers, watersheds and aquifers; and maintain capacity studies on aquatic systems and wetlands.

5. Encourage for recreation in town, including public access to Lake Champlain, Otter Creek, Little Otter Creek and Lewis Creek, walking trails, cross country skiing, snowshoeing, snowmobile trails, bicycle paths, boating and parks.

6. Encourage new development that does not diminish the value of outdoor recreation.

7. Limit development in areas of town where significant environmental and natural resources are located, while promoting development in clearly identified areas away from those critical areas.

Goal C: To provide adequate and safe transportation facilities.

1. Maintain and improve town roads to high levels of safety, including pedestrian pathways and bicycle lanes where feasible.

2. Work with the Agency of Transportation (AOT) to limit new highway accesses onto US Route 7.

3. Work with AOT to ensure safety at road intersections, especially those that intersect with US Route 7.

4. Support public transit, car-pooling, and park-and-ride facilities.

Goal D: To plan to meet future needs for utilities, public facilities and educational facilities.

1. Work with local school boards to ensure provision of adequate school facilities to meet needs of students and mandated requirements, and broaden access to educational and vocational opportunities.

2. Improve and maintain all public buildings and facilities, and plan for future needs through ongoing capacity studies and development policies.

3. Assess future potential needs for municipal water and sewer services, and solid waste disposal.

4. Support Ferrisburgh's Volunteer Fire Department and the Vergennes Area Rescue Squad.

Goal E: To encourage energy conservation and light industry.

1. Encourage homes and businesses to conserve energy, reduce waste and recycle.

2. Encourage commercial and industrial uses that are low impact and compatible with the rural character of the town.

3. Provide access for transmission lines, while ensuring private landowner

rights.

4. Promote clean, light industry and commercial development in clearly defined areas of the town, while protecting agriculture and associated farming businesses.

5. Ensure Town-owned buildings are designed and built to maximize energy conservation and minimize long-term operating costs.

Goal F: Ensure diversity of housing opportunities for future town residents.

1. Regularly assess housing needs of those persons with low and moderate incomes.

2. Permit and encourage density bonuses and other mechanisms in those subdivisions or PUDs that include affordable housing.

3. Permit accessory dwelling units, multi-family housing and manufactured houses.

CHAPTER 2. Ferrisburgh Past

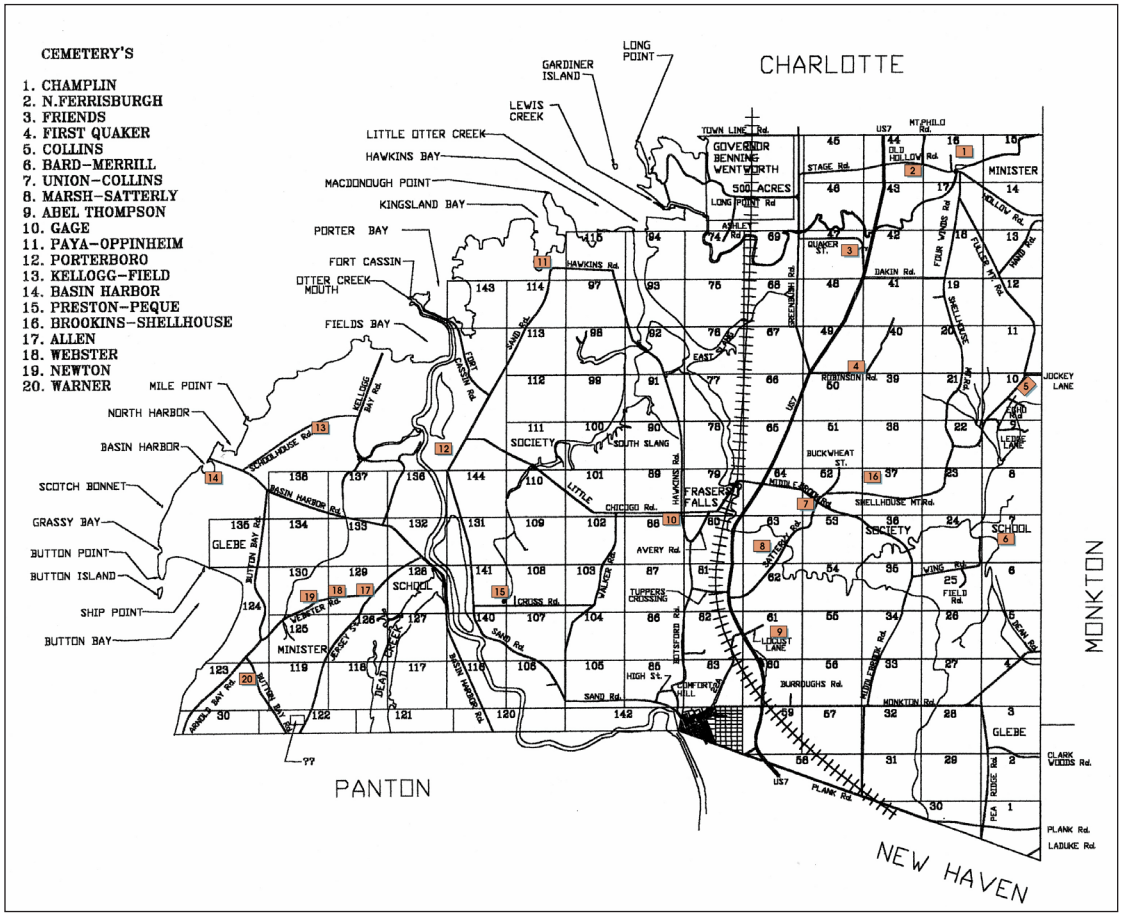
A. First Settlers

Spearheads and arrow points found along the Lewis, Otter and Little Otter Creeks are testament to the presence of Native Americans in Ferrisburgh as the ice retreated from glacial Lake Champlain between 8,500 and 5,000 B.C. A significant archeological site, dated at about 3,000 B.C. has been identified near the confluence of Otter Creek and Dead Creek. This settlement has yielded bones and pottery fragments, in addition to spearheads, arrowheads and a range of other artifacts. Of the roughly 1,000 Native American archeological sites in Vermont, about 300 are found along the Otter Creek, a name from the Abenaki who used the river as a major transport route.

At the time of European contact, both the Algonquian and Iroquois considered Ferrisburgh part of their territory. In 1609, Samuel de Champlain was the first of the European explorers to travel down the lake that came to bear his name. Jesuit priests and trappers, who traveled largely by water, passed through what would become Ferrisburgh. Permanent European settlement, however, waited until after the French and Indian War ended in 1759. In this relatively safe period, settlers began to arrive in Ferrisburgh directly from England, as well as from older settlements in lower New England.

Ferrisburgh was chartered on June 24, 1762 (the same day as neighboring Charlotte, Hinesburg and Monkton) to several men including: Timothy Dakin, Benjamin and Read Ferriss, Anthony and J. Field, and Daniel Marrill. The town was surveyed in 1763. There were about 480 people living in town by 1780. More than half of Vergennes was carved out of Ferrisburgh in 1783. The town was organized in 1785 or '86 and the first Town Clerk was Jonathan Saxton. It is believed that the first grist mill was built by Robert Hazard in 1792. By the end of the 18th century, Ferrisburgh was a thriving community with settlement along the lake and along the north-south road between Vergennes and Burlington. There are still many examples of 18th century architecture in town.

The spelling of the town's name remains problematic. At first, the name was "Ferrissburgh" or "Ferrissbourgh," but the extra letters were dropped (most of the Feriss family dropped the extra "s" as well). The village of Ferrisburgh, now commonly referred to as North Ferrisburgh or 'The Hollow', got its first post office in 1838. The postal service decided in 1892 that communities

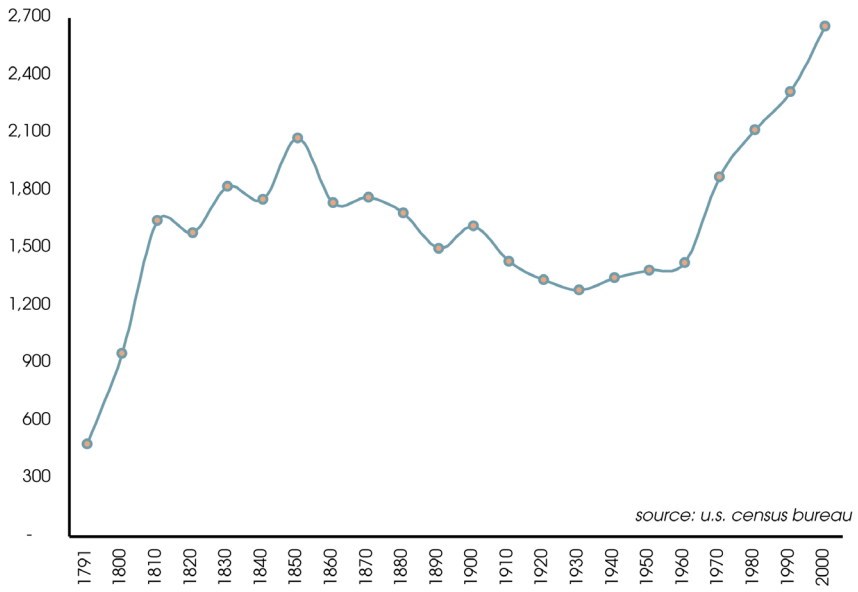


Map of the 1763 Surveyed Lots

should simplify the spelling of their names by dropping silent letters like Ferrisburgh's final "h." This led to yet another variant spelling for the town's name, which survives to the present. The preferred spelling, however, includes the silent "h."

There are 20 known cemeteries in Ferrisburgh, with many graves dating back to the late-18th and early-19th centuries. Specific family names are often found in the various cemeteries, such as the Collins and Gage cemeteries, which are dominated by those families. Many founding family names are still commonly seen in Ferrisburgh or neighboring towns, such as: Palmer, Hawkins, Ball, Spencer, Danyow, Preston, Collins, Beach and Barnes. It is hard to determine for sure who was in town during the Revolutionary War (1775 to 1783), but there are some graves that appear to mark those who served in the War of 1812 when Fort Cassin at the mouth of Otter Creek on Lake Champlain played a significant role in American history.

Fort Cassin was the site of a critical battle in the War of 1812, where almost 200 men were garrisoned. Thomas Macdonough was assigned the command of the naval forces on Lake Champlain. On May 14, 1814, the British sloop, Linnet, and eight galleys bombarded Fort Cassin. If they had won the British would have blocked the mouth to Otter Creek, remained in control of the lake, and prevented the nearly complete American fleet, which was being built in Vergennes, from launching. Following that battle, the British fleet was forced to retreat. This American victory encouraged more Vermonters to sail over to Plattsburgh and help defeat the British land troops at the Battle of Plattsburgh.



Ferrisburgh Population, 1791 to 2000

B. Agricultural Heritage

In 1840 in the Town of Ferrisburgh, according to Zadock Thompson's Vermont 1842, there was: one gristmill, three sawmills and one store; 495 horses; 5,183 cattle; 25,676 sheep; 871 swine; 2,700 bushels of wheat; 18 bushels of barley; 10,900 bushels of oats; 658 bushels of buckwheat; 8,910 bushels of Indian corn; 12,000 tons of hay; 1,400 pounds of sugar (maple); 6,690 pounds of wool; and a population of 1,755.

Thirty years later, settlement had spread along what is today Route 7, along water routes and on higher ground. Much of the town's land was cleared of trees and sold off to make way for sheep and later for dairy farming. Thus, by 1850, the town's population reached its 19th century high level of 2,075, thereafter declining over the next century. The next major period of population increase began in the late-1960s and continues to this day, with a 2010 Census population count of 2,775.

By the 1880s, Ferrisburgh was famous for its merino sheep both for wool and breeding stock and there were around seven merino sheep producers in town. It is from Vermont that the famous merino sheep breeding stock were subsequently dispersed around the world. In addition to the sheep industry, dairy farming, several creameries and arable crops provided a rich agricultural economy for both local and regional markets, as we still do today.

C. The Society of Friends and the Robinson Family

The original settlement of Ferrisburgh included many Quakers, members of the Society of Friends. There are several cemeteries that reflect these early settlers, including names such as Hazard, Fields, Dakin, Palmer and Prindle. One such Quaker family, the Robinsons of North Ferrisburgh, has become well known nationally. Members of the Robinson family were millers, farmers, abolitionists, authors, naturalists and artists. The Robinsons initially moved to Ferrisburgh from Rhode Island in 1790 when they built a farmstead along what is today Route 7. This building is listed on the Vermont Register of Historic Places and is a National Historic Landmark. The farmstead is now open to the public as the Rokeby Museum, a testament to the agricultural and Quaker heritage of Ferrisburgh. The Rokeby Museum is one of the best-documented Underground Railroad sites in the country. Rowland Thomas and Rachel Gilpin Robinson sheltered many fugitive slaves at their home during the decades of the 1830s and 1840s.

There were several Quaker Meeting Houses in town. One was in North Ferrisburgh along Old Hollow Road, and another was at the Friends Cemetery on Lewis Creek off Quaker Street. There the sign reads, "This marks the site of the Ferrisburg Meeting of Friends, set off from Danby MM, June 30, 1801. Meeting laid down March 1945."

Rowland Robinson organized an anti-slavery convention, which was held in Ferrisburgh during July of 1834. Frederick Douglass delivered a fiery speech in opposition to slavery. The convention was held where the Union Meeting Hall, built in 1840, now stands in the center of town.

Quakers do not normally go to war, and as conscientious objectors some Ferrisburgh residents were arrested, imprisoned, tortured and killed for their beliefs. In 1863 Peter Dakin of Ferrisburgh, Lindley Macomber of Grand Isle and Cyrus Guernsey Pringle [Prindle] of Charlotte, were arrested and sent to Camp Vermont on Long Island in Boston Harbor. Later they were shipped to Virginia where they were tortured. Eventually President Lincoln relieved them of military duty and sent the badly injured men home to Vermont. Pringle went on to become the premier American botanist of the 19th century and the Herbarium at the University of Vermont is a testament to his life's work.

Rokeby, The Robinson Family Home

D. Transport Corridors and Early Commerce

The navigable waters of Otter, Little Otter and Lewis Creeks, emptying into Lake Champlain with its direct connections through to the Hudson River and New York City to the south via the Champlain Canal, and the St. Lawrence River and Montreal to the north, were of critical significance in the history of early settlement. The Otter Creek is navigable eight miles upstream from Lake Champlain, and the Little Otter for three miles. Water was the cheapest means of transporting goods to market, thus Lake Champlain was the interstate highway of the 19th century, with a dozen ferries on the lake and sleds with oxen in winter.

The town's rivers were also a source of energy to power the needed grist and woolen mills. Both the Little Otter and Lewis Creeks were noted for their excellent waterfalls, which provided power for mills. Mr. Hazard operated a large woolen fulling mill upstream of the falls in North Ferrisburgh. There was also a diversity of commodities shipped out, from merino sheep to locally caught pike and bass, to bricks made from the locally abundant clays. These water routes also provided transport for the lumber shipped out from Ferrisburgh, including maple, beech, basswood and butternut trees renowned for their high quality. Timber was plentiful in the town and provided a lucrative harvest for both local building and for transport via Lake Champlain to New York City.

During the early years of the Revolutionary War, through its location on Lake Champlain, Ferrisburgh was witness to many of the great pivotal moments in American history. Lake Champlain is one of the most historic bodies of water in North America. Researchers estimate that as many as 300 shipwrecks have occurred during its maritime history. On October 11, 1776 following the battle of Valcour Island, Benedict Arnold fled the British offshore from Ferrisburgh. A replica of his ship, the Philadelphia, is at the Lake Champlain Maritime Museum at Basin Harbor, the original being in the Smithsonian Museum in Washington D.C.

After the Revolutionary War, in 1789, Captain Platt Rogers of Peekskill, New York established a ferry and a shipyard at Basin Harbor with the labor of what were probably free African Americans as well as some local workers. In 1790, he built a substantial stone house at Basin Harbor. This homestead is still standing. Platt Rogers owned about 2,000 acres of land on both the Vermont and the New York sides of Lake Champlain, and one of his family members founded Plattsburgh. In Ferrisburgh, he owned essentially all of the shorelands from Button Bay to the mouth of Lewis Creek. Platt Rogers died in 1798, and following his death the Storms family, who were free blacks, were given lands at Kellogg Bay. The Storm family is buried in the graveyard at Basin Harbor and may have been the first black family in Vermont.

Platt Roger's daughter married a Winan, and the Winans operated an inn and tavern at Basin Harbor beginning in about 1798. From 1804 to 1812, there was a naval shipyard at Basin Harbor. This shipyard moved to Vergennes after the War of 1812. The Winan brothers built the first steamboat on the lake in 1809, called the Vermont, which was only the second steamboat built in America. The Vermont was built in Burlington at what is today King Street. The first steamboat was Robert Fulton's Claremont, and the Winan brothers built the hull for that ship in Poughkeepsie before they relocated to Vermont.

The Beach family may have originally settled in Monkton, but the first record in Ferrisburgh is Stephen Beach in 1800, settling about a mile south of Basin Harbor. In 1809 one of the earliest schools in Vermont was built in this area and later, in 1818 the schoolhouse which is on Schoolhouse Road today, was re-built with stone quarried on Beach property. When the building ceased being a school, the property reverted to the Beach family. The Beach house was built in 1837 south of Basin Harbor. Some records suggest that the first Ferrisburgh Post Office was also located at Basin Harbor, beginning in about 1800 and continuing until the 1950s.

Along the lake at Kingsland Bay, Gideon Hawley built a stone house in about 1790 to serve as an inn. This building, located in Kingsland Bay State Park, is on the state's Register of Historic Places. Based on accounts of the time, it is reasonable to assume that Samuel de Champlain stopped at Kingsland Bay in 1609. Other noteworthy visitors included Ethan Allen in 1776, Ben Franklin in 1776 and Benedict Arnold in 1777.

Long Point, in the northwest corner of Ferrisburgh has 52 camps built mostly between 1890 and 1940. These are typically wood frame two-storey buildings with large porches. The North Road was the first loop to be developed, and most houses were fairly simple. However, some were large summer homes, with servants' quarters. Architect Percy Griffin designed one such sprawling summer residence, Woodbridge Hall (1896), for Walter Scranton, which is located prominently between Porter and Kingsland Bays. The style is somewhat like an English manor. After Scranton, a bank president in Vergennes, hurriedly left when substantial funds were found missing from his bank, the property was sold to Charles and Jessica Swift of Middlebury.

The ease of travel to Ferrisburgh via Lake Champlain also provided a relatively easy access for recreational development in the late-19th century, with "camps" built along the shoreline. At Kingsland Bay, Ecole Champlain, a girls camp where French was taught, was used until the 1960s; the building is still standing. In the period 1910 to 1930, many summer recreational camps for children were established in Vermont. One such camp in Ferrisburgh was Camp Marbury for girls, at Basin Harbor, with buildings in an Adirondack rustic style.

The north-south road (now Route 7) was, and remains, the main road along the western side of Vermont south of Burlington. In the 19th century, there were a number of staging locations for horse-drawn vehicles. For example in North Ferrisburgh, there was a hostelry on Stage Road. On the east side of

Route 7 at the corner of Old Hollow Road, stood the large Martin Hotel that, like so many fine buildings in town, burned down not many decades ago.

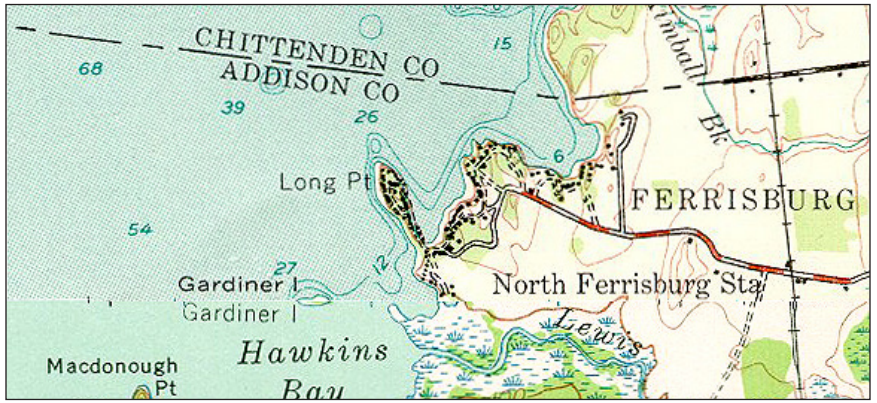
The railroad was established by the mid-19th century with two railway stations, one in North Ferrisburgh and one west of Ferrisburgh Center.

E. Historic Settlement Patterns

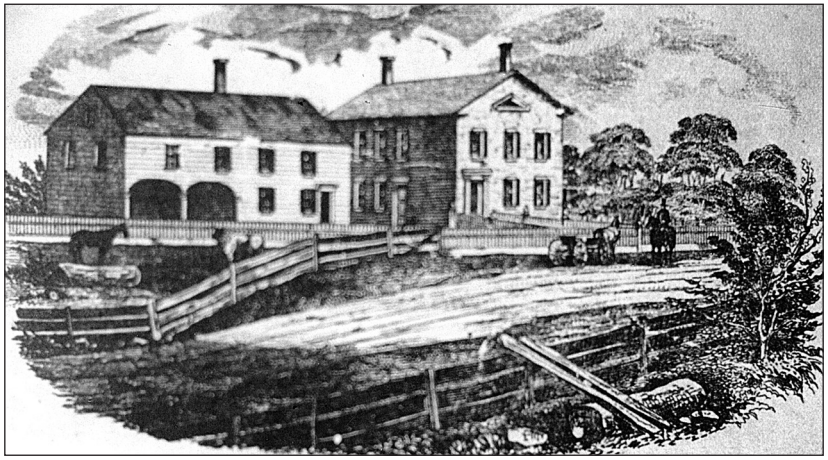
The location of homes, farms and businesses still reflect Ferrisburgh's history. Some Vermont towns have a clear single town center defined by a densely developed village, often around the village green, and scattered settlement in the rural land around. Other towns are compact hill or mountain towns constrained by topography. Many rural towns, like Ferrisburgh have several centers. Ferrisburgh's settlement pattern reflects the flat land and transport corridors used by early settlers. The swampy wetlands associated with the Otter, Little Otter and Lewis Creeks have tended to restrict settlement. Settlement patterns show regularly scattered houses on non-swampy land along the shores of Lake Champlain, at ferry landings, up the navigable rivers, and along the main north-south road (Route 7).

North Ferrisburgh appears to have been the most densely settled area of town historically, with the first permanent European settlement there in 1784, and a gristmill built there by Robert Hazard in about 1792. There was also an early mill on Little Otter, west of Ferrisburgh Center together with a grist mill and creamery, below Frazier's Falls. Here too was the first framed house in town. In 1806, a brickyard opened along Otter Creek, shipping to points all along Lake Champlain. In 1839, a Methodist Church was built in North Ferrisburgh. A Union Meeting Hall was built in 1840 at the town center using bricks from the brickyard near the Gage cemetery. The Union Meeting Hall is listed on the state's Register of Historic Places.

The 1871 Beers Atlas shows the fairly compact village in North Ferrisburgh



A 1940s Map of Long Point

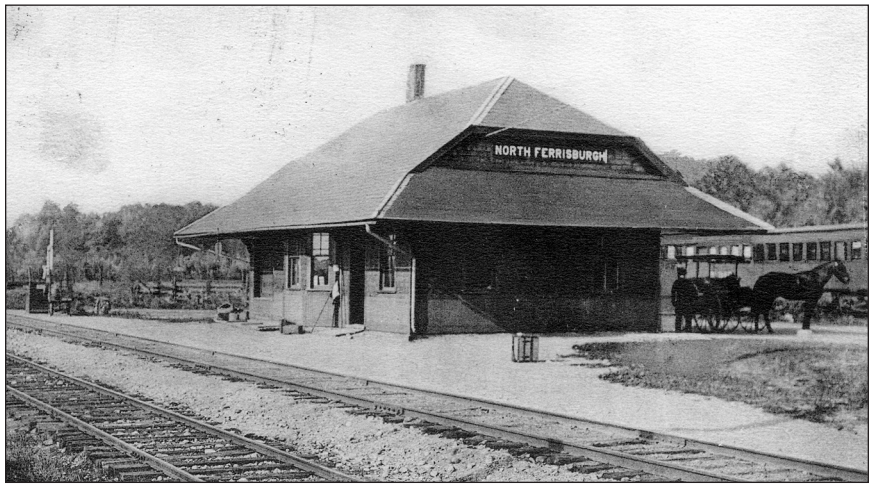

The 1810 David Hazard House Located on Route 7


The Martin Hotel at the North Ferrisburgh Crossroads

east off Route 7. This village consists of one 'main' road with a minor road up Champlin Hill to the little cemetery. The village also extended to the area around the waterfalls on Lewis Creek where there were a large number of commercial and residential buildings including: a forge, blacksmith, sash and blind factory, woolen mill, wheelwright and one of the earliest schools in town. There was also a 19th century scattering of houses at several locations along Route 7, including in the center of town, associated with the crossroads and the railroad.

In 1862, School House Number 17 was built at the intersection of Little Chicago Road with Route 7. Today that building houses the Ferrisburgh Historical Society. A short way north of this building in 1868, the Congregationalists built an elegant Italianate style church, which later became the Ferrisburgh Grange Hall. This building was burned down in 2005, but was rebuilt it as an historical replica and is now the new Town Offices and Community Center. By 1871, there were 17 schoolhouses and school districts in town.

By 1900, North Ferrisburgh had many businesses including: a flour mill, two grist mills, and three general stores owned by E.A. Preston, F.E. Baker and A.P. Williams. Dr. Ed Collins was the physician in the Hollow at that time.



The Rutland Railroad Depot in North Ferrisburgh (Moved to Route 7)

The big gray house in the Hollow, called the opera house by some, was the Allen House, built in 1884. The ground floor housed Preston's general store and the post office, and above there was a large dance floor and stage area for music and drama. The original backdrops for the stage curtains used in the old Grange are now located in the new building.

Houses in Ferrisburgh tended to be located on the 'main' roads, not minor side streets. There thus developed a regular distribution of houses along what is today Route 7, a pattern that was reinforced by the relatively close path of the railroad. Ferrisburgh does not show the high-density, concentrated linear pattern such as found in Pittsford further south on Route 7. Ferrisburgh is served by three post offices, namely North Ferrisburgh, Ferrisburgh and Vergennes, and has several centers of settlement.

Ferrisburgh's historic settlement pattern is, therefore, low-density linear along Route 7; a distinct, primarily 19th- century compact village in the Hollow in North Ferrisburgh; a dense string of buildings along the lakeshore, and less dense along river transport routes; and a less distinct clustering of houses around the Greenbush Road intersection with Route 7 and at the Little Chicago Road intersection with Route 7.

F. Reference Section

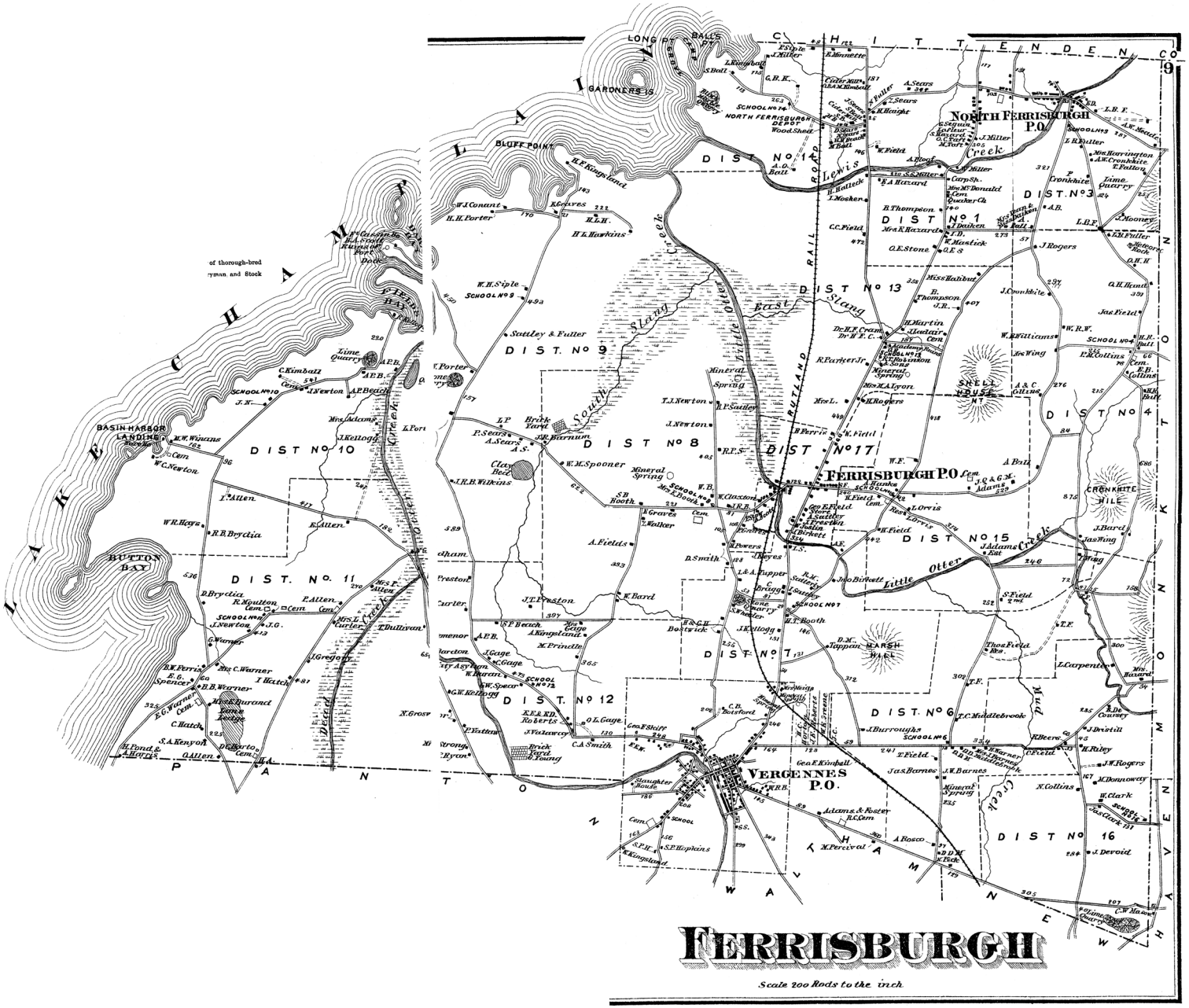
Atlas of Addison County, Vermont, by F. W. Beers et al. New York, 1871

Around the Mountains: Historical Essays about Charlotte, Ferrisburgh and Monkton, by William Wallace Higbee, re-published by the Charlotte Historical Society, 1991

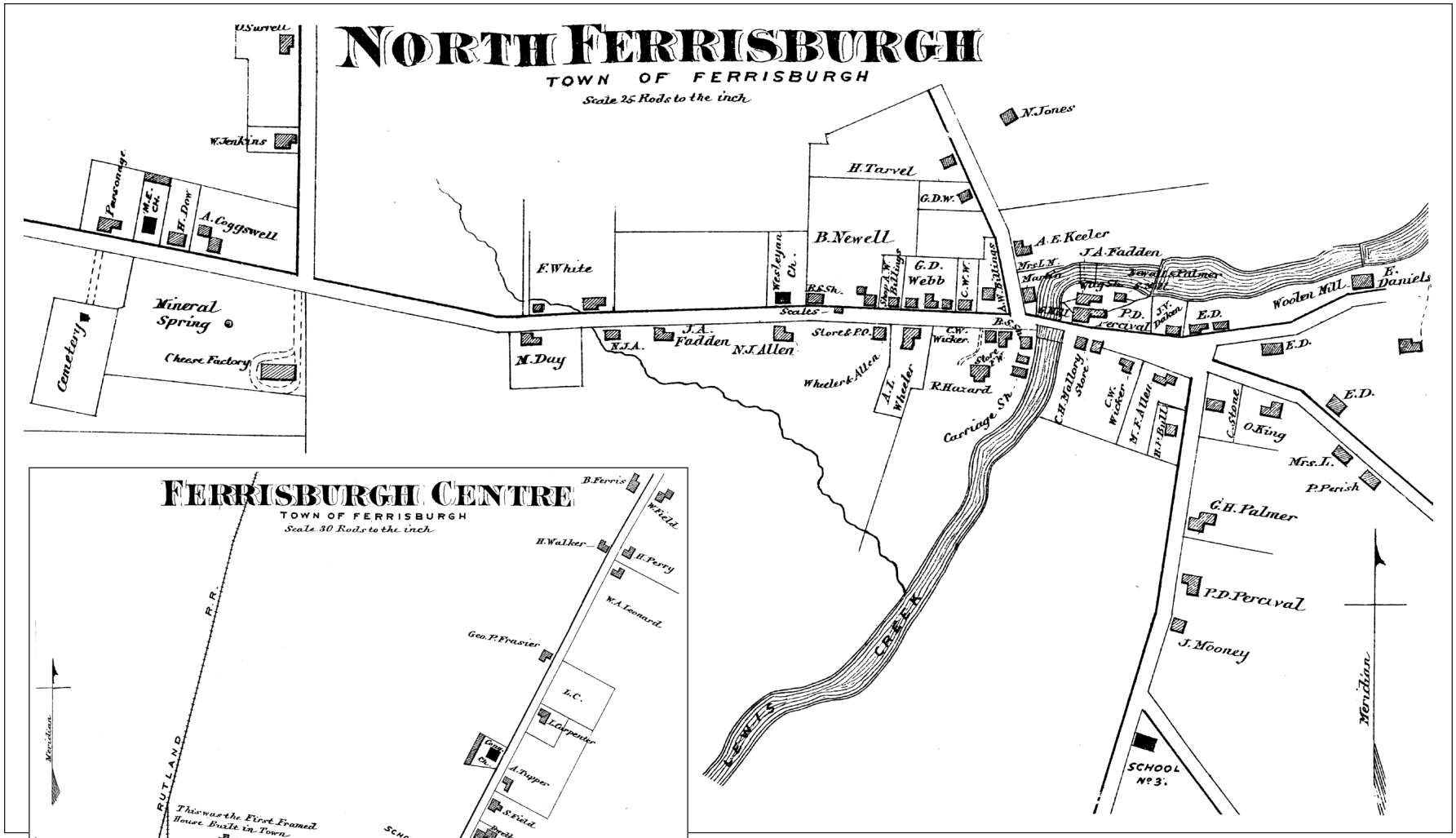
Lewis Creek Lost and Found, by Kevin Dann, Middlebury College Press, Middlebury, Vermont, 2001.

The Historic Architecture of Addison County. Vermont State Register of Historic Places. Vermont Division of Historic Preservation, 1992.

Thompson's Vermont, History, Natural, Civil and Statistical, by Zadock Thompson, published by Goodrich, Burlington, Vermont, 1842.



Map from the 1871 Beers Atlas



Maps from the 1871 Beers Atlas

CHAPTER 3. Ferrisburgh Present

3.1. NATURAL RESOURCES

A. Overview

Ferrisburgh has a wealth of natural areas amidst a predominately rural landscape. The relatively flat terrain has a handful of limestone cobbles and Shellhouse Mountain, which is 700 feet high. Most of the land is below 250 feet, with productive marshlands and three large rivers flowing into Lake Champlain.

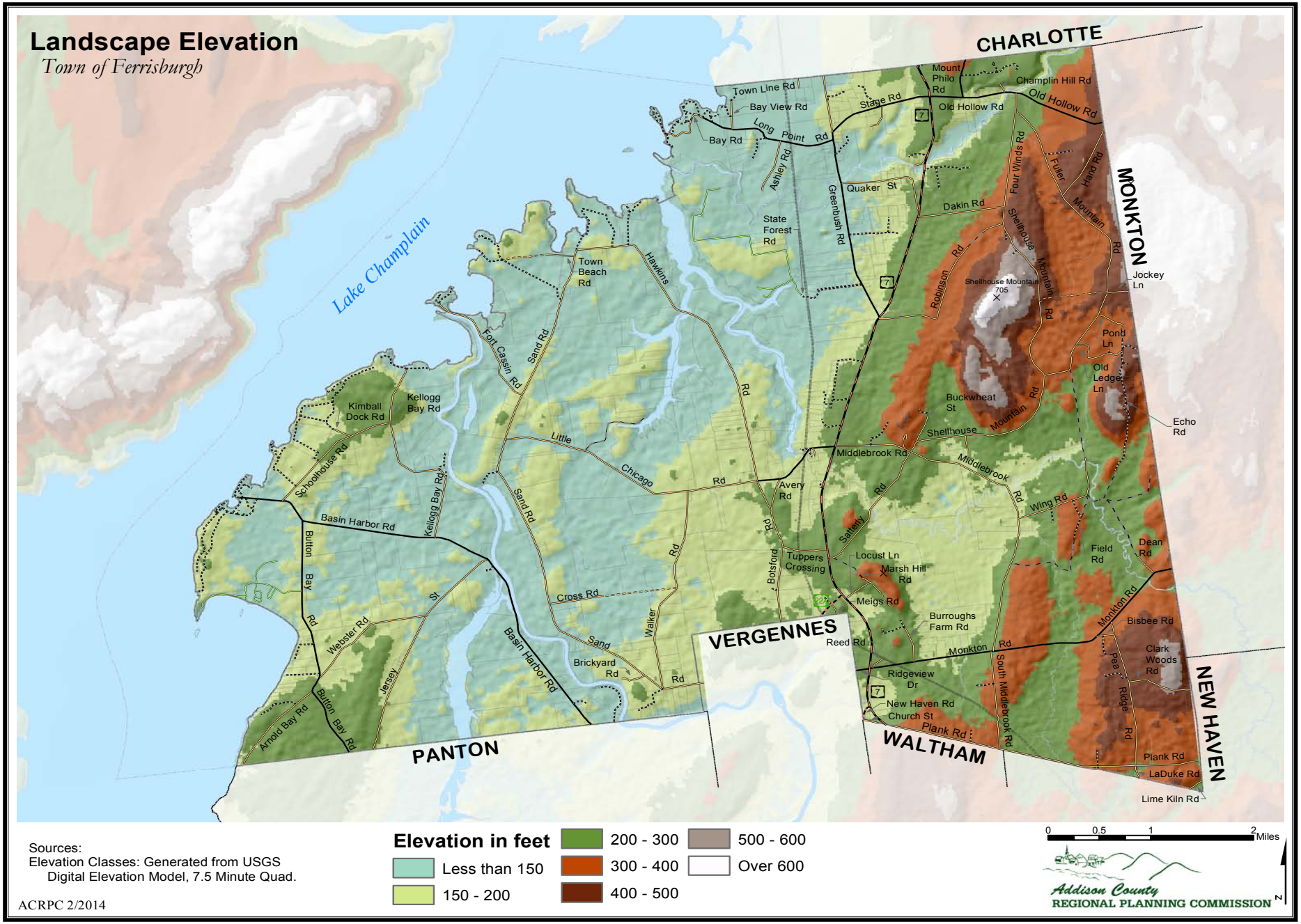
B. Geology and Topography

The mountains of the Adirondacks to the west, across Lake Champlain, are some of the most ancient rocks in North America. They are part of a Continental Shield area of hard igneous and metamorphic rocks such as granites and amphibolites. The sediments that were found on the floor of the ancient seas located east of this Shield area were eventually pushed, folded and subsequently faulted by mountain-building tectonic activity caused by continental drift. This mountain building first produced sedimentary rocks like sandstone, limestone and shales that may have been thrust up into mountains of spectacular height (comparable to the present day Himalayas). These rocks were then subjected to great heat and pressure to give us the hard metamorphic sandstones, quartzites, dolomites, marbles and slates of the Champlain Valley, and the schists found east of Ferrisburgh in the Green Mountains of Vermont (part of the Appalachian Mountain Chain). All of these former mountain features have long since been eroded down to the town's present-day moderate hills and low elevation topography. Because Ferrisburgh's geological history included periods when the area was covered with warm, shallow salt water, some of the bedrock in town contains fossil beds, particularly in the Button Bay area.

Between the Adirondacks and the Green Mountains, in a trough created by geologically old tectonic fault lines, lies the ancient deep Lake Champlain of today. Ferrisburgh's bedrock is sliced by many of these ancient faults, some of which have created the steep west-facing cliffs on Shellhouse and Fuller Mountains in the eastern section of town. Ferrisburgh remains in an area of moderate earthquake risk, as does much of the Northeast.

Much more recently in the geological time scale, at the close of the Pleistocene Ice Age as the continental glaciation receded northward, post-glacial Lake Vermont occupied the Champlain Valley about 13,000 years ago. The level of this ancient lake was several hundred feet higher than the present-day Lake

A View of the Champlain Valley in Ferrisburgh


Landscape Elevation
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Town Line Rd
Bay View Rd
Long Point Rd
Bay Rd
Stage Rd
Mount Philo Rd
Champlin Hill Rd
Old Hollow Rd
Ashley Rd
Greenbush Rd
Quaker St
Dakin Rd
State Forest Rd
Four Winds Rd
Fuller Hand Rd
Mountain Rd
Shellhouse Mountain Rd
Robinson Rd
Shellhouse Mountain 705
Jockey Ln
Pond Ln
Old Ledge Ln
Buckwheat St
Shellhouse Mountain Rd
Echo Rd
Town Beach Rd
Hawkins Rd
Fort Cassin Rd
Sand Rd
Kimball Dock Rd
Kellogg Bay Rd
Schoolhouse Rd
Little Chicago Rd
Middlebrook Rd
Middlebrook Rd
Wing Rd
Avery Rd
Salisbury Rd
Basin Harbor Rd
Button Bay Rd
Kellogg Bay Rd
Botsford Rd
Tuppers Crossing
Locust Ln
Marsh Hill Rd
Field Rd
Dean Rd
Meigs Rd
Burroughs Farm Rd
Monkton Rd
Bisbee Rd
Clark Woods Rd
Webster Rd
Jersey St
Cross Rd
Walker Rd
Sand Brickyard Rd
Basin Harbor Rd
Reed Rd
Monkton Rd
Ridgeview Dr
South Middlebrook Rd
Pease Ridge Rd
New Haven Rd
Church St
Plank Rd
Arnold Bay Rd
Button Bay Rd
Plank Rd
LaDuke Rd
Lime Kiln Rd
Sources:
Elevation Classes: Generated from USGS Digital Elevation Model, 7.5 Minute Quad.
ACRPC 2/2014
Elevation in feet
Less than 150
150 - 200
200 - 300
300 - 400
400 - 500
500 - 600
Over 600
0 0.5 1 2 Miles
N
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Champlain, and thus Ferrisburgh would have been mostly underwater for several hundred years. On the floor of this lake were deposited the silt and clay sediments and soils that are now found extensively throughout town. This glacial lake was immediately inundated by the Champlain Sea, a salt-water bay of the North Atlantic Ocean, which occupied the Champlain Valley for about 2,000 years (from about 13,000 to 11,000 years ago). The Champlain Sea left more silts and clays, and some wave-cut terraces and beaches, such as on the west flank of Mount Philo, just north of Ferrisburgh.

This geological history has provided us with mineral deposits, such as iron ore, which was mined throughout the 19th century in Ferrisburgh and surrounding towns, as well as the limestone that was used in many foundations, such as at the Union Meeting Hall. In addition, some of the clay deposits, which originated as bottom sediments in Lake Vermont and the Champlain Sea described above, were used in local brickyards both for local use, and for sale to other towns. However, compared with many other towns in Vermont, extraction of earth resources, including sand and gravel, is minimal in Ferrisburgh today.

C. Surface Waters

Lake Champlain is the sixth largest freshwater lake in the United States and is 112 miles long with many bays and over 70 islands. The deepest point in the lake is 400 feet, off Long Point in Ferrisburgh, towards Split Rock. Because the surface of Lake Champlain is only about 95 feet above sea level this makes Lake Champlain in Ferrisburgh one of the deepest points in the U.S. at about 297 feet below sea level compared with Death Valley in California which is only 282 feet below sea level. The average depth of the lake is only about 64 feet.

The mean water level of Lake Champlain is 95.5 feet above sea level, with a "flood Stage" elevation of 100 feet. The Federal Emergency Management Agency (FEMA) identifies the 1% annual risk, commonly known as the 100 year flood level, as an elevation of 102 feet above sea level. The spring floods in 2011 resulted in a Lake Champlain water level of 103 feet above sea level.

Lake Champlain is an extraordinarily important environmental, recreational and economic resource for the Town of Ferrisburgh and the State of Vermont. Lake Champlain's water serves as drinking water for many residents and visitors. The lake's aesthetic beauty continues to draw business and tourists to the region. Thus, water quality is critical for the lake to continue as a major regional drinking water supply and to sustain a healthy fishery and activities such as swimming and boating which, all residents identified as extremely important recreational activities. The State and Federal governments are continuing to develop a plan to restore the health of Lake Champlain, which has degraded due to a variety of pollutant sources. Blue-green algae has become an increasing health problem in parts of Lake Champlain.

The Vermont Department of Health tracks blue-green algae and has created a map, available to the public, showing the tracking sites and the collected data. There are a number of tracking sites in Ferrisburgh, and in 2013 all the sites reported 'generally safe'. The significance of Lake Champlain and its watershed have been underscored with the designation of this resource and its environs - including the Adirondack Mountains - as an International Biosphere Preserve.

Shorelands: Ferrisburgh has about 21 miles of shorelands, with ecologically significant habitats for state rare, endangered and threatened species scattered along most of the length of the shoreline. Shoreline protection against habitat loss, erosion and pollution of all types is critical for both wild plant and animal species and for the long-term recreation and camp use by humans.

Given the importance of Lake Champlain for fishing and other recreation, the recently arrived alewife and the constant problem of sea lampreys and zebra mussels suggest a critical need for aquatic ecosystem conservation policies and comprehensive planning.

Fishing: Lake Champlain is nationally renowned for its fisheries in terms of

numbers of fish, size and species diversity. This fishery is a multi-million dollar business, supporting both local and national fishing related business, and food for the home table. It should be noted however that the Vermont Department of Health has issued Health Advisories for fish caught in Vermont's waters. The risk comes primarily from heavy metals such as mercury, and from PCBs. Some of these pollutants were deposited many decades ago, others, such as mercury continue to be deposited by air blowing in from industrial regions far removed from Vermont.

Toxic Pollution: Long-term air and water pollution contribute a heavy burden on all the surface waters in town. The most recent reports, Health Advisories and updates, can be obtained from the Vermont Department of Health (see reference section below).

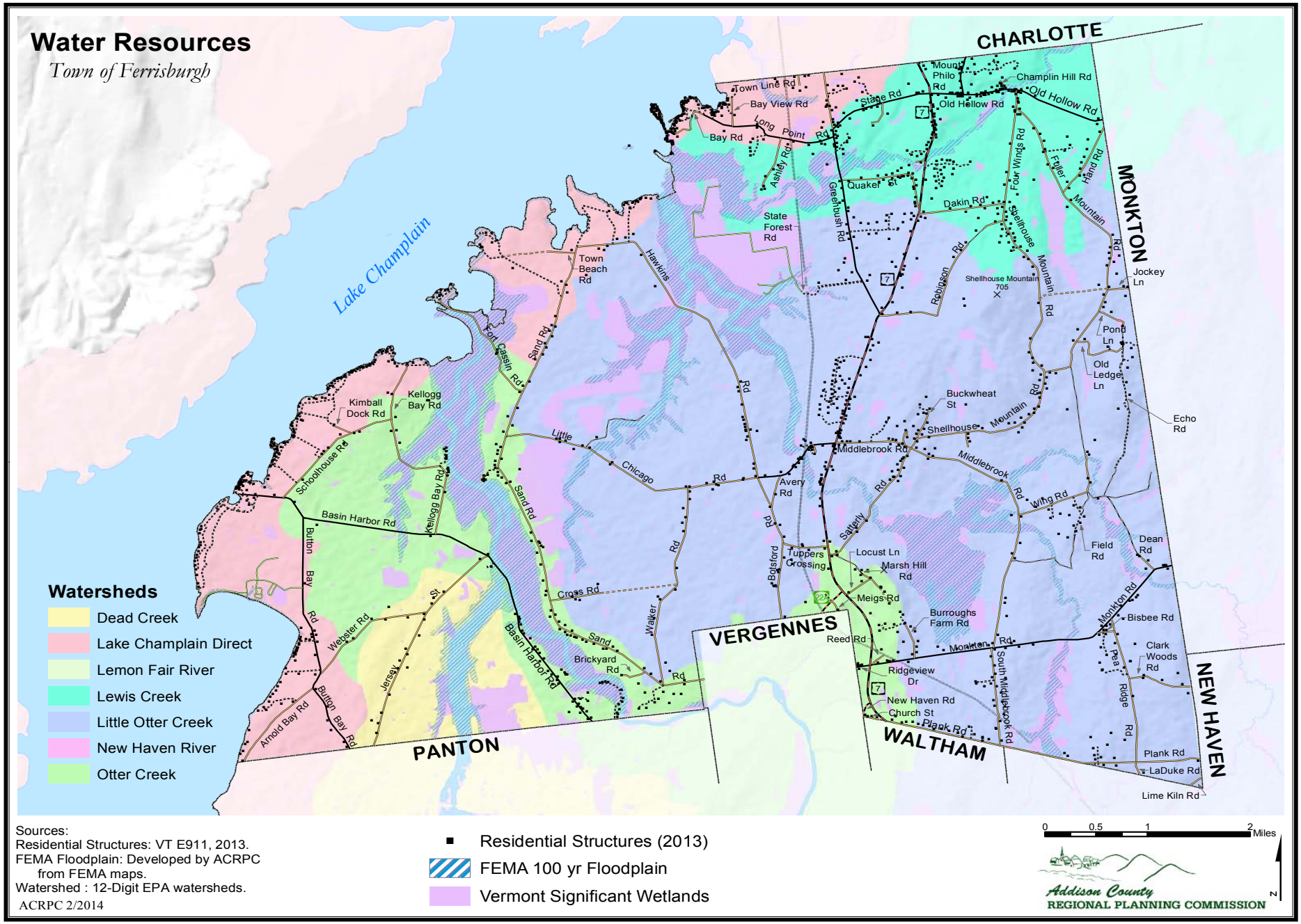
Sea Lamprey: Sea lamprey, which have been determined to be an ancient native species in Lake Champlain, spawn in several rivers flowing into Lake Champlain. These creatures attach themselves to fish and impact the multi-million dollar fishing business. Thus, there is a periodic lampricide program along Lewis Creek in Ferrisburgh, undertaken by the U.S. Fish and Wildlife Service, Vermont Department of Fish and Wildlife and the New York State Department of Fish and Wildlife.

Zebra Mussels are an invasive species causing havoc in the lake. These are small, very sharp-shelled mussels that encrust all the historic shipwrecks and block freshwater intake systems for houses and hotels, including Basin Harbor, and the Vergennes/ Panton Water District intake off Arnold's Bay.

A View of Kingsland Bay

National Significance: Lake Champlain was designated a resource of national significance by the Lake Champlain Special Designation Act (Public Law 101-596), which was signed into law in 1990. The Act's goal was to bring together people with diverse interests in the lake, from Vermont, New York and the province of Quebec to create a comprehensive pollution prevention, control and restoration plan for protecting the future of the Lake Champlain Basin. This goal has been realized by the plan, Opportunities for Action. The Lake Champlain Basin Program is currently working to implement the plan by addressing water quality issues, land and water use, and recreational and educational opportunities throughout the basin. Opportunities for Action identified four priorities for the Lake Champlain Basin, three of which are directly related to erosion and pollution in the lake:

Reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of the lake.


Water Resources
Town of Ferrisburgh
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Lake Champlain
Watersheds
Dead Creek
Lake Champlain Direct
Lemon Fair River
Lewis Creek
Little Otter Creek
New Haven River
Otter Creek
Residential Structures (2013)
FEMA 100 yr Floodplain
Vermont Significant Wetlands
Sources:
Residential Structures: VT E911, 2013.
FEMA Floodplain: Developed by ACRPC from FEMA maps.
Watershed : 12-Digit EPA watersheds.
ACRPC 2/2014
0 0.5 1 2 Miles
Addison County
REGIONAL PLANNING COMMISSION

Reduce toxic contamination to protect public health and the Lake Champlain ecosystem.

Minimize the risks to humans from water-related health hazards in the Lake Champlain Basin.

Streams and Rivers: Ferrisburgh has four substantial rivers or streams with important ecological and human functions, Otter, Little Otter, Lewis and Dead Creeks. These streams flow into Lake Champlain. The flow rate in Otter Creek is the third greatest in Vermont after the Winooski and Mississquoi Rivers. Otter Creek drains a land area of about 1,100 square miles; only the Winooski drains a larger area. Lewis Creek drains about 81 square miles.

All Ferrisburgh's surface waters are state designated as Class B waters of recreational use, not drinkable. Agricultural runoff is the primary cause of surface water pollution, leading to some eutrophication and algae blooms in lake bays. Nutrient enriched agricultural runoff is high along Otter Creek. In addition, poor septic systems contribute pollutants from some homes along all the rivers and lakeshore.

Otter Creek: The main stem of the Otter Creek, at 100 miles long, is the longest flat-water boating river in Vermont. Historically, the Otter Creek was used as a major highway for native Americans and was a primary access route for early European settlers coming north from Connecticut and Massachusetts. The City of Vergennes, located at the lower falls of the Otter Creek, was an early industrial center in the region and was carved out from the agricultural towns of Ferrisburgh, Panton and New Haven. The Otter Creek watershed (area of land that drains into Otter Creek) extends into Chittenden, Addison, Rutland and Bennington counties.

The most significant cause of water quality degradation in Otter Creek Watershed is sedimentation. The second major cause is pathogens, from wastewater treatment facility outfalls, animal waste runoff and failing septic systems adjacent to surface waters. The third major cause is nutrient enrichment, which is largely a result of agricultural runoff.

As part of its Surface Waters Management Plan, the Vermont Agency of Natural Resources (ANR) published the 2012 Otter Creek basin Water Quality Management Plan.,. This report looks at the health of the Otter Creek Watershed and identifies partners and management strategies.

The smaller watersheds of Little Otter Creek and Lewis Creek, found north of the Otter Creek watershed, and drain directly into Lake Champlain, are also included in the Agency of Natural Resources comprehensive plan.

Lewis Creek: Lewis Creek flows from its headwaters in Starksboro 33 miles through the towns of Monkton, Hinesburg, Charlotte, and several miles through Ferrisburgh, before emptying into Lake Champlain. Along the way, it drains 52,000 acres and flows past farms and villages, through deep woods and open pastures, over ancient ledges and under more than 20 bridges.

From Starksboro to Ferrisburgh, the creek is a haven for diverse wildlife including mink and otter, bobcat and fisher, kingfisher and great blue heron, native brook trout and others. Their habitats vary from mile to mile: from overhanging forests where trout dart in shaded pools, to marshy areas where spring peepers announce the arrival of warm weather, to open pastures where Holsteins graze and blackbirds and bobolinks nest nearby.

Lewis Creek has also been a focal point for human settlement as in the 1800s settlers cleared the land and built mills and dams to harness the water's power. Many established family farms to cultivate the fertile valley floor. During this time, the Lewis Creek watershed began to experience deforestation, stream bank erosion, and sedimentation. Over the last century, Lewis Creek recovered much of its natural beauty. Today the mills are quiet, but the creek's floodplains remain an important agricultural resource, and its lazy wanderings and dramatic waterfalls have become critically important to wildlife and to people seeking refuge from urban life.

Development continues to expand into rural areas, and the Lewis Creek watershed is once again becoming threatened by habitat degradation and fragmentation. Since 1990, the Lewis Creek Association (LCA) has been working with these towns and their citizens to protect the Lewis Creek, its tributaries, and the watershed as a whole. LCA works is involved in the

following efforts:

- Outreach and education for local schools, community organizations and town governments
- Publishing a website and printed newsletter
- Tracking cards for wildlife identification and field outings
- Geomorphic assessments and annual water quality sampling
- Stream channel and wildlife habitat restoration
- Development of land management plans, open space agreements and stewardship plans
- Involvement in watershed, town and regional planning
- Detailed results from the LCA's annual water quality sampling program are available online at www.lewiscreek.org.

Little Otter Creek: Little Otter Creek begins in the town of Bristol and flows through New Haven, Monkton, and Ferrisburgh where it is joined by several smaller tributaries, including Mud Creek. The creek continues north west before flowing into Lake Champlain in the Town of Ferrisburgh. The watershed for Little Otter Creek covers 69 square miles, primarily in the towns of Monkton, Bristol, New Haven, Waltham, and Ferrisburgh. Overall, land use in the watershed is 34% forested 60% agricultural, 3% developed, and 3% wetland. Little Otter Creek Wildlife Management Area (WMA) is located in west central Vermont in the town of Ferrisburg near Lake Champlain. The State of Vermont owns 1,416 acres near the mouth of the Creek. The property is managed by the Vermont Fish & Wildlife Department.

Little Otter Creek is a lowland river in the Champlain Basin with three major branches. The WMA is 60% wetland and the rest mostly upland forest, with a small amount of acreage in field. Near the mouth, the river's water level is naturally regulated by Lake Champlain, creating a rich diversity of aquatic plants. The upland forest is a mix of red maple, white ash, gray birch, red and

Two Views of Lewis Creek in Ferrisburgh

white oak, shagbark hickory, white pine and hemlock. This is another rich wildlife habitat area in Ferrisburgh supporting fish, raptors, migrating birds, mammals, reptiles and amphibians. It is open for hunting, fishing, trapping, boating and hiking.

Dead Creek: Dead Creek is approximately 16 miles long and is the premier birding spot in Addison County due to its varied habitats and excellent access. The associated wildlife management area offers a mixture of marshes, deciduous forests, open fields, and pine plantations. Agricultural fields along Rt. 17 offer opportunities to see snow geese in the late fall and short-eared owls through the winter. Norton Town Road traverses the southern end of the creek. Marshes further north along the creek can be viewed from West Rd. (Stone Dam) on the east and off of Jersey Street/Goodrich Corners Rd. on the west. Dead Creek flows under Panton Rd. and then enters the Otter Creek along Basin Harbor Road.

D. Groundwater and Drinking Water

Groundwater is the water that is stored underground, often in underground aquifers, or porous rocks or fractured rocks. Ferrisburgh does not appear to have extensive or high yielding underground water storage or aquifers. Nonetheless, many town residents, especially in North Ferrisburgh, including Greenbush Road, rely on drilled wells. A map of wellheads is available in the Town Clerk's Office. Some groundwater wells produce water containing nuisance substances such as iron, manganese, hardness minerals, hydrogen sulfide gas and sulfate reducing or iron fixing bacteria. Well yields vary from plentiful to extremely low and highly problematic.

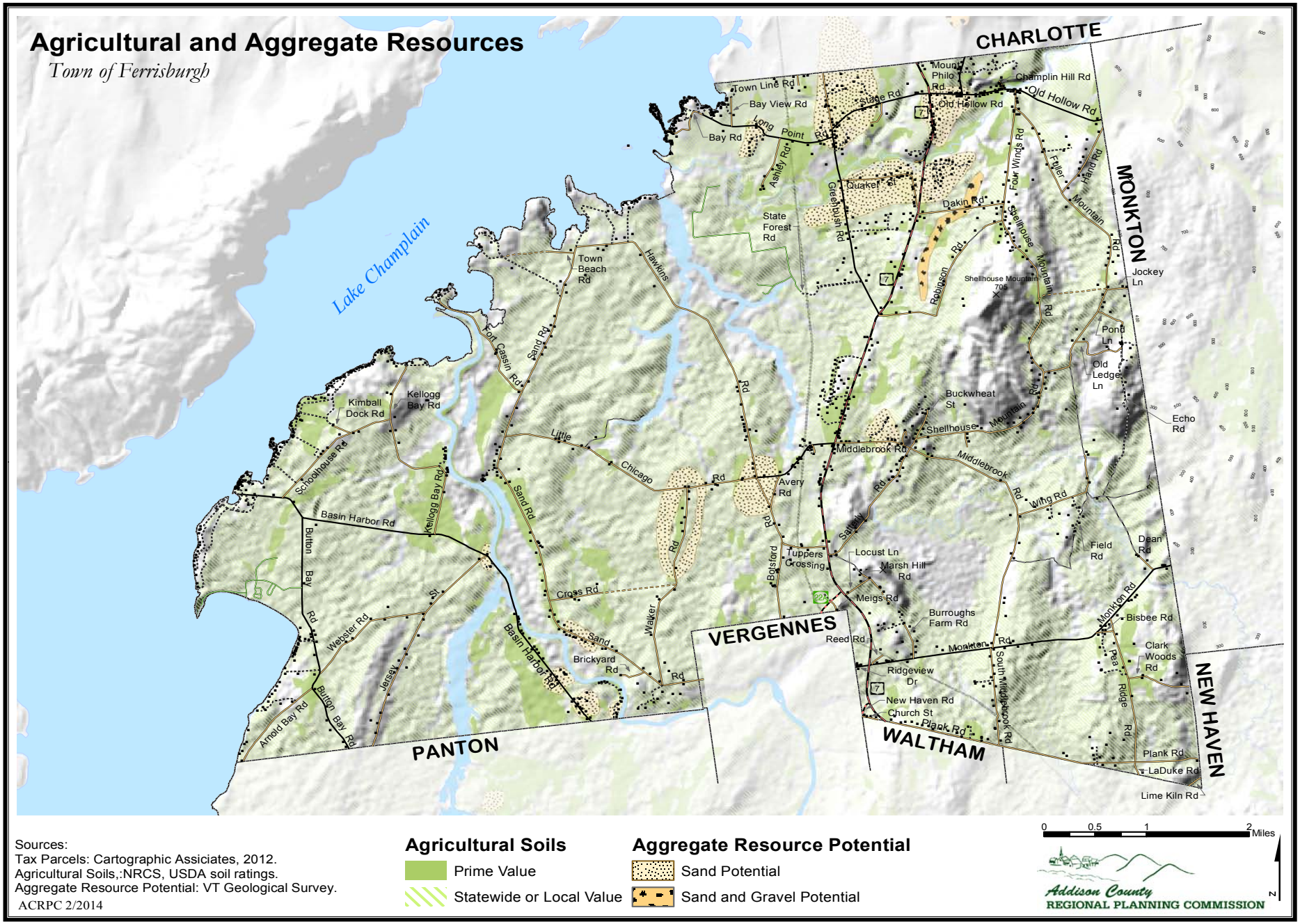
Looking East towards the Green Mountains from Ferrisburgh

Other residents rely on a mix of groundwater and surface water in wells that are relatively shallow dug wells or springs. Such wells are susceptible to natural contamination and pollutants such as leaking petroleum or industrial tanks, road salt, failing septic systems and agricultural chemicals.

About half of all residences in Ferrisburgh, if not more, receive their drinking water via several private lines from the Vergennes-Panton Water District. This is surface water, from Lake Champlain, piped into the pumping station in Arnolds Bay from a deep water intake located around a quarter mile offshore, and then, after treatment, distributed via various private lines throughout the southern, western and central areas of Ferrisburgh. (See further discussion in Section 3.2 G for more details on drinking water supplies.)

E. Soils

Soils in Ferrisburgh were deposited under a series of historic glacial lakes formed by melting ice. The soils also received some marine deposits during a period when the Champlain Valley was connected to the North Atlantic Ocean through its northern end. The resultant dominant soils in Ferrisburgh are high quality agricultural soils that are calcium rich and hold water, such as the Vergennes, Covington and Livingston series of soils. These soils include heavy clays, which drain somewhat poorly and greatly minimize potential for development owing to their low permeability and their tendency to erode easily, but they are very good for agriculture. Soils classified as Amenia, Elmwood, Melrose and Nellis soils that are more loamy in nature are considered 'prime' agricultural soils, with Vergennes and Covington listed as having 'statewide' importance. The terms 'Prime', 'Statewide' and 'Local' are particularly critical in Act 250 development review, under criteria 9B and 9C,


Agricultural and Aggregate Resources
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Town Line Rd
Bay View Rd
Bay Rd
Long Point Rd
Ashley Rd
Mount Philo Rd
Champlin Hill Rd
Old Hollow Rd
Stage Rd
Quaker St
State Forest Rd
Greenbush Rd
Dakin Rd
Four Winds Rd
Tyler Hand Rd
Mountain Rd
Shellhouse Mountain Rd
Robinson Rd
Shellhouse Mountain 705
Jockey Ln
Pond Ln
Old Ledge Ln
Echo Rd
Buckwheat St
Shellhouse Mountain Rd
Middlebrook Rd
Wing Rd
Town Beach Rd
Hawkins Rd
Fort Cassin Rd
Sand Rd
Kimball Dock Rd
Kellogg Bay Rd
Schoolhouse Rd
Basin Harbor Rd
Button Bay Rd
Webster Rd
Jersey St
Arnold Bay Rd
Burton Bay Rd
Little Chicago Rd
Avery Rd
Salisbury Rd
Botsford Rd
Tuppers Crossing
Locust Ln
Marsh Hill Rd
Meigs Rd
Cross Rd
Walker Rd
Sand Brickyard Rd
Basin Harbor Rd
Reed Rd
Burroughs Farm Rd
Monkton Rd
Ridgeview Dr
New Haven Rd
Church St
Plank Rd
South Middlebrook Rd
Field Rd
Dean Rd
Bisbee Rd
Clark Woods Rd
Pea Ridge Rd
Plank Rd
LaDuke Rd
Lime Kiln Rd
Sources:
Tax Parcels: Cartographic Assiciates, 2012.
Agricultural Soils,:NRCS, USDA soil ratings.
Aggregate Resource Potential: VT Geological Survey.
ACRPC 2/2014
Agricultural Soils
Prime Value
Statewide or Local Value
Aggregate Resource Potential
Sand Potential
Sand and Gravel Potential
0 0.5 1 2 Miles
N
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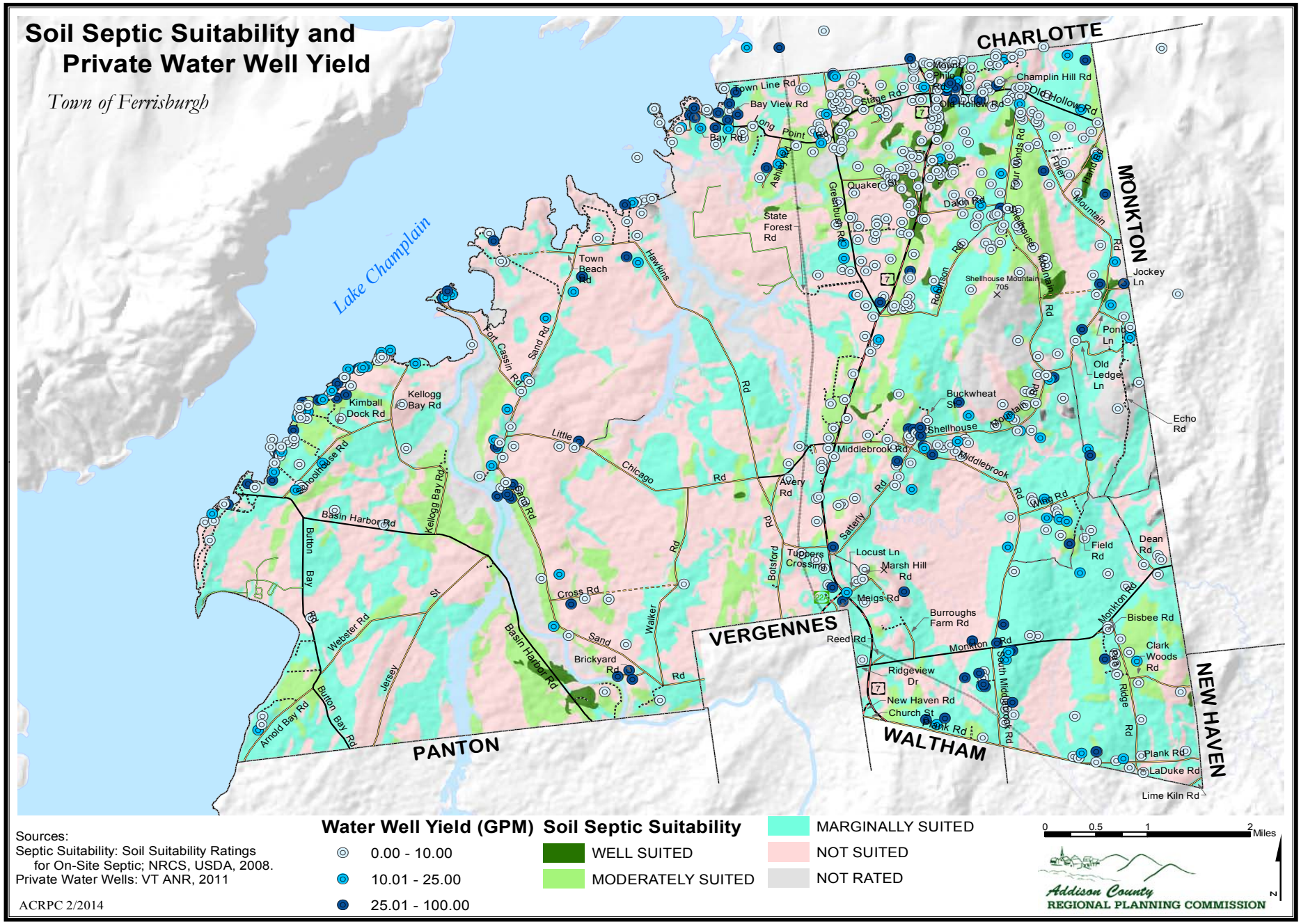
Soil Septic Suitability and
Private Water Well Yield
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Town Line Rd
Bay View Rd
Bay Rd
Long Point Rd
Ashley Rd
Quaker St
State Forest Rd
Greenbush Rd
Dakin Rd
Old Hollow Rd
Champlin Hill Rd
Cstage Rd
Fuller Mountain Rd
Shellhouse Mountain
705
Jockey Ln
Pond Ln
Old Ledge Ln
Echo Rd
Buckwheat St
Shellhouse Mountain Rd
Middlebrook Rd
Town Beach Rd
Hawkins Rd
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Walker Rd
Basin Harbor Rd
Tuppers Crossing
Botsford Rd
Satterly Rd
Locust Ln
Marsh Hill Rd
Meigs Rd
Reed Rd
Burroughs Farm Rd
Monkton Rd
Ridgeview Dr
New Haven Rd
Church St
Plank Rd
South Middlebrook Rd
Ridge Rd
Field Rd
Dean Rd
Bisbee Rd
Clark Woods Rd
LaDuke Rd
Lime Kiln Rd
Water Well Yield (GPM)
0.00 - 10.00
10.01 - 25.00
25.01 - 100.00
Soil Septic Suitability
WELL SUITED
MODERATELY SUITED
MARGINALLY SUITED
NOT SUITED
NOT RATED
0 0.5 1 2 Miles
N
Addison County
REGIONAL PLANNING COMMISSION
Sources:
Septic Suitability: Soil Suitability Ratings
for On-Site Septic; NRCS, USDA, 2008.
Private Water Wells: VT ANR, 2011
ACRPC 2/2014

which implement the state's policy to preserve primary agricultural and forest soils and require mitigation plans.

Prime agricultural soils are found in only limited areas in Vermont and are often covered by development because early settlers established towns in such areas, and also because such soil has good ability to handle wastewater. Many acres of agricultural soils, mostly 'Statewide' agricultural soils, have been conserved in Ferrisburgh, providing a large area for commercial agriculture. Ferrisburgh has very little 'Prime' soil and, thus, conserving soils resources will be of paramount importance to future generations.

F. Septic suitability

Ferrisburgh residents are well aware of the limitations of the town's soils with respect to conventional on-site sewage disposal and wastewater treatment. More than half the town has soils unsuitable for conventional on-site septic systems and much of the rest of the town has soils only marginally suited to handling septic. The best areas for handling septic often overlap with good agricultural soils, and are found in North Ferrisburgh, and to a limited degree in south and west Ferrisburgh.

The lack of a municipal and/or community waste water system is a common restriction to concentrating growth in village and neighborhood centers. New waste water systems are becoming increasingly available to mitigate this restriction, but may be seen as unaffordable to many towns.

The Vermont Department of Environmental Conservation offers the Clean Water State Revolving Loan Fund for towns to investigate issues and solutions to wastewater handling.

The State of Vermont, through the Agency of Natural Resources (ANR), Department of Environmental Conservation (DEC), currently regulates on-site sewage disposal. The current state Wastewater Systems and Potable Water Supply Rules that went into effect in 2007, now require that all subdivisions, new construction, changes in use of property and additions to existing structures that increase the number of bedrooms, obtain a state permit.

See Community Facilities and Services for more on waste water handling.

G. Slope

The topography of Ferrisburgh is relatively flat, with hilly areas in the town's eastern portion. Thus, slope does not typically prove to be a barrier to construction in the residential planning areas. Steep slopes in Ferrisburgh are typically associated with river corridors, shoreland areas, conservation areas such as Shell House Mountain, and other natural areas, associated with Fuller Mountain in Monkton. Care is needed to slow erosion in these areas, preventing soil and habitat loss, and preserving water quality.

H. Forest Ecosystems

Although in the historic past there would have been extensive areas of forestlands, including swamp forest, today less than 50 percent of Ferrisburgh's land area is forested. Mesic, clay-plain lowland forest, once the most widespread ecosystem in the Champlain Valley, is now present only as isolated remnant tracts. Tree species included: white oak, red oak, swamp white oak, bur oak, ash, hemlock, shagbark hickory, bitternut hickory, red maple, silver maple, sugar maple and white pine. All of these still grow abundantly in the Champlain Valley, but no longer in the complex clay-plain ecosystems that once forested the valley.

Wetland forests include tree species such as silver maple, American elm, swamp white oak, shagbark hickory, muscle wood and willows. Drier forests include species typical of rich lowland species such as sugar maples, white pine, beech, birch, red oak, white oak, remnant American elm and remnant butternut and basswood.

Since most of Ferrisburgh is flat and soils are largely composed of clays, the town has excellent potential for timber production. Forestlands in Ferrisburgh are not prone to leaching from acid rain because the carbonate content of the soils buffer the acid impact. Fertile, productive forest soils are abundant in Ferrisburgh.

For the first 200 years of European settlement, the agricultural areas of the Champlain Valley had a relatively stable land use pattern. The original native forest had been largely cleared and turned into farmland by the early 1800s. Hilltops, wet areas and other places not as useful for growing crops

or pasturing herds were left as woodlots, which provided firewood, lumber and a potential source of income in time of need. Hedgerows defined the fields, running along the edges of roads, property lines and small streams. The hedgerows were essential to the survival of some of the native forest species as they allowed for connections and movement between the relatively small woodlots.

This pattern began to change in the 20th century as some of the less viable farmland was abandoned. This was followed by the transition to larger farm machinery, which led to the merger of smaller fields, often resulting in the elimination of hedgerows. The woodlot ceased to be a necessary part of a farm and thus often became the most expendable land to be sold for development. Over the second half of the century, residential development began to occur in and around the edges of wooded areas throughout the Champlain Valley. Despite increases in the total amount of woodland over the past century in the valley, the ecological functions of the forest have in many places declined resulting in a poorer quality habitat for wildlife. In an attempt to slow down or reverse this trend, the Ferrisburgh Conservation Commission has advised the Planning Commission to give emphasis to preserving forestlands in town.

Wetlands along the Little Otter Creek

Elizabeth Robinson Town Forest: In about 1962, Elizabeth Robinson willed the town a 135-acre woodlot on Shellhouse Mountain Road. Today there appear to be 121 acres shown on the tax parcel map. This forest was logged significantly in 1951-52. In the late 1960s, the forest was managed by a town forester for a mix of uses including timber, watershed protection, demonstration forestry, and recreation. In the 1970s, the forest was managed by the state's Public Lands Forester. In the 1980s, the Ferrisburgh Conservation Commission (FCC) was established and today this organization has a Management Plan with management goals to preserve the forest as a surviving remnant of the Champlain Clayplain Forest for future generations. The FCC Management Plan also includes goals of protecting wildlife, especially bobcat habitats, and to minimize logging, erosion and recreational uses.

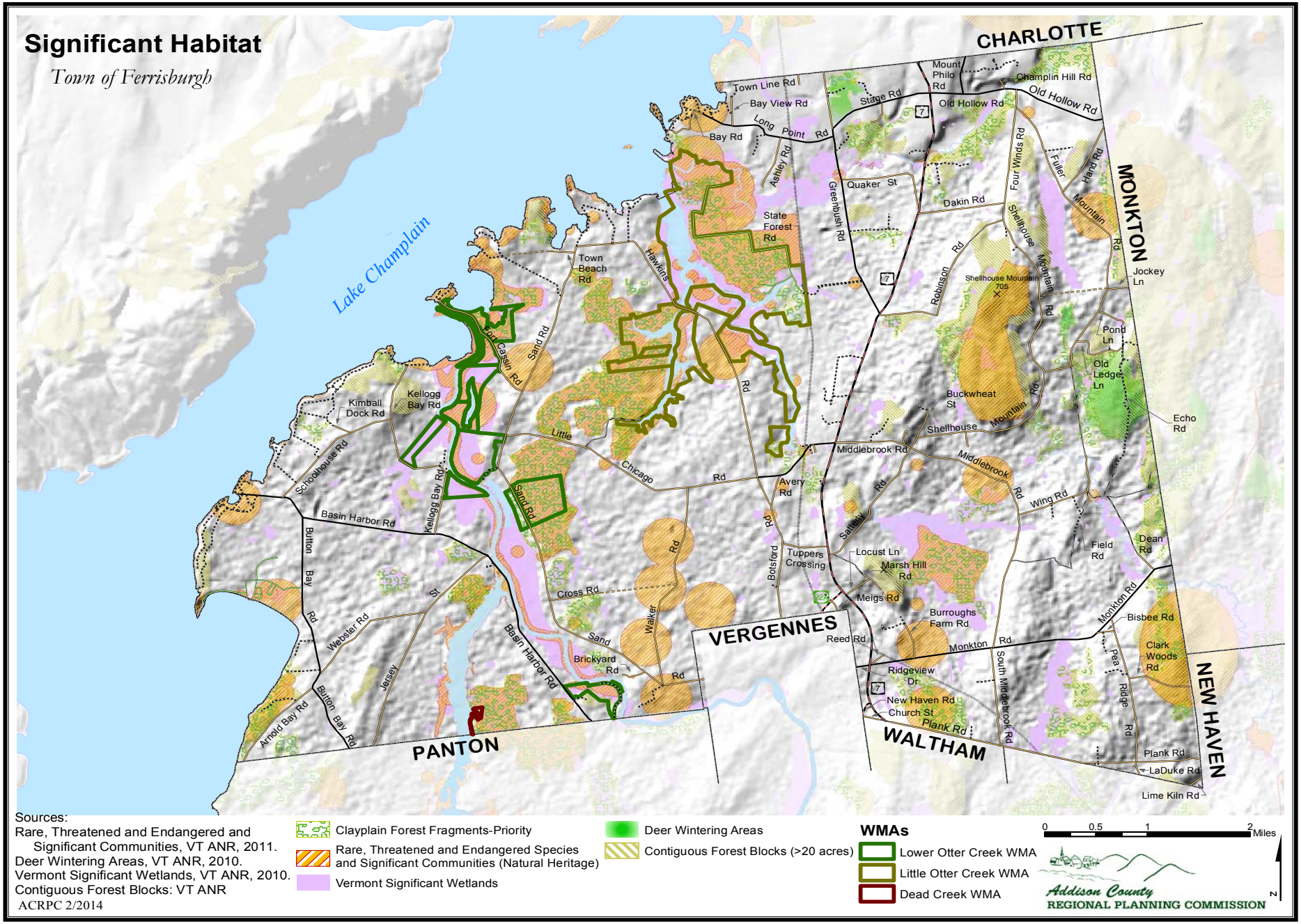
An Addison County study done in 2012, Landscape-based Forest Stewardship, mapped total forest cover and recent forest cover loss in Ferrisburgh. The Shell -house Mountain area, where the Rowland Robinson Memorial Municipal Forest is established, is the only 'core forest' area in town, meaning it has 250 plus acres of contiguous forest cover. Important forest patches of 20 acres or more are found mostly in association with the major river corridors and wetland areas of town. Non-regulatory and regulatory strategies need to be considered for preserving all of these forested areas in order to ensure wildlife habitat, better water quality, flood mitigation, scenic resources and outdoor recreation opportunities.

I. Wetlands

Ferrisburgh has some of the highest quality wetlands in New England. These lie in the lower reaches of the Otter Creek, Little Otter, Lewis and Dead Creek. They are collectively referred to as the Otter Creek complex and are perhaps best known for their biological importance providing necessary habitats for wildlife and fish, and home to a number of state threatened, endangered and rare plants. The wetlands along Lower Otter Creek are home to many rare state plants.

Significant wetlands in Ferrisburgh include:

- **Little Otter/Lewis Creek Marsh, 1,600 acres.**
- **Upper Little Otter Creek/Marsh Hill Swamp/Marsh Hill Meadow, 600 acres**
- **Little Chicago Road Woods, 200 acres**
- **Dead Creek Marsh, 600 acres**


Significant Habitat
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Town Line Rd
Bay View Rd
Long Point Rd
Bay Rd
Stage Rd
Mount Philo Rd
Champlain Hill Rd
Old Hollow Rd
Ashley Rd
Greenbush Rd
Quaker St
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Robinson Rd
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Old Ledge Ln
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Locust Ln
Marsh Hill Rd
Meigs Rd
Burroughs Farm Rd
Reed Rd
Monkton Rd
Field Rd
Dean Rd
Bisbee Rd
Clark Woods Rd
Pea Ridge Rd
Ridgeview Dr
New Haven Rd
Church St
Plank Rd
South Middlebrook Rd
Arnold Bay Rd
Button Bay Rd
Brickyard Rd
Sand Walker Rd
Basin Harbor Rd
Plank Rd
LaDuke Rd
Lime Kiln Rd
Sources:
Rare, Threatened and Endangered and Significant Communities, VT ANR, 2011.
Deer Wintering Areas, VT ANR, 2010.
Vermont Significant Wetlands, VT ANR, 2010.
Contiguous Forest Blocks: VT ANR
ACRPC 2/2014
Clayplain Forest Fragments-Priority
Rare, Threatened and Endangered Species and Significant Communities (Natural Heritage)
Vermont Significant Wetlands
Deer Wintering Areas
Contiguous Forest Blocks (>20 acres)
WMAs
Lower Otter Creek WMA
Little Otter Creek WMA
Dead Creek WMA
0 0.5 1 2 Miles
Addison County
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N

- **Lower Otter Creek, 1,000 acres**

Increased permanent residences, marinas and increased nutrient runoff all threaten wetland complexes. Wetlands have many important functions, including filtering pollutants, flood storage, providing habitat for state threatened and endangered species, recreation, economic benefits, scenic beauty, promote spawning, feeding and general habitat for fish and amphibians.

It has been found that leaving wetlands intact and designing projects around them, rather than filling them in, or interrupting the wetland area with roads or culverts, is likely to be far more cost-effective over the long-term than trying to replicate the functions they provide elsewhere. Each wetland must be evaluated on a case-by-case basis.

All wetlands in the United States are regulated by the U.S. Army Corps of Engineers (COE). Any draining, dredging, filling, excavation or other development requires a COE permit. Federal wetland rules operate independent of state regulations. The National Wetlands Inventory (NWI) was conducted by the U.S. Fish & Wildlife Service in the 1970s. The Vermont Agency of Natural Resources' Department of Environmental Conservation manages wetlands in the State and maintains the Vermont Significant Wetland Inventory (VSWI) Map (available to be used as a guide in the Town Clerk's Office). The VSWI map continues to be updated. Data is available electronically. Because the status of wetlands can be changed, mapping should be verified by having a District Wetlands Ecologist visit a site of interest. Vermont Wetland Rules establish three classes of wetlands:

Class One wetlands are exceptional and irreplaceable in their contribution to Vermont's natural heritage and merit the highest level of protection. As of this writing, none of Ferrisburgh's wetlands have been placed in this classification, however the Little Otter Creek Complex is under consideration and likely to be deemed Class One in the near future. (Only a very small acreage anywhere in Vermont has been identified as Class One).

Class Two wetlands are shown on the VSWI Map. These are significant wetlands, which require a 50-foot minimum undisturbed natural buffer.

An Egret in a Ferrisburgh Wetland

Ferrisburgh, as the map shows, has many acres of Class Two wetlands.

Class Three wetlands have not been determined to be of such significance that they require protection under state law. However, under the jurisdiction of the US Corps of Engineers, they are locally significant, and therefore can and should be protected at the local level by non-regulatory and regulatory by laws. Ferrisburgh has many class three wetlands.

Vermont Wetland Rules protect all Class One and Class Two Wetlands, as well as all wetlands contiguous to such mapped wetlands. In other words, any wetland that is hydrologically and vegetatively connected to a mapped wetland is also protected under the rules, regardless of whether it appears on the maps. If a non-mapped wetland is adjacent to a mapped wetland, it is considered contiguous and is protected by the rules. ANR staff makes this determination.

Vermont Wetland Rules apply to buffer zones, and any activity in the wetland or buffer requires a "wetland permit" from the ANR (see Reference Section

below).

J. Flood Resiliency

Flooding

Flooding is the most common natural disaster causing property damage in Vermont. Flood hazard areas have been mapped along many of Ferrisburgh's streams and the Lake Champlain shoreline. Flood hazard areas in town are currently defined as the area that would be inundated during a 100-year flood (The 100-year flood is the flood elevation that has a one percent chance of being equaled or exceeded each year). In Ferrisburgh, many of the extensive floodplains and wetlands identified on FEMA maps are the result of lake floodwaters backing up into the Town's major rivers. FEMA's flood maps are available for reference in the Town Clerk's Office.

A Pair of Eagles in Ferrisburgh

The town is enrolled in the National Flood Insurance Program. Any development in flood hazard areas is not only a risk to itself, but has the potential to increase the severity of flooding downstream from its location. Flooding is a serious threat to public safety, structures and infrastructure, and the natural environment. (As discussed later, it is the town's policy to limit further development within defined flood and River Corridor areas.) In late spring and early summer of 2011 a record elevation for Lake Champlain of 103 feet was recorded following a large snow melt and heavy spring rains. Recent work by river scientists at the VT Agency of Natural Resources (ANR) has identified erosion along river banks as potentially more threatening to property owners than flooding.

Erosion Hazards

While FEMA maps show the areas impacted when water rises to a specified flood elevation, they do not take into account homes along river banks that are far above the flood depth. Due to the erosive actions of fast moving flood waters, these homes can be at risk when the riverbank washes out from under them. This area of risk is called a river corridor zone.

ANR is developing maps for every river in Vermont which will show river corridors, so that towns may plan for the safety of their residents. For smaller streams not mapped by ANR, a 50' buffer would be an effective river corridor. Adopting zoning which limits development in these areas, similar to floodplain zoning, is encouraged and certain financial benefits are provided for towns with river corridor zoning in the event of a declared disaster. This plan supports the adoption of river corridor zoning which will limit development within the identified zones.

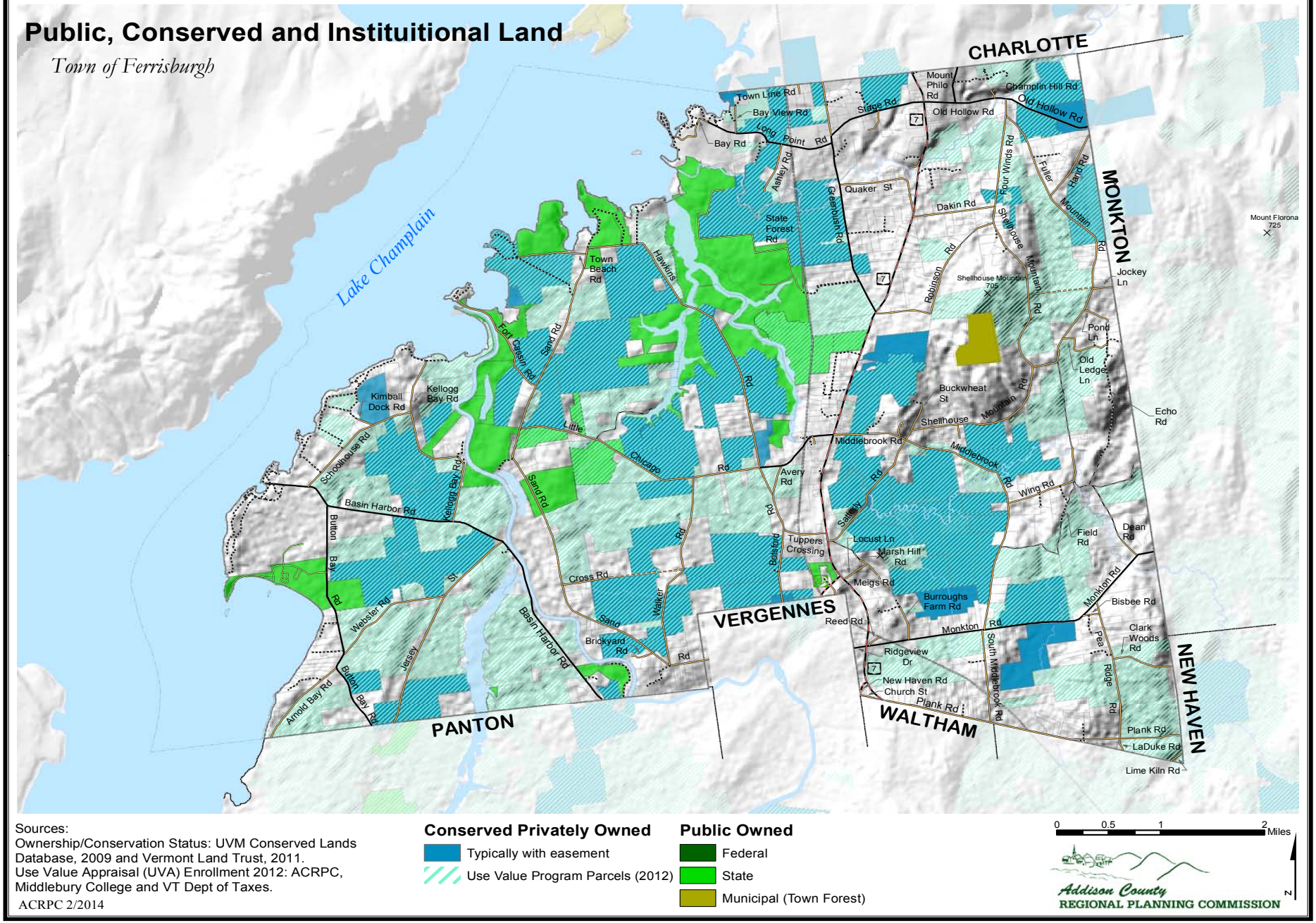
Stormwater

While flooding and erosion are not daily challenges, managing stormwater is. Planning for the effective absorption of stormwater at a regional, town and residential level is crucial to the overall health of natural resources and infrastructure, and can greatly influence how well a town is prepared for significant rain/snow fall. Conventional piping of stormwater to an off-site stream, river or lake, increases speed and volume of the stormwater, speeds bank erosion and dumps sediment and toxins into surface waters
This plan supports both non-regulatory and regulatory tools to encourage better on-site stormwater management. Reducing impervious surfaces, minimizing vegetation removal, and collecting rain water for gardens are ways residents can manage stormwater.

At a town and regional level, Ferrisburgh must continue to recognize the importance of our forests and wetlands for stormwater filtration and flood mitigation. Ferrisburgh intends to guide development away from these areas, encourage best management agricultural practices, plant trees and minimize impervious surfaces. Vermont's Better Back Roads Manual provides guidance for the best management of runoff from roads.

K. Wildlife

Ferrisburgh's forests, fields, wetlands and lakeshore provide prime habitat for a variety of wildlife species. Bird life is particularly abundant, with Ferrisburgh


Public, Conserved and Instituitional Land
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Mount Philo Rd
Champlin Hill Rd
Old Hollow Rd
Town Line Rd
Bay View Rd
Stage Rd
Long Point Rd
Bay Rd
Ashley Rd
Quaker St
Greenbush Rd
State Forest Rd
Dakin Rd
Four Winds Rd
Fuller Hard Rd
Mountain Rd
Mount Florona 725
Shellhouse Mountain 705
Robinson Rd
Jockey Ln
Pond Ln
Old Ledge Ln
Echo Rd
Buckwheat St
Shellhouse Mountain Rd
Middlebrook Rd
Wing Rd
Field Rd
Dean Rd
Town Beach Rd
Hawkins Rd
Fort Cassin Rd
Sand Rd
Kimball Dock Rd
Kellogg Bay Rd
Schoolhouse Rd
Little Chicago Rd
Avery Rd
Basin Harbor Rd
Button Bay Rd
Webster Rd
Jersey St
Arnold Bay Rd
Cross Rd
Brickyard Rd
Walker Rd
Basford Rd
Tuppers Crossing
Locust Ln
Marsh Hill Rd
Meigs Rd
Burroughs Farm Rd
Reed Rd
Monkton Rd
Bisbee Rd
Clark Woods Rd
Pea Ridge Rd
Ridgeview Dr
New Haven Rd
Church St
Plank Rd
South Middlebrook Rd
LaDuke Rd
Lime Kiln Rd
Sources:
Ownership/Conservation Status: UVM Conserved Lands Database, 2009 and Vermont Land Trust, 2011.
Use Value Appraisal (UVA) Enrollment 2012: ACRPC, Middlebury College and VT Dept of Taxes.
ACRPC 2/2014
Conserved Privately Owned
Typically with easement
Use Value Program Parcels (2012)
Public Owned
Federal
State
Municipal (Town Forest)
0 0.5 1 2 Miles
N
Addison County
REGIONAL PLANNING COMMISSION

having the highest bird counts in all of interior New England. The town's extensive agricultural lands, natural wet meadows and abandoned farmland provide breeding habitats for several rare bird species such as the northern harrier hawk, redheaded woodpecker and upland sandpiper.

The 1,097-acre Little Otter Creek Wildlife Management Area (WMA) lies adjacent to Lake Champlain. Because of the surrounding open areas in agriculture, deeryards are found in the forests and open spaces of the WMA. Deer wintering yards are not common in the Champlain Valley, but the WMA has a stand of hemlock that provides excellent winter protection. In addition to the WMA, the Agency of Natural Resources, Department of Fish and Wildlife has identified several other deer wintering areas within Ferrisburgh, which are located on the Natural Resources Map. The extensive wetlands are home to a whole range of wildfowl including: mallards, gadwall, green and blue-winged teal, goldeneye, Canada geese, loons, common and hooded mergansers, black duck, wood duck, great blue heron, bittern, coot, seagull, vulture, eagle and osprey. Many rare birds are also found including least bittern, sedge wren, sora, loggerhead shrike and blue grey gnatcatcher.

Extensive, significant wildlife habitats and corridors are also found throughout Ferrisburgh, particularly on the steep bedrock cliffs and cobbles, and along wooded stream and drainage corridors. Species common to Ferrisburgh include deer, turkeys, bobcats, upland game birds, grassland bird species, coyotes and riverine species such as fisher, beaver, otter and mink. Several species of state listed rare, threatened or endangered wildlife species are known to be found in Ferrisburgh, and a list of these can be found at the Agency of Natural Resources, Nongame and Natural Heritage Program section of the Vermont Department of Fish and Wildlife. A forest block of 20 to 100 acres will sustain only small rodents, raccoon, hare, porcupine, cottontail, beaver, squirrel, skunk, weasel, woodchuck, muskrat and red fox. It takes a 100 to 500 acre block of forest to sustain mink, deer, sharp-shinned hawk, cooper's hawk, harrier, Broad-winged hawk, kestrel, horned owl, barred owl, osprey, turkey vulture and turkey. To sustain moose, bald eagle, goshawk, red-tailed hawk and raven a forest block of 500 to 2500 acres is needed. Undeveloped forest blocks are needed for coyote, bobcat, black bear and fisher.

As noted on the Significant Habitat Map, there are a number of State-identified deer wintering areas throughout town. Other deer wintering areas are evident near Kellog Road, Arnold Bay Road and Shell House Moutain area, which have not yet been identified by the State. The Ferrisburgh Conservation Commission wishes to begin mapping local knowledge of wildlife sightings and travel patterns, such as these, to gain an increased level of understanding of the local wildlife population.

L. Ecologically Sensitive Areas

The Vermont State Department of Fish and Wildlife has identified rare, threatened, endangered species and significant habitat areas, as well as clayplain forest areas in Ferrisburgh, the latter of which is has been fragmented due to land clearing and development. These rare ecological areas are identified on maps within the natural Resource chapter.

The section of Lewis Creek which flows through Ferrisburgh has been recently identified by ANR as habitat for two endangered, native fresh-water mussel species. Unfortunately, prime habitat for these mussels, such as the Lewis Creek, has greatly declined in quality.

M. Agricultural Lands

Because of its fertile soils, the warmer climate in the Champlain Valley and the town's long tradition of farming, Ferrisburgh is still very much an agricultural town. There are 32 known farms in town of which 17 are dairy operations. There are at least four known maple-sugaring operations.

Enormous effort by Ferrisburgh resident farmers in partnership with the Vermont Land Trust has gone in to conserving the good soils and farmlands in Ferrisburgh. The result is approximately 8332 acres of farmland conserved in perpetuity by about 32 families in town.

This acreage represents about 26 percent of the town's area. The Vermont Land Trust (VLT) and the Vermont Housing and Conservation board (VHCB) have been particularly active in assisting these farm families with conserving

good farmland for the future. These Ferrisburgh families recognize that in order to have viable and sustainable farms you need to have enough farmers and farmland in a geographic area to support viable businesses associated with farming, such as the agricultural equipment dealerships, veterinarians, feed and farm supply stores and so forth. Of these farms, three are currently practicing organic agriculture.

The town's good soils, local tradition and large lot sizes also ensure that many residents grow large gardens each year and put away food for the long winter months. The amount of food grown in Ferrisburgh by farmers and residents increases the town's food security. Food security means having enough food locally so that when a natural or human disaster shuts down the usual transportation routes there is an adequate supply available for enough days.

Pressure from development spreading down from Chittenden County to the north will continue to remove primary soils from future agricultural uses. At the same time, demands for food and fiber will increase. Agriculture has been part of the history of Ferrisburgh and it is strongly supported by Ferrisburgh residents.

N. Earth Extraction

If undertaken, extraction of soil, sand, or gravel must prevent erosion debris from entering watercourses and pose no safety hazard from pits or steep or unstable slopes. Upon termination, sites must be restored to natural contours with a vegetative cover. Ferrisburgh's policy, as well as Vermont State law at 10 V.S.A. subsection 1021, prohibits the removal of sand or gravel directly from watercourses because such extraction decreases stream and stream-bank stability and increases the likelihood of sediment transport.

O. Air Quality

Residents who have wood stoves uncertifed by the Environmental Protection Agency (EPA) are encouraged to exchange them for new, more e cient and cleaner burning wood, pellet or gas stoves. Catalysts in EPA-certi ed catalytic wood stoves should be replaced every five years. Potential customers for these products should be aware that rebates are sometimes available from the state government. Contact the Vermont Department of Environmental Conservation for further information about these and other opportunities.

In May 2016, the Selectboard approved a town ordinance which states in part, "Unless a permit is obtained pursuant to this ordinance, the disposal of solid waste through open burning or incineration is prohibited in the Town of Ferrisburgh unless the practice has been approved by the Vermont Department of Environmental Conservation."

Trash burning

The Addison County Solid Waste Management District, of which the Town is a member, prohibits by ordinance the burning of solid waste. Violators are subject to a fine.

Outdoor wood-fired boilers

Ferrisburgh residents who are interested in purchasing an outdoor wood-fired boiler should be aware that Vermont Air Pollution Control Regulations 10 VSA 5(204,205), as adopted 10 January 2009, control use of outdoor wood-fired boilers. As of March 31, 2010, only outdoor wood boilers certified to emit less than 0.32 pounds of particulate matter per million BTUs (Phase II boilers) may be sold for use in Vermont. Units in use prior to that date must meet a standard of 0.44 pounds per million BTUs (Phase 1 boilers). Phase 1 boilers must be located more than 200 feet from the nearest neighbor's house and with a permanent smokestack that is higher than the roof peak of the house it serves.

Wood stoves

Residents who have wood stoves uncertified by the Environmental Protection Agency (EPA) are encouraged to exchange them for new, more efficient and cleaner burning wood, pellet or gas stoves. Catalysts in EPA-certified catalytic

wood stoves should be replaced every five years. Potential customers for these products should be aware that rebates are sometimes available from the state government. Contact the Vermont Department of Environmental Conservation for further information about these and other opportunities.

Vehicle Emissions

Vehicle emissions may be Ferrisburgh's largest source of air pollution. Idling contributes significantly to air pollution. This plan supports no-idling policies in public areas.

P. Reference Section

Vermont Advanced Wetlands Planning and Protection Report: Town of Ferrisburgh, Department Environmental Conservation, Agency of Natural Resources, State of Vermont, 2000.

The Vermont Stormwater Management Manual, Agency of Natural Resources, 2002

Hardwood Swamps of Vermont: Distribution, Ecology, Classification, and Some sites of Ecological Significance. Sorenson et al. Nongame and Natural Heritage Program, Vermont Fish and Wildlife Department, Agency of Natural resources, Waterbury, Vermont, 2004.

Wastewater System and Potable Water Supply Rules, Department of Environmental Conservation, 2005.

Stream Geomorphic Assessment of Lewis Creek: Pilot Project Report. DEC, May 2004. www.anr.state.vt.us/dec/waterq/rivers/docs/rv.lewiscreekreport.pdf

For questions on jurisdictional determination over wetlands contact the Department of Environmental Conservation, Wetlands Section, Rutland, phone: 802-786-5921 www.vtwaterquality.org/wetlands.htm

For information on other state programs that may require permits contact the Permit Specialist: VT DEC Environmental Assistance Office, Waterbury, phone: 802-241-3589. www.anr.state.vt.us/dec/ead/pa/index.htm

Federal Wetland Regulations are independent of state and local regulations. For more information contact: US Corps of Engineers, Essex Junction, phone: 802-872-2893. www.nae.usace.army.mil

For information on Lake Champlain see LakeNet at www.worldlakes.org, the Lake Champlain Basin Atlas at www.lcbp.org, the Lake Champlain Maritime Museum and the Lake Champlain Committee.

For information on Lewis Creek see www.lewiscreek.org.

3.2. HUMAN RESOURCES

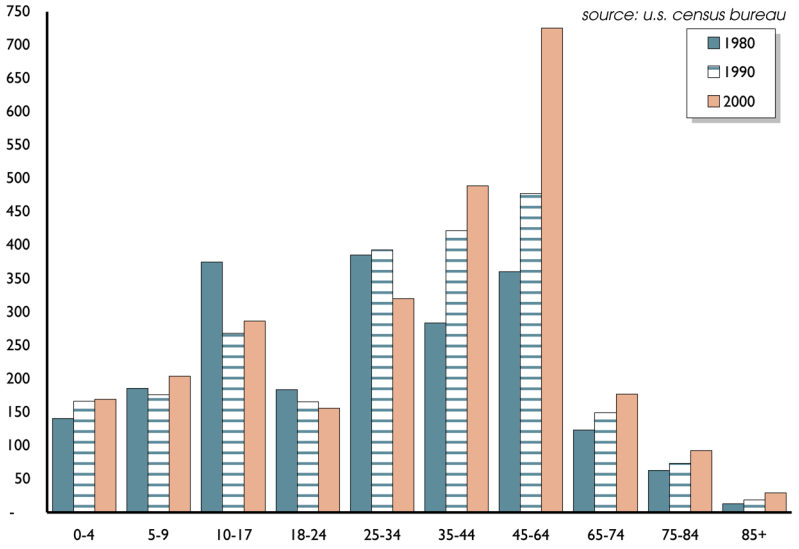
This section of the plan describes Ferrisburgh's current population, patterns of growth, essential needs of the community such as housing and transportation, local economy and other resources and services available to residents. ***Please refer to Chapter 4 entitled, Ferrisburgh Future, for Human Resource policies and recommended actions associated with the topics listed below.***

A. Population

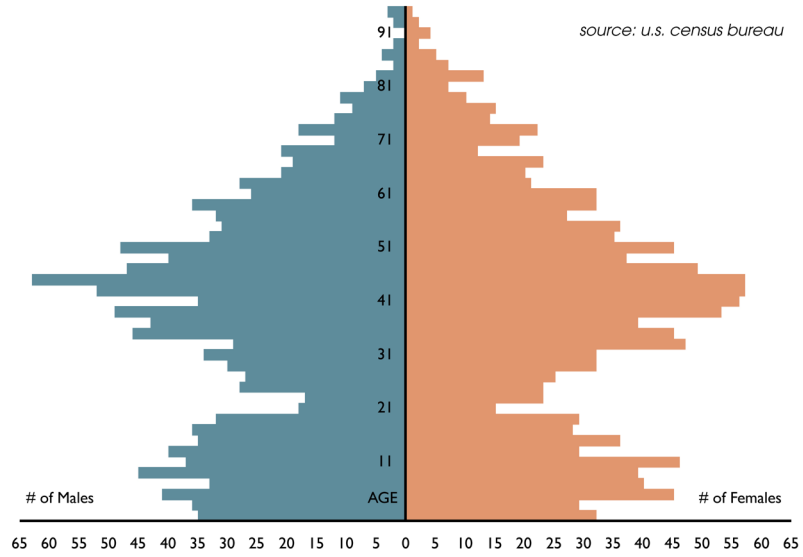
Out of 242 towns in Vermont, Ferrisburgh is the eighth largest town in Vermont at 61.24 square miles. In terms of population density, however it is 97th, at about 44 people per square mile. By comparison, Winooski has the greatest population density at 4,370 people per square mile; Burlington is third at 2,576 people per square mile; and Vergennes is 6th at 1,097 per square mile.

The total population of Ferrisburgh in 2010 was 2,775, an increase of 118 from the total population of 2,657 in 2000. There is a relatively small and decreasing percentage of residents in the 18 to 24 age group, and a marked increase, as elsewhere in the state, of people between 45 and 65 years of age (the baby-boom generation). As these "boomers" retire and age in greater numbers over the next decade, there will likely be greater demand for senior housing and elder-care services in Ferrisburgh.

Population projections are not easy to make on such a geographically limited scale where population increase will be more a reflection of what happens in Chittenden County to the north than in the Town of Ferrisburgh alone. Addison County Regional Planning Commission has prepared a population projection that estimates Ferrisburgh's population may be between 3,100 and 3,600 people by 2025.



Ferrisburgh Age Distribution, 1980 to 2000



Ferrisburgh Population Pyramid, 2000

B. Economy and Economic Development

Of the 1,431 employed Ferrisburgh residents, 81.6% work outside of Ferrisburgh, 50% work in Addison County and 3.2% work outside of Vermont. According to the Vermont Department of Labor, the (non-seasonally-adjusted) unemployment rate in 2013 was 4.4%, down from 4.9% in 2012 and 5.6% in 2011. Per capita (person) income in Ferrisburgh is about $28,170 annually, compared to about $28,376 statewide, according to the 2007-2013 American Community Survey 5-year estimates.

Farms, Home Occupations and Home-based Businesses

While there are fewer farmers on larger farms, agriculture and related businesses are still a critical component of our economic base and a dominant feature of the landscape. In 2013 there were 32 farms in Ferrisburgh. In addition to dairy, orchard, livestock, hay, hops, cheese, pasture, chickens, maple syrup production and vegetable farming, a wide variety of other businesses operate in Ferrisburgh including: processing farm and sugaring products, landscaping services, gardening center, commercial equine operation, computer consultants, web site sales, art galleries, antique sales, farm machine sales and services, auto repair shops, skilled woodworking, carpenters, builders, music teachers, and boat builders. While some of these are quite large in scope, most are home occupations or small accessory businesses. For this reason, among others, it is a state-wide priority that Vermont towns have equal access to telecommunications (see utilities and facilities section) to support these local-level opportunities.

Tourism and Recreation

Ferrisburgh grew from the shores of Lake Champlain inward and some of its earliest settlement happened at Basin Harbor with an inn and ferry established in 1790. The Basin Harbor Club, established in 1886, continues to operate today with a staff of 30 and a seasonal staff of 300. Its amenities include an airport, marina, and multiple seasonal restaurants. Adjacent to the Basin Harbor Club is the Lake Champlain Maritime Museum. These facilities in West Ferrisburgh are vital parts of the Towns and state's tourism economy. Other recreational-related businesses include campgrounds, marinas, and bait shops.

Basin Harbor Resort is the 700-acre Beach family resort located on Lake Champlain, with its own golf course, public marina, and airport. The Lake Champlain Maritime Museum is also based at the resort. This site has been attracting visitors since around 1798. Today, there are about 77 cottages and a number of rooms in the three guesthouses - a number of which are historic buildings. The Beach property is one of the most valuable single piece of property in town.

Route 7

Currently Ferrisburgh's section of Route 7 is a designated part of the Champlain Valley Byway. This designation celebrates Vermont's scenic and cultural assets and maps specific businesses for tourism and recreational purposes. While catering to tourism can provide a significant economic benefit to Ferrisburgh, Route 7 development must also consider the impacts and services to Ferrisburgh residents. Planning and policy will determine how well Route 7 can offer safe services and amenities to both the passer-through and the resident, while maintaining its unique sense of place; views to the mountains and farm fields, historic structures, and safe access to successful local businesses.

Businesses currently located along Route 7 include: gas stations, car dealerships and maintenance, a general store, and bakeries. There are a number of closed and abandoned commercial areas as well, which were a noted concern of residents within the 2013 Planning survey.

Property Values

Farms and open land are assessed at over $65 million of a total town assessed property value of about $555 million. Fifty-eight commercial properties have an assessed total value of more than $33 million. Six industrial and utilities properties' assessed values total over $21 million. Two hundred and ninety-six seasonal camps are valued at over $160 million and 926 residential properties are assessed for a total of over $274 million.

Dakin Farm is a multi-channel retailer (web, catalog, corporate and retail store) of Vermont specialty foods, located in North Ferrisburgh on Route 7. The farm was first settled by Timothy Dakin around 1792. Today, it is owned by the Cutting family and the base for their business, which sells agricultural products such as Vermont maple syrup and cheese, their own smoked hams and bacon, jams, Vermont Honey and other associated value-added rural goods.

Infrastructure/Utilities

Services such as high-speed internet, cable, and viable waste water treatment are essential services for supporting both home-based businesses, and any other types of clustered business development. Route 7 commercial areas currently do not have access to a community waste water treatment facility. In the past, soil type has determined that community-sized treatment systems could not be built. Because technology is continually advancing, Ferrisburgh should continue to reassess waste water options which would support clustered commercial and residential development.

Land Use Policies

The Land Use Plan in Ferrisburgh supports economic growth while maintaining the unique, rural character of Ferrisburgh, recognizing the latter as a significant contributor of wealth (agricultural, recreational, tourism). Policies support the creative economy of home-based businesses, while also supporting ways in which to preserve natural assets, such as prime agricultural lands. The Land Use Plan specifies three concentrated areas of development along Route 7, in order to allow business growth that does not detract from the unique character of Ferrisburgh, and which encourages a more accessible, enjoyable commercial experience for residents of Ferrisburgh, instead of car-oriented sprawl development.

C. Education and Childcare

Schools

Ferrisburgh is part of the Addison Northwest Supervisory Union (ANWSU). The other towns in the ANWSU are

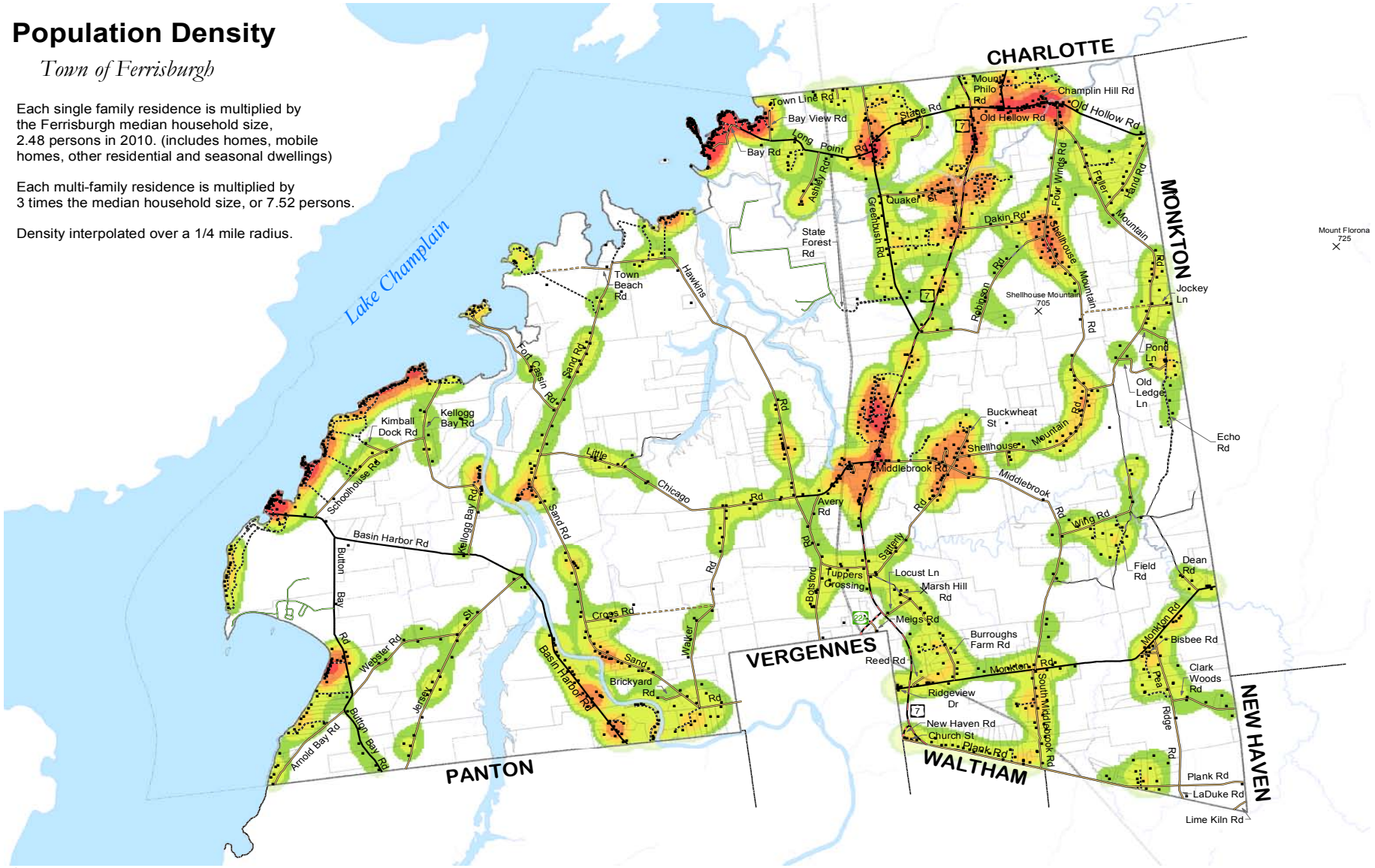
Population Density

Town of Ferrisburgh

Each single family residence is multiplied by the Ferrisburgh median household size, 2.48 persons in 2010. (includes homes, mobile homes, other residential and seasonal dwellings)

Each multi-family residence is multiplied by 3 times the median household size, or 7.52 persons.

Density interpolated over a 1/4 mile radius.



Addison, Panton, Vergennes and Waltham. The Ferrisburgh Central School is the local elementary school while the Vergennes Union High School serves grades 7 through 12.

In the 2015-16 school year there were 176 students in Ferrisburgh Central School. Enrollment has remained fairly level over the past several years with a peak of 234 students in the 1998-1999 school year. High school age students may choose to attend the Hannaford Career Center in Middlebury. Several private or parochial schools located outside of town serve the Ferrisburgh area as well, including The Red Cedar School, Bridge School, Aurora Schools, and other private schools in Chittenden County. College courses and other adult-learning opportunities are available online and at Vermont Community College and Hannaford Career Center in Middlebury.

Childcare

According to the State of Vermont's Bright Futures Childcare Information System, there are five registered home care providers and three licensed providers in Ferrisburgh. This means that the homes have passed health and safety inspections, the furnace has been inspected, the provider has taken CPR and First Aid, and takes 6 hours of workshops yearly. Family home child care providers may care for two children under two years of age and four children from two years and up. They can add four school age children after school. There is one "licensed family home" which meets additional requirements and may care for 12 children with two providers.

There are two school-age care programs: Camp Greylock which is open in the summer and the Y School Age program which is open during the school year. Neither of these providers are located west of Otter Creek, and there is only one registered provider in Panton. Ferrisburgh could benefit from encouraging more provider services in West Ferrisburgh.

In assessing possible childcare needs for Ferrisburgh's working parents, the 2010 Census data show that there are 778 families in town, an increasing percentage of which are supported by two working adults. Ferrisburgh has 88 families with pre-school aged children and two household parents, and 197 families with school-aged children where both parents live in the house. These are approximately the same percentages as seen statewide.

The Mary Johnson Children's Center in Middlebury administers a child care referral program for Addison County; Addison County Childcare Services: 388-4304 or e-mail referral@mjccvt.org.

D. Housing

Ferrisburgh not only houses year-round residents, but has a high number of seasonal 'camps', most notably along the shores of Lake Champlain. The ratio of camps to year-round homes remains relatively constant although actual total numbers in each category increases each year. In 2015, there were 296 camps and 866 residential parcels. This translates to camps representing 25% of the combined 1162 dwelling units in Ferrisburgh.

In 2015, of the 866 residential parcels, 381 were properties on parcels of six acres or more and 485 were properties on parcels of under six acres. Sixty-four of the residential parcels were mobile homes, 48 were farms with houses and 4 were apartments or apartment buildings.

The average household size has continued to decline over the last 50 years from about 3.67 in 1970 to 2.62 in the year 2000, to 2.48 in 2010.

The percent of owner-occupied and renter-occupied homes appears to remain relatively constant. In 2000, 18% of homes were renter occupied. In 2010 this percentage had increased slightly to just under 21%. Home vacancies also appear to remain relatively constant over time with 401 vacant in 2000 and 372 vacant in 2010. Vacancies are counted for properties that are not rented, rented and unoccupied, for sale, sold and unoccupied, seasonally unoccupied or otherwise vacant.

A review of zoning permits for new houses during the period 1980 through 2004 shows an average of 18 new houses per year, or 432 houses in that 24- year period. During 2005 to 2011, 53 new house permits ere issued. This represents a significant downward trend in residential development in Ferrisburgh. In 2006 there were 23 new house building permits issued which is more in line with past experience, but overall, new house permits have declined drastically with only three permits issued in 2008, five in 2009, four in both 2010 and 2011, nine in 2012, four in 2013, three in 2014 and five

in 2015.

Although town records show several accessory apartments are constructed every year, there is not a huge diversity in Ferrisburgh's housing stock, most being single family homes. It may be a challenge for seniors, first-time home buyers, single-earning families, and those looking to rent, to find an affordable living situation in Ferrisburgh. Resources provided by the Vermont Housing Finance Agency can help town's determine housing needs and solutions for the future.

The rate of new home construction has, in recent years, dropped significantly from previous levels while house renovations and property values, especially on the lake have continued to increase. Most of the town is still a mix of wetland, forest and active farmland and many more acres have been set aside in permanent conservation easements making it likely that the overall land use pattern will continue its present trend.

Although the number of new residences each year is still quite low, the value of improvements, renovations and out-of state sales has increased the value of both residences and seasonal homes. A buildout analysis, done by Addison County Regional Planning in 2005, indicated there is the potential for a maximum of 3,100 new homes under the town's current zoning. If soils with severe limitations for treating septic were considered not suitable for development, the maximum buildout was approximately 1,700 units. It is extremely unlikely that the town would ever be built out to this extent, but the analysis is useful in determining how zoning regulations and land characteristics impact future growth scenarios.

E. Historic and Cultural Resources

There are 156 historic buildings listed on the State Register of Historic Places in Ferrisburgh. The village of North Ferrisburgh, with over 40 historic buildings along Old Hollow Road, has a long main street sheltered by overhanging trees that appears much as it did in 1900, and this village is listed as an historic district in the register. Presently there is no design control mechanism in place for this area of town. In addition three buildings, the Rokeby house built in 1790; the Union Meeting Hall (1840) in the center of town; and Hawley's Ferry House (1800) at Kingsland Bay are listed on the National Register of Historic Places.

Long Point is well known as a summer camp area. There has been considerable renovation of summer homes along Lake Champlain where wealthier, often out-of-state, families can afford to upgrade older camps. Another area of historic camps extends from Basin Harbor to Kellogg Bay. These are not presently protected by design control.

With its impressive stone, wood and brick farmhouses, stores and churches, 19th century barns, lakeside cottages and camps, Ferrisburgh retains a diverse and rich architectural heritage.

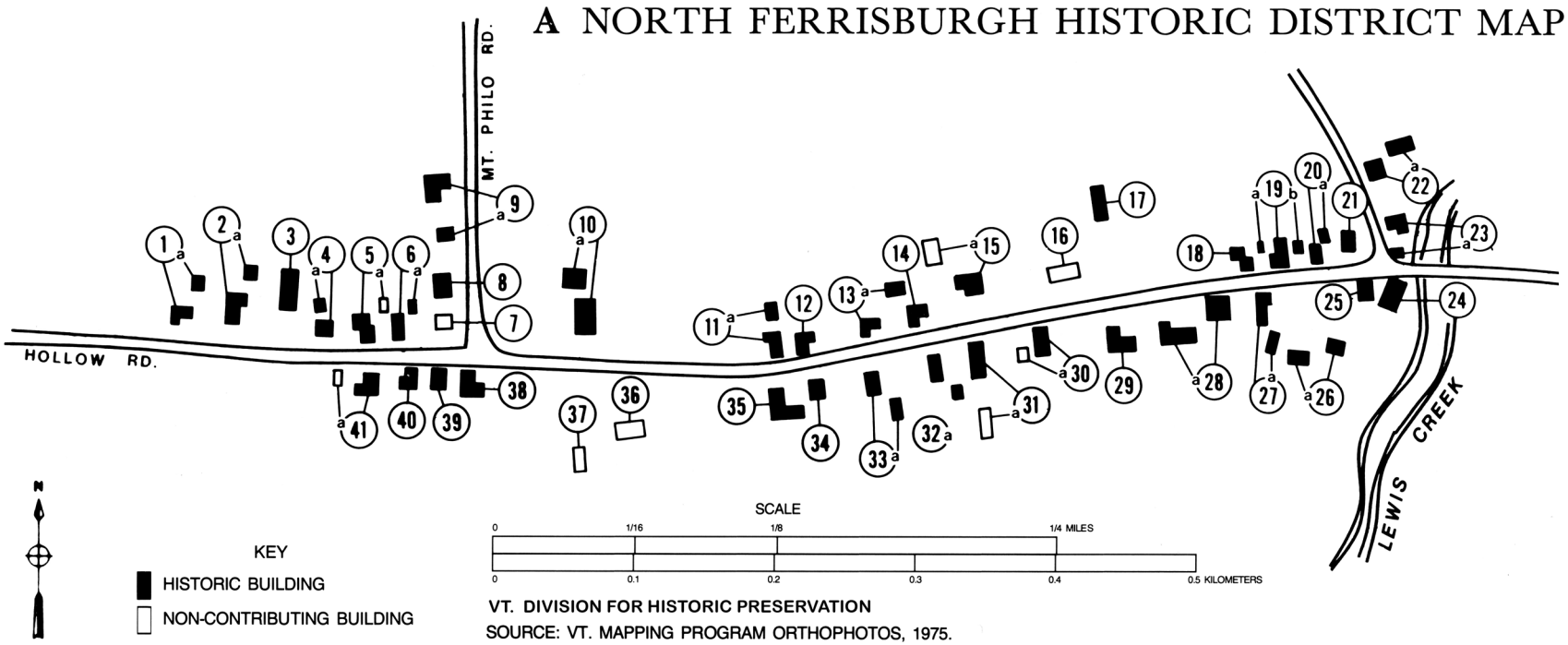
F. Community Facilities and Services

Police: The Addison County Sheriff's Department provides Civil Process for the entire county. The Vermont State Police provide service for motor vehicle regulation and criminal law enforcement. Ferrisburgh also funds a sheriff patrol contract which amounted to over $11,600 in the 2014-2015 fiscal year.

Fire: There is a dedicated group of volunteers in the Ferrisburgh Fire Department with equipment housed in the 1993 Firehouse on Route 7 north of the Center. The annual budget, including fire station maintenance, for the 2014-2015 fiscal year was set at about $65,250. In 2015 they responded to 96 calls. Ferrisburgh also contracts with the Vergennes Fire Department for services and in the 2014-2015 fiscal year allocated just over $49,150 for contract and extra services.

Rescue: The Vergennes Area Rescue Squad (VARS), a local non-profit organization responds to calls in Ferrisburgh as well as Panton, Bristol, Charlotte, Addison, New Haven, Vergennes, Waltham and Weybridge. VARS bills for its services, receives additional funding from towns serviced, and accepts donations. In the 2015-2016 fiscal year VARS was allocated $18,040 by the town.

Medical: There are no medical facilities in Ferrisburgh, but many doctors nurses and dentists are available a short distance north or south of town.



Porter Hospital in Middlebury and the University of Vermont Medical Center in Burlington are the closest larger hospitals. There are medical clinics in Vergennes as well. Addison County Home Health and Hospice can make home visits, and the Community Health Services of Addison County has an Open Door Clinic in Middlebury.

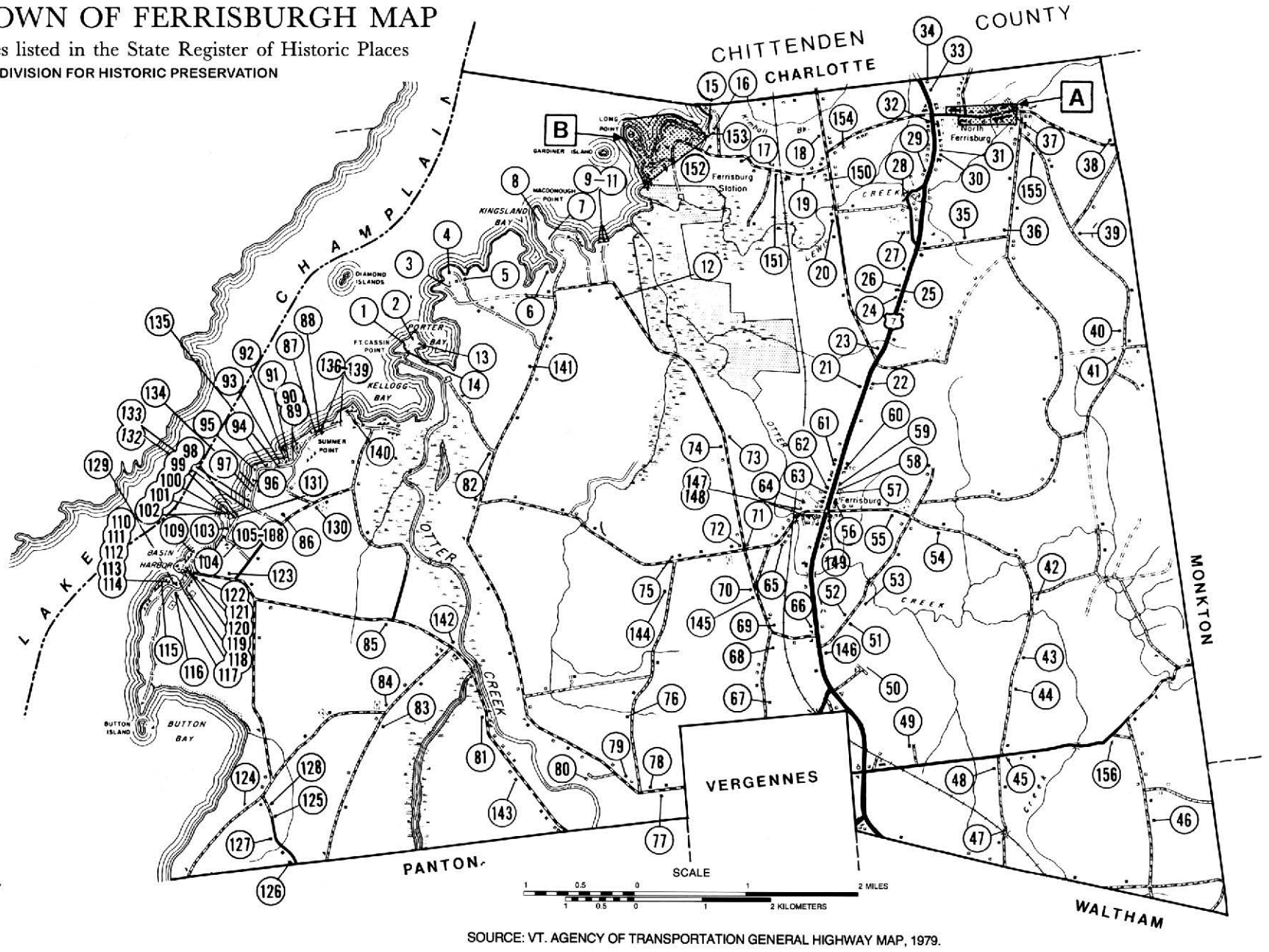
At Town Meeting, on the Saturday before the first Tuesday in March, voters typically approve funding to support the ollowing agencies and organizations that provide services to the town and its residents: Addison County Parent Child Center; Addison County Community Action Group (HOPE); Addison County Counseling Service; Addison County Economic Development Corporation; Addison County Home Health and Hospice; Addison County Humane Society; Addison County Readers; Addison County River Watch Collaborative; Addison County Transit Resources; American Legion; Boys and Girls Club of Greater Vergennes; Champlain Valley Agency on Aging; Community Health Services Open Door Clinic; Elderly Services; Gage Cemetery Association; Green Up VT; Hospice Volunteer Services; John Graham Emergency Shelter; Lewis Creek Association; North Ferrisburgh Cemetery Association; Otter Creek Natural Resource Conservation District; Retired and Senior Volunteer Program; Rokeby Museum; Union Cemetery; Vergennes Summer Rec Program; Vermont Center for Independent Living; Vermont Adult Learning; and WomanSafe. The total for these expenditures in the 2015-2016 fiscal year amounted to nearly $30,840. Bixby Library funding had been approved with these organizations but in 2012 became its own budget line item and in 2015-2016 was $52, 559.

Health Officer: Ferrisburgh has a Health Officer who is nominated by the Selectboard and appointed by the Commissioner of Health. This person

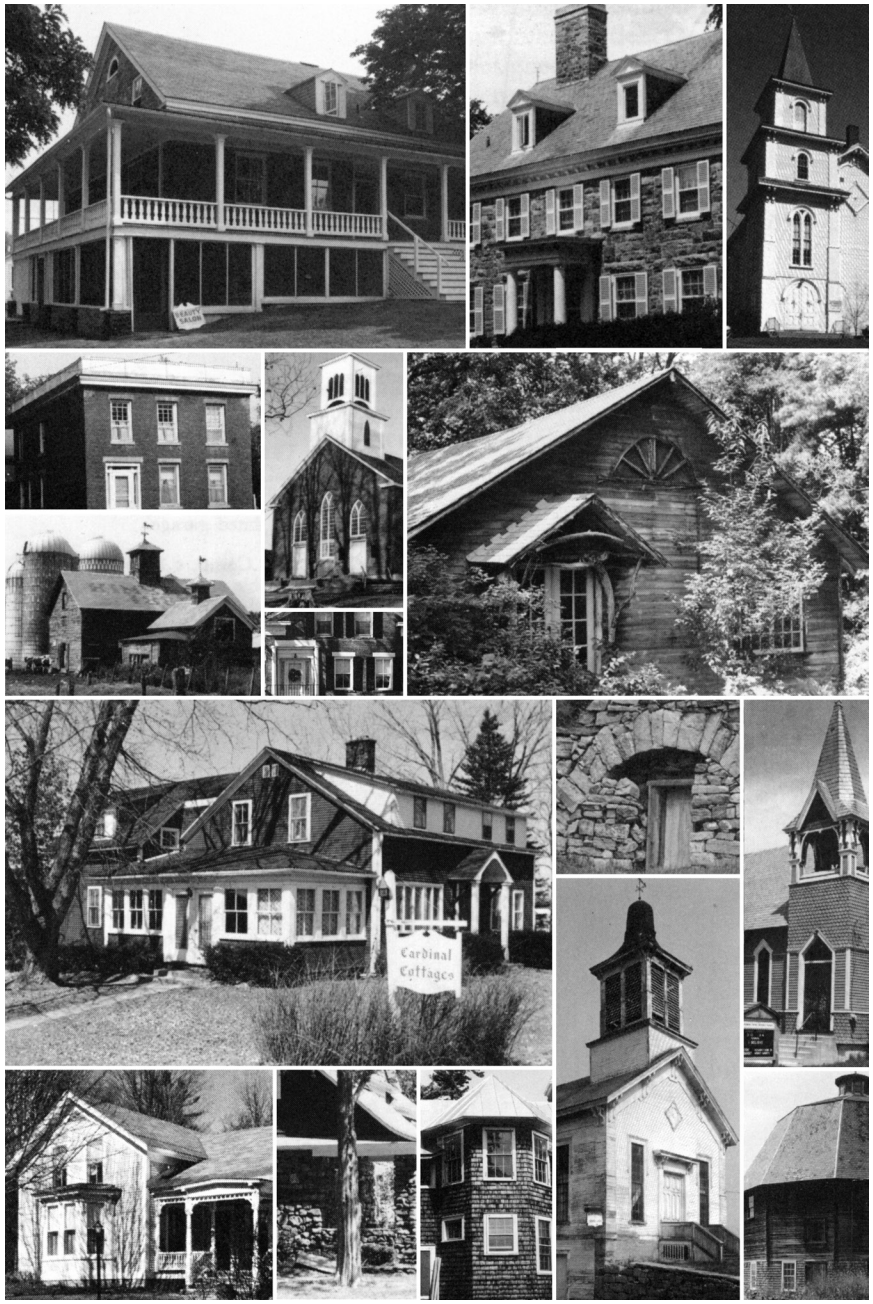
TOWN OF FERRISBURGH MAP

Sites listed in the State Register of Historic Places

VT. DIVISION FOR HISTORIC PRESERVATION



SOURCE: VT. AGENCY OF TRANSPORTATION GENERAL HIGHWAY MAP, 1979.



responds to animal bites, West Nile virus issues, rabies, failed septic systems and so forth.

Department of Health: The Emergency Preparedness Unit is operated by the Department of Health, Middlebury District. The Department of Health also undertakes food and lodgings inspections and information on this can be found at www.healthyvermonter.info.

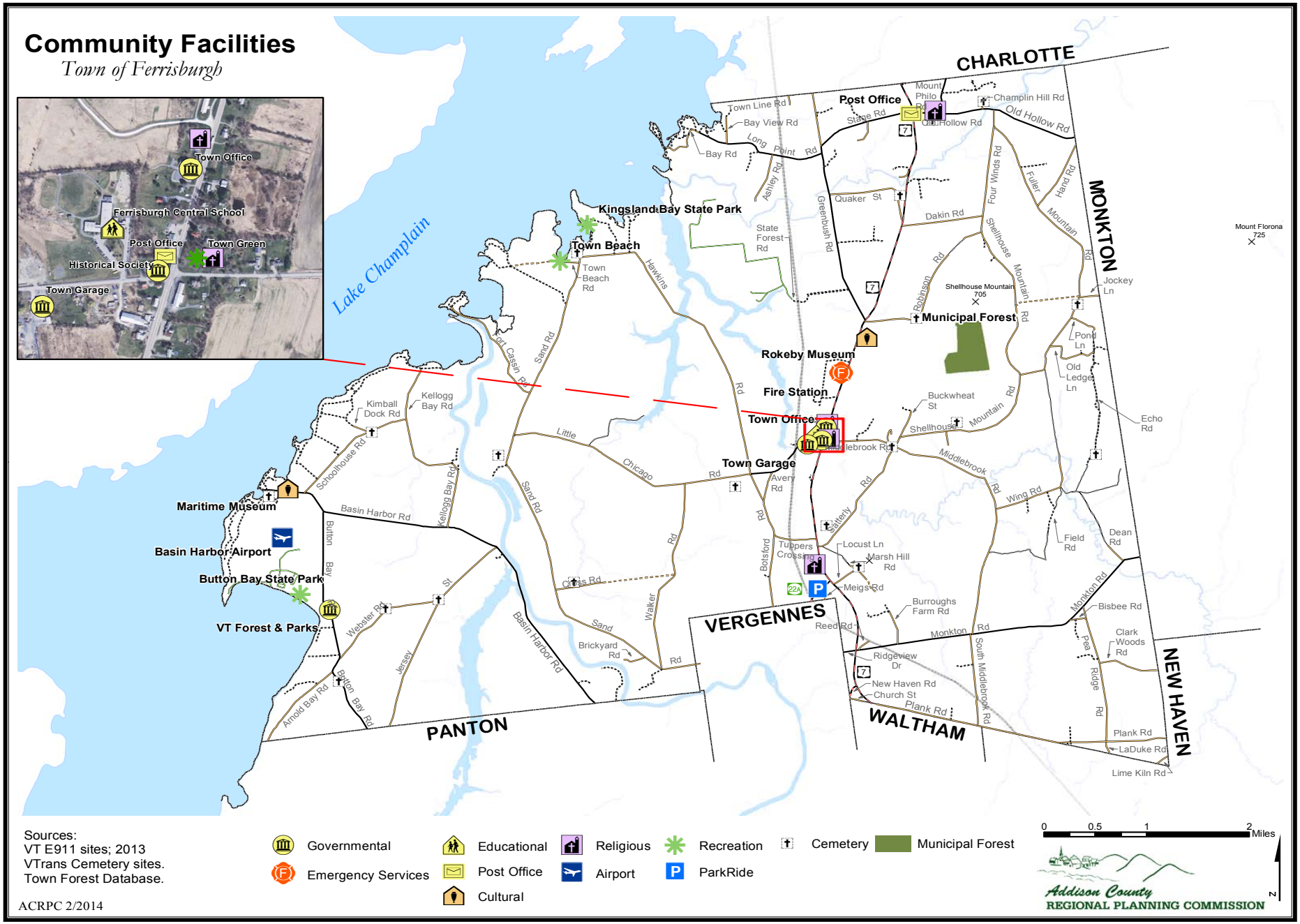
Emergency Preparedness: Fire Chief Wager is presently coordinating an emergency preparedness plan with several local and state organizations.

Library: Historically there was a library in the Hollow in North Ferrisburgh, but today the Bixby Memorial Library in Vergennes is the local library, and it is well used by Ferrisburgh residents. In addition to lending books, the library also offers other services to the community including programs for adults and children and education outreach as well as public computers and Wi-Fi. There are currently 3,319 registered borrowers distributed as follows: Vergennes 40%; Ferrisburgh 30%; Panton 8%; Waltham 5%; Addison 12% and all other users 4%. Users from the above-named communities do not directly pay fees to utilize the library, while all other users do pay direct fees for use. Ferrisburgh allocated $52,559 to the Bixby Library in the 2014-15 and 2015-16 fiscal years.

Solid Waste: Ferrisburgh is part of the 19-town Addison County Solid Waste Management District, which has a comprehensive management plan. Recycling in Ferrisburgh is mandatory as part of membership to the ACSWD. There is a transfer station on Route 7 in Middlebury.

Town Offices/Community Center: The Town was able to take advantage of historic preservation funding to rebuild the former Grange building which had been destroyed by fire. The new building now has town offices downstairs, including a large meeting room, and a large open room upstairs which can be used as a flexible community event space

Ferrisburgh Historical Society: Ferrisburgh Historical Society took up residence in the former Town Clerk's building (School House Number 17, built in 1862) in 2008. This group works with the State Historic Preservation


Community Facilities
Town of Ferrisburgh
Town Office
Ferrisburgh Central School
Post Office
Town Green
Historical Society
Town Garage
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Kingsland Bay State Park
Town Beach
Town Beach Rd
Post Office
Municipal Forest
Rokeby Museum
Fire Station
Town Office
Town Garage
Maritime Museum
Basin Harbor Airport
Button Bay State Park
VT Forest & Parks
Mount Philo
Shellhouse Mountain
705
Mount Florona
725
Sources:
VT E911 sites; 2013
VTrans Cemetery sites.
Town Forest Database.
ACRPC 2/2014
Governmental
Emergency Services
Educational
Post Office
Cultural
Religious
Airport
Recreation
ParkRide
Cemetery
Municipal Forest
0 0.5 1 2 Miles
Addison County
REGIONAL PLANNING COMMISSION

Department to identify and maintain the town's historical records which are housed in the Town Vault in the reconstructed Town Offices/Community Center Hall and at the Ferrisburgh Historical Society.

Rokeby Museum: While not owned by Ferrisburgh, this History Museum dedicated to two centuries of Vermont Agricultural life, is a great resource for residents of Ferrisburgh.

Drinking Water: Most homes and businesses in north and east Ferrisburgh rely on deep or shallow wells and springs, which are vulnerable in terms of both water quality and quantity. Areas such as Greenbush Road have difficult time finding water in adequate quantities or quality.

Approximately 40 to 50 percent of Ferrisburgh residents, primarily in southern and western areas of town, are on public water through a number of pipelines linked into the Vergennes/Panton Water District. This water district was established in 1973. The district cannot have capital investment outside its district, but it can and does have a number of pipelines and loops linked into its system. There are at least nine pipelines serving Ferrisburgh residents and businesses. One system is the Ferrisburgh Fire District, which serves about 90 homes and businesses and runs up to the new Fire Station. Each of the other pipelines are owned and maintained by groups of residents forming private associations. Water is metered at the associations' links into the Vergennes/Panton line and residents are charged by their various associations for their share of the metered water.

The Vergennes/Panton water is pumped from a deep-water source in Lake Champlain, 0.28 miles offshore from Arnolds Bay. This water is flocculated to remove turbidity, chlorinated and fluoridated before distribution. The Pumping Station is operating at about 60 percent capacity and could generate enough water to serve the needs of all residents of Ferrisburgh.

Wastewater: Ferrisburgh's wastewater is treated through individual or shared on-site septic systems. Basin Harbor has its own on-site system. In 2002 and 2005, Vermont adopted new regulations for on-site septic systems and since July 2007, all subdivisions, new construction, and system modifications and replacements need a state water supply and wastewater permit. Additionally, certain modifications to existing structures and changes in use will also need permits. The basic requirement of the Potable Water and Wastewater Rules is that the system must function year-round and keep all effluent at least six inches below ground.

Conventional septic systems require specific soil and site conditions to adequately treat waste. Depth to bedrock, depth to the water table, slope and soil texture all affect a site's ability to effectively treat septic waste. For soil-based treatment to work, partially treated effluent must be able to slowly percolate through the soil.

Most of Ferrisburgh's soils have limited ability to treat wastewater, due to their clay content, however, newer technologies do show increased adaptability to site conditions and should be considered when determining development restrictions and opportunities.

Home Heating: Most households heat primarily with oil, or propane, although many have wood heat as a back-up system, or as a supplement to the furnace. According to the 2006-2010 American Community Survey 5-year estimates, 62% of homes in Ferrisburgh heat with oil, 21.7% with bottled, tank, or LP gas, and 8% with wood.

Telecommunications: Fairpoint Communications and Champlain Valley Telecom provides local wired phone service in Ferrisburgh. They provide DSL (digital subscriber line) service to some subscribers in town for high-speed internet access, and there is limited cable television and cable modem internet service to areas along the Route 7 corridor and adjacent to Vergennes. There is presently inadequate high-speed internet service available in Ferrisburgh.

There are currently no telecommunications towers located in Ferrisburgh. There are several farms in town with antennas installed on their silos. These antennas are providing cell phone coverage primarily along the Route 7 corridor. These existing antennas are excellent examples of how infrastructure can be incorporated into the town's existing built environment in a manner

that has virtually no visual impact. Most people driving by these silos would not be aware that they are also serving as cell phone towers.

G. Energy

This plan supports energy conservation and the development, installation, and utilization of natural and low polluting resources such as small-scale wind turbine systems, solar, bio-mass, and ground and air - source heat for residential homes, small businesses, and municipal buildings. Associated policies and recommended actions should be promoted in all development decisions, including Act 250 and Section 248 hearings.

In the face of diminishing resources, Ferrisburgh should curb dependency on fossil fuels. How and where we build our homes, services and civic buildings, and how we interact with the surrounding region has a dramatic impact on this dependency. As a car-dependent town, Ferrisburgh must look for ways to decrease our fossil fuel consumption and promote alternatives to single occupancy commuting.

Current Energy Use

The majority of Ferrisburgh residents heat their homes with oil, while some use propane and wood. Information obtained from the Vermont Public Service Board indicates 15 solar photovoltaic installations producing a total of 96.98 kWh, and 3 wind turbines producing 23.5 kWh in Ferrisburgh. In addition there are numerous solar hot water installations in the town. Many of these installations have come in the past year with the introduction of attractive incentive and leasing programs.

Energy Conservation and Alternative Energy

Residences, businesses and Town facilities, including the Ferrisburgh Central School should model energy conservation and utilize the latest technology to take advantage of our local, natural assets.

Renewable energy technology that utilizes natural resources, such as solar, wind, ground and air – sources of heating and cooling and hydro, has come a long way in recent years. The efficiency and cost effectiveness of using these technologies has made it possible for more residents and communities to use them.

Alternative and Renewable Resources

Energy used in the home represents a significant percentage of total statewide energy consumption. Conserving energy by using alternative methods can help improve the affordability of home energy costs while protecting the environment. Energy efficient homes are more affordable and marketable. In new construction, simple conservation and energy efficiency measures can result in structures that are net energy producers.

This plan encourages building practices that use energy efficient materials, heating systems, lighting and appliances. Where possible, buildings should be sited so as to take advantage of southeast, south, or southwest orientations for passive solar gain. This plan also encourages the siting of newly constructed buildings in a way that does not impede solar energy collection by adjacent buildings, except where it is topographically is unreasonable.

Requirements for Solar Power Plants

1. Purpose

The purpose of this section is to establish minimum requirements and regulations for the placement, construction and modification of solar power plants, as defined herein, while promoting the safe, effective and efficient use of such energy systems.

2. Definitions

Accessory Solar Energy Systems include any photovoltaic, concentrated solar thermal, or solar hot water devices that are accessory to, and incorporated into the development of an authorized use of the property, and which are designed for the purpose of reducing or meeting on-site energy needs. Accessory Solar Energy Systems are not subject to this Chapter.

Concentrating Solar Thermal Devices," also known as "Concentrated Solar Thermal Power, (CST), are systems that use lenses or mirrors, and often tracking systems, to focus or reflect a large area of sunlight into a small area.

The concentrated energy is absorbed by a transfer fluid or gas and used as a heat source for either a conventional power plant, such as a steam power plant, or a power conversion unit, such as a sterling engine. Although several concentrating solar thermal technologies exist, the most developed types are the solar trough, parabolic dish and solar power tower.

Photovoltaics (PV) is a technology that converts light directly into electricity. PV solar panels have been around for several years, although concentrated photovoltaic (CPV) technologies are now being developed. Both PV systems and CPV systems are included within this definition.

Solar Power Plant means a utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or various experimental solar technologies, for the primary purpose of wholesale or retail sales of generated electricity.

Solar access means the ability to receive sunlight across real property for any solar energy device.

Solar energy device means a device which converts the sun's radiant energy into thermal, chemical, mechanical or electric energy

3. Regulations and design standards
All solar power plants shall comply with the following minimum regulations and design standards.

3.1 Permitted Locations
A solar power plant that complies with the provisions of this section may be permitted.

A solar power plant located on industrial, commercial or residential roofing is preferred due to the minimal impact to the land and visual appearance. Commercial or industrial ground-based locations are not preferred due to the displacement of valuable job-creating land.

3.2 Design Standards
The location of the project is understood to be the primary contributor to the visual impact of the project.

Minimum Lot Size: No concentrated solar thermal power plant shall be erected on any lot less than forty acres in size. No photovoltaic solar power plant shall be erected on any lot less than two acres in size.

Maximum Height: The maximum height for all structures shall be established through the conditional use permit process, provided a structure height of twenty feet or less shall always be permitted.

Setbacks: Solar power plant structures shall be set back from all property lines and public road rights-of-way at least one hundred feet, or one and one-half times the height of the structure, whichever is greater. In addition, solar power plant structures must be located at least one hundred feet from all residentially zoned lots and existing residences. Additional setbacks may be required to mitigate noise and glare impacts, or to provide for designated road or utility corridors, as identified through the review process.

3.3 Safety/Access
Fencing: An appropriate security/livestock fence (height and material to be established through the conditional use permit process) shall be placed around the perimeter of the solar power plant. Knox boxes and keys shall be provided at locked entrances for emergency personnel access.

Signage: Appropriate warning signage shall be placed at the entrance and perimeter of the solar power plant project.

3.4 Noise
No operating solar power plant shall produce noise that exceeds any of the following limitations. Adequate setbacks shall be provided to comply with these limitations:
• Fifty dBA, as measured at the property line of any neighboring residentially-zoned lot;
• Forty-five dBA, as measured at any existing neighboring residence between the hours of nine p.m. and seven a.m.
• Sixty dBA, as measured at the property lines of the project boundary, unless the owner of the affected property and the Planning Commission agree to a

higher noise level, as follows:

The owner of a neighboring property that would otherwise be protected by the sixty dBA noise limitation may voluntarily agree, in writing, to a higher noise level. Any such agreement must specifically state the noise standard being modified, the extent of the modification, and be in the form of a legally binding contract or easement between the landowner (including assignees in interest) and the solar power plant developer, effective for the life of the project. Notwithstanding any such voluntary noise agreement between the affected landowner and the solar power plant developer, the agreement shall only be effective and reflected in the Town's authorization of the project when it has been reviewed and determined acceptable to the town. The Town shall consider the likely impacts and consequences of the modified noise limit requested, based on the specific circumstances of the situation, in determining whether to grant the request. Any such noise agreement must be submitted with the conditional use permit application and if authorized by the Town, must be filed with the Town Recorder upon issuance of the conditional use permit.

3.5 Visual Appearance

• Material: Solar power plant buildings and accessory structures shall use materials, colors, and textures that will blend the facility into the existing environment. Materials covered in forest green powder coating and or made with American wire fencing are acceptable means of blending into the environment.

• Screening: Appropriate landscaping and/or screening materials shall be required to help screen the solar power plant and accessory structures from major roads and neighboring residences. Screening shall be at least six feet in height at the time of initial installation.

• Lighting: No solar power plant tower or other tall structure associated with a solar power plant shall be lighted unless required by the Federal Aviation Administration (FAA). When lighting is required by FAA, it shall be the red, intermittent, glowing-style, rather than the white, strobe-style, unless disclosed and justified through the application review process. Aircraft sensor systems to turn the lights on only when low-flying aircraft are in the area may be required.

Lighting of the solar power plant and accessory structures shall be limited to the minimum necessary and full cut-off lighting (e.g., dark sky compliant) may be required when determined necessary to mitigate visual impacts.

• Glare & Reflections: No glare, lights, or reflection shall be permitted which are nuisances to other property owners or tenants or which could impair the vision of a driver or any motor vehicle or which are detrimental to public health, safety, and welfare. However, reflections from solar energy collectors which are part of an operating solar energy system shall not be considered a nuisance to other property owners and tenants.

3.6 Electrical Interconnections

All electrical interconnection and distribution lines within the project boundary shall be underground, unless determined otherwise by the planning commission because of severe environmental constraints (e.g. wetlands, cliffs, hard bedrock), and except for power lines that leave the project or are within the substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.

3.7 Local, State and Federal Permits

A solar power plant shall be required to obtain all necessary permits from the Vermont Department of Environmental Quality, including the Vermont Division of Air Quality and the Vermont Division of Water Quality, applicable permits required by Town, State, and applicable Federal permits.

3.8 Agreements/Easements

If the land on which the project is proposed is to be leased, rather than owned, by the solar energy development company, all property within the project boundary must be included in a recorded easement(s), lease(s), or consent agreement(s) specifying the applicable uses for the duration of the project. All necessary leases, easements, or other agreements between the solar development company and the affected parties must be in place prior

to commencing construction, unless specified otherwise by the conditional use permit.

4. Permit applications

The town shall have community input for the siting of solar power plants. An application for a conditional use permit to establish a solar power plant shall include a complete description of the project and documentation to sufficiently demonstrate that the requirements set forth in Section 5 will be met. Supporting documentation for addressing the review criteria of Section 5 shall be provided.

The land use authority may require any information reasonably necessary to determine compliance with this chapter. It is preferred that any related conditional use permit applications for substations or transmission lines be considered in conjunction with the conditional use permit application for the solar power plant. However, if the details of those improvements are not available at the time of application for the solar power plant, they may be considered later, through subsequent conditional use permit review. At a minimum, the intended route for connecting to the power grid and the alternative locations of any substation shall be disclosed with the application for the solar power plant.

Due to the complexity of large-scale solar power plant projects, there may be required a development agreement or other appropriate instrument to address taxing, land use, property assessment, and other issues related to the project. For example, if there is interest in preventing large tax shifts that may otherwise be incurred by residents each year a centrally-assessed solar power plant is depreciated; therefore, cooperation to establish an agreement for payment in lieu of taxes (PILT), or other acceptable solution, may be necessary. A development agreement may be required as a condition of the permit, and must be approved by the select board prior to commencing construction.

5. Provisions for conditional use permit review

Following the provisions of the zoning by-laws, additional or more thorough consideration shall be given to the following as the Town determines whether the project needs to be approved, denied, or conditionally approved. Other probable and significant impacts, as identified through the review process, may be required.

5.1 Project Rationale

Project rationale shall be provided, including estimated construction schedule, project life, phasing, and likely buyers or markets for the generated energy.

5.2 Siting Considerations

Siting considerations shall be provided, such as avoiding areas/locations with a high potential for biological conflict such as wilderness study areas, areas of environmental concern, state parks, historic trails, special management areas or important wildlife habitat or corridors; avoiding visual corridors that are prominent scenic view sheds, or scenic areas designated by the municipality; avoiding areas of erodible slopes and soils, where concerns for water quality, landslide, severe erosion, or high storm runoff potential have been identified; and, avoiding known sensitive historical, cultural or archeological resources.

5.3 Site and Development Plans

Site and development plans shall be provided, which identify and/or locate all existing and proposed structures; setbacks; access routes; proposed road improvements; any existing inhabitable structures and residentially zoned lots within one-quarter mile of a photovoltaic solar project or one-half mile of a concentrated solar project; existing utilities, pipelines, and transmission lines; proposed utility lines; utility and maintenance structures; existing topographic contours; existing and proposed drainage ways; proposed grading; areas of natural vegetation removal; re-vegetation areas and methods; dust and erosion control; any floodplains or wetlands; and other relevant items identified by the planning commission. All maps and visual representations need to be drawn at an appropriate scale.

5.4 Analysis of Local Economic Benefits

Analysis of local economic benefits shall be provided, describing estimated: Project cost, generated taxes, percent of construction dollars to be spent locally,

and the number of local construction and permanent job gains and possible losses of jobs in the future if the site were developed for other approved uses.

5.5 Visual Impacts, Appearance, and Scenic Viewsheds
Potential visual impacts may be caused by components of the project such as mirrors, solar towers, cooling towers, steam plumes, aboveground electrical lines, accessory structures, access roads, utility trenches and installations, and alteration of vegetation.

Those projects that are within a sensitive view shed, utilize reflective components (e.g., exposed mirrors), or that propose structures taller than twenty feet must provide a view shed analysis of the project, including visual simulations of the planned structures and analysis of potential glare impacts. The number of visual simulations shall be sufficient to provide adequate analysis of the visual impacts of the proposal, which shall be from no less than four vantage points that together provide a view from all sides of the project. More visually sensitive proposals (e.g., solar power towers or exposed mirrors in sensitive view sheds) may require analysis from significantly more vantage points, such as different distances and sensitive locations.

The Planning Commission may also require a Zone of Theoretical Visibility/ Zone of Visual Impact (ZVI) Analysis, which is a three-hundred-sixty degree computer analysis to map the lands within a defined radius of a location that would likely be able to see an object. Significant visual impacts that cannot be adequately mitigated are grounds for denial.

5.6 Wildlife Habitat Areas and Migration Patterns
Specifically include information on any use of the site by endangered or threatened species and whether the project is in a biologically significant area. If threatened or endangered species exist in the area, consultation with United States Fish and Wildlife Service (USFWS) will be necessary.

5.7 Environmental Analysis
In the absence of a required state or federal agency environmental review for the project (e.g., Act 250), the planning commission may require an analysis of impacts to historic, cultural and archaeological resources, soil erosion (water and wind), flora, and water quality and water supply in the area, when there is reason to believe that adverse impacts to such may occur.

5.8 Solid Waste or Hazardous Waste
As applicable, the application must include plans for the spill prevention, clean-up, and disposal of fuels, oils, and hazardous wastes, as well as collection methods for solid waste generated by the project.

5.9 Height Restrictions and FAA Hazard Review
Compliance with any applicable airport overlay zoning requirements and the ability to comply with FAA regulations pertaining to hazards to air navigation must be demonstrated.

5.10 Transportation Plan for Construction and Operation Phases
Indicate by description and map what roads the project will utilize during the construction and operation/maintenance phases of the project, along with their existing surfacing and condition. Specify any new roads and proposed upgrades or improvements needed to the existing road system to serve the project (both the construction and O&M periods) --remember to identify needed bridges, culverts, livestock fence crossings (gates and cattle guards), etc. Also identify all areas where modification of the topography is anticipated (cutting/filling) to construct or improve the roadways. Address road improvement, restoration or maintenance needs associated with the construction, ongoing maintenance/repair, and potential dismantling of the project.

Provide projected traffic counts for the construction period, broken down by the general type/size of vehicles, and identify approximately how many trips will have oversized or overweight loads. If significant impacts to the transportation system are anticipated, the Town may require financial guarantees to ensure proper repair/restoration of roadways or other infrastructure damaged or degraded during construction or dismantling of the project. In such case, the "before" conditions of the roadways and other infrastructure must be documented through appropriate methods such as videos, photos, and

written records, to provide a proper reference for restoration.

5.11 Public Safety
Identify and address any known or suspected potential hazards to adjacent properties, public roadways, communities, aviation, etc., that may be created by the project.

5.12 Noise limitations
Submit sufficient information regarding noise, so as to demonstrate compliance with Section 3.4.

5.13 Decommissioning Plan
Describe the decommissioning and final land reclamation plan to be followed after the anticipated useful life, or abandonment, or termination of the project, including evidence of proposed commitments with affected parties (town, any lessor or property owner, etc.) that ensure proper final reclamation of the solar energy project. Among other things, re-vegetation and road repair activities should be addressed in the plan.

6. Section Updates
This Section shall be updated yearly to incorporate the latest information on emerging technologies, regulations, financing and incentives related to renewable energy.

Commercial Wind Energy Systems
Commercial wind energy systems (wind farms) are defined as those that are regulated under Section 248 of Title 30 of the Vermont Statutes but not including net metering applications (as per 30 V.S.A. §219a) or temporary meteorological towers. These are generally large-scale projects with multiple turbines designed to generate electricity. While Ferrisburgh does not encourage the construction of commercial wind energy systems, the Town recognizes the fact that they may still be allowed by the Vermont Public Service Board. Should this occur, the Town requests that the Public Service Board require the developer to provide the following:

1. A wildlife habitat assessment, including assessment of impact to indigenous species, including migratory, resident and breeding avian and bat populations;

2. A rare species assessment; and mitigation plans (if necessary);

3. A visual impact assessment, including pre- and post-construction photo simulations of the project as seen during the day and at night.

4. Alternative sites analysis.

5. Identify and protect any potentially impacted ground water recharge areas.

6. Adequate financial surety, either in cash or letter of credit, to repair damage to local roads or to stabilize the entire construction site during construction of the Project. The financial surety should be available to the municipality in the event that the municipality is forced to conduct work to secure the stability of the soil and vegetation on the site, including the access road, after construction is completed.

7. Sufficient decommissioning funds, kept in an escrow account associated with the property that is separate from the developer's general accounts, so that the site will be restored to natural conditions if the project is not repowered at the end of its useful life.

8. A contingency plan that outlines mitigation action, in the event of unforeseen and unacceptable negative impacts from the completed project.

9. Financial assistance to the town to pay for the hiring of qualified engineering, environmental, and legal consultants to assist the Town in reviewing the application and establishing local revenue agreements.

Individual Wind Energy Systems
Wind energy is being harnessed at the residential scale on several properties in Ferrisburgh. Towns may only regulate wind facilities that do not connect in any way to the public power supply. Individual wind systems with blades less than 20 feet in diameter are not regulated unless a town specifically addresses them in their zoning bylaws. The Vermont Public Service Board regulates wind systems that are connected to the power grid.

Working agricultural landscapes are the most appropriate places to locate individual wind systems. Their height and visual prominence make them incompatible with densely settled areas. Individual wind energy systems must be designed so that they are not located as a focal point in one of the designated scenic areas of Ferrisburgh. The permitting of these facilities should be reviewed under the conditional use review process with additional safeguards specified in the Zoning Regulations. At a minimum, the additional safeguards should regulate setbacks which accommodate a fall zone, operational noise levels, and lighting.

Ferrisburgh supports net metering as provided by Vermont Statute (30 V.S.A. §219a).

Land Use, Transportation and Energy
Concentrating development in the village district, encouraging job development in town, and supporting local businesses which support our farms and our local food system, are some ways this plan supports reductions in energy use. Supporting alternatives to the car, such as partnering with Addison County Transit Resource (ACTR) to establish routes from and to Ferrisburgh, providing safe and secure walking and cycling provisions, and the installation of bicycle racks at the park-and-ride, Town Hall and other public locations directly impact the goal of decreasing energy consumption. This plan supports such efforts.

The existing park-and-ride at the junction of Routes 7 and 22A along with the recently relocated rail station provide Ferrisburgh with an opportunity to promote integrated multi-modal transportation that has the potential to reduce energy use. We encourage the restoration of passenger rail service along the 'western corridor' and advocate that the rail station be a regular stop for that service. In addition the rail station can serve as an information focal point that directs visitor and residents alike to engage in energy conservation through the use of public transportation (rail and ACTR) and carpooling.

Some farms in Vermont are producing bio-mass crops, and seed-oil crops for the production of bio-diesel for both on-site production operations and off-site sales. Local forests are being harvested to provide wood pellets to heat schools and other buildings. This plan supports these kinds of initiatives as another way to both support our farms and forestry businesses to produce cleaner, local energy sources. More information on biomass can be found at the Biomass Energy Resource Center (BERC): www.biomasscenter.org

Ferrisburgh Energy Committee
The Ferrisburgh Energy Committee was formed in 2010 to help the town conserve energy; use energy in a more sustainable and affordable way; encourage efficiency to lower demands on increasingly expensive energy; and learn about environmental and economic consequences of energy use. The Energy Committee has worked on the PACE program, Button Up Vermont, municipal audits, and provided information on solar projects on municipal land. It offers educational programs on energy technologies and conservation strategies such as the Ferrisburgh Energy Fair. The mission of the Ferrisburgh Energy committee is to seek cost effective green energy solutions for the entire community.

H. Transportation

Ferrisburgh has always been part of a major transportation corridor primarily centered along US Route 7, also known as the "Vermont Western Corridor". The corridor includes; the 176 mile stretch of US 7 between the Quebec and Massachusetts borders, the parallel portion of I-89 running from Burlington to Highgate, as well as the 122 mile stretch of railroad between North Bennington & Burlington. In the past, the transportation system primarily utilized the lake and inland waterways. During the 1840's rail came to dominate freight movement, and eventually served transit needs beginning with the use of the Vergennes train station in 1849. Today, the emphasis

of the transportation system is upon the Vermont Rail System (VRS) for freight, as well as the local road network and U.S. Route 7, the town's primary highway for truck and automobile traffic.

Rail: The rail line which traverses through the town remains in use, but only for freight traffic and a few seasonal passenger excursion trains. A commuter train project called the "Champlain Flyer" was operated between Charlotte and Burlington from December 2000 to February 2003. This service was hoped to extend to Ferrisburgh and Vergennes. As it was originally intended to mitigate traffic congestion from Charlotte to Burlington during the 2005 reconstruction of US Route 7, the service was nevertheless discontinued before the project was ever started.

With the forthcoming construction of a new rail tunnel in Middlebury and the corresponding upgrade of trackage to Class III (where the maximum authorized speed for passenger and freight trains is equal to 60 mph and 40 mph, respectively), the rail infrastructure along the Vermont Western Corridor will be conducive for greater freight traffic and passenger rail service to and from Burlington and New York City, and perhaps Montreal.

Air: Ferrisburgh has a private airport at Basin Harbor.

Water: There are private marinas on Otter Creek and at Basin Harbor in Ferrisburgh.

Public Transport: The Middlebury LINK Express currently offers four trips daily (two in the morning and two in the evening, Monday through Saturday), between Middlebury and Burlington. This bus stop on US Route 7 at the Old Hollow Road/Stage Road intersection, and at the Park and Ride of 22A. Addison County Transit Resources offers several trips per day between Vergennes, Bristol, and Middlebury which Ferrisburgh residents may find convenient. Details are available at http://www.actr-vt.org or at 802-388-ACTR. There is one local taxi cab service in town.

Commuting: Route 7 is the primary commuting route in the area. With no public transportation options, the majority of Ferrisburgh residents depend on their cars to get to work. According to the 2007-2011 American Community Survey, the following percentages of the 80.3% of resident workers (16 years and older) drive alone to work, with about 7.4% of residents carpooling, 1.5% commute via public transportation, 1.4% walked, 1.8% took 'other means', and 7.5% worked at home.

TABLE 1. Autumn Vehicle Counts at the Ferrisburgh Park & Ride Facility ~ 2007-2013

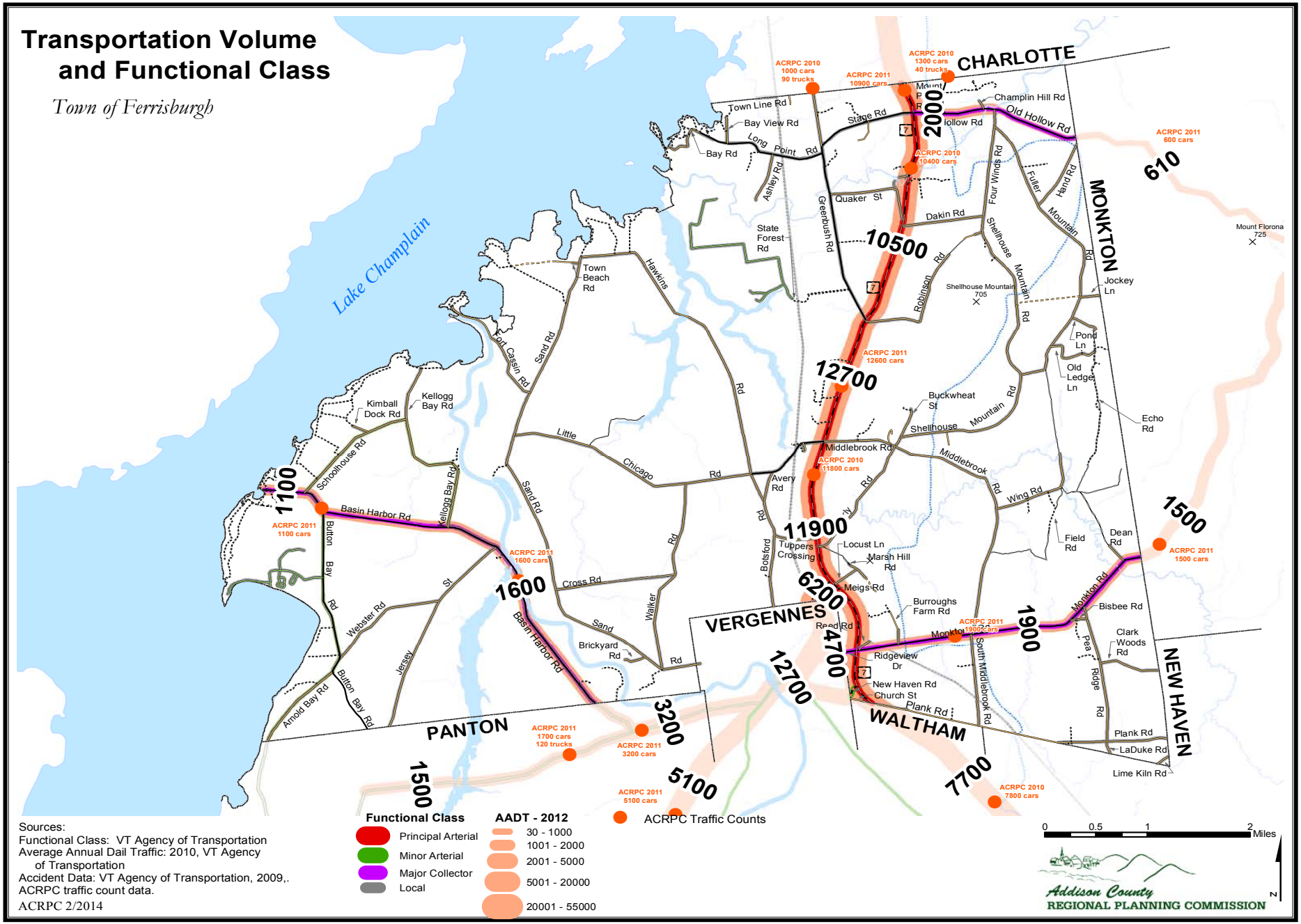
Time Period	2013	2012	2010	2009	2008	2007
AM - 1st Count Day	38	21	18	16	17	13
PM - 1st Count Day	38	21	17	14	21	12
AM - 2nd Count Day	23	22	23	15	21	14

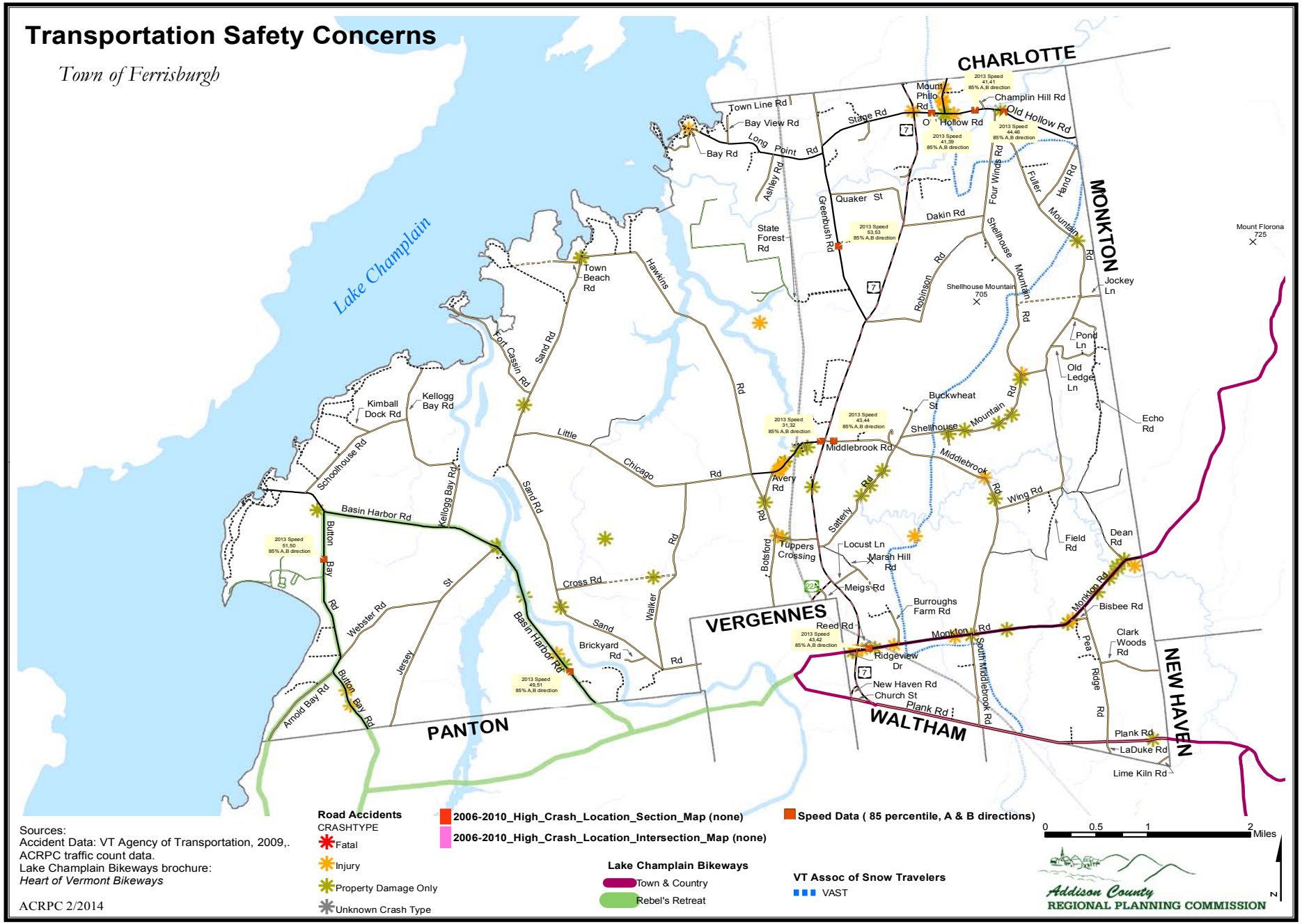
TABLE 2. Average daily traffic (AADT) on Route 7 in Ferrisburgh ~1998-2015

Road segment	% increase over time frame	2015	2014	2013	2011	2010	2008	2004	2000	1998
0.25 Mile North of Old Hollow Rd. (A398)	11%; 2011-2015	12087	11500		10900					
Just North of Loven Lane (A014)	8.3%; 1998-2013			11,700		10400	11600	11500	10900	10800
0.6 Mile North of Little Chicago Rd. (A101)	5.1%; 2011-2015	13243	12600	-	12600					
0.7 Mile North of Tupper's Crossing (A102)	5.8%; 1998-2013	-	-	12700	-	11800	11500	12600	11900	12000

The mean travel time to work was reported to be 24.8 minutes. In July 2007, the Vermont Agency of Transportation completed construction of a new 83 vehicle capacity park-and-ride facility at the intersection of Route 7/22A in Ferrisburgh. The Middlebury LINK Express makes a number of programmed stops at this facility. Count data collected from 2007-2013 indicates an increase in the usage of this facility, likely due to greater transit use, carpooling, and ride-sharing (See Table 1).

US Route 7: US 7 is the primary north-south arterial highway serving the western side of the State of Vermont. This route stretches from one end of the state to the other. Route 7 is a two-lane highway covering 7.3 miles within the town. Within Ferrisburgh, the surface width of the traveled highway is


Transportation Volume and Functional Class
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Mount Florona 725
Shellhouse Mountain 705
ACRPC 2010 1000 cars 90 trucks
ACRPC 2010 1300 cars 40 trucks
ACRPC 2011 10900 cars
ACRPC 2010 10400 cars
ACRPC 2011 600 cars
ACRPC 2011 12600 cars
ACRPC 2010 11800 cars
ACRPC 2011 1100 cars
ACRPC 2011 1600 cars
ACRPC 2011 1500 cars
ACRPC 2011 1900 cars
ACRPC 2011 1700 cars 120 trucks
ACRPC 2011 3200 cars
ACRPC 2011 5100 cars
ACRPC 2010 7800 cars
2000
10500
610
12700
11900
1500
1100
1600
6200
1900
4700
12700
3200
5100
7700
1500
Functional Class
Principal Arterial
Minor Arterial
Major Collector
Local
AADT - 2012
30 - 1000
1001 - 2000
2001 - 5000
5001 - 20000
20001 - 55000
ACRPC Traffic Counts
0 0.5 1 2 Miles
N
Addison County
REGIONAL PLANNING COMMISSION
Sources:
Functional Class: VT Agency of Transportation
Average Annual Dail Traffic: 2010, VT Agency of Transportation
Accident Data: VT Agency of Transportation, 2009,.
ACRPC traffic count data.
ACRPC 2/2014

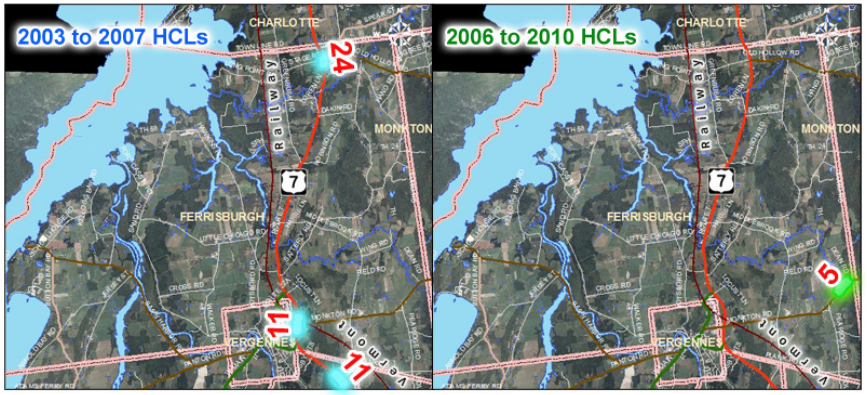

Transportation Safety Concerns
Town of Ferrisburgh
Lake Champlain
CHARLOTTE
MONKTON
VERGENNES
PANTON
WALTHAM
NEW HAVEN
Town Line Rd
Bay View Rd
Bay Rd
Long Point Rd
Stage Rd
Mount Philo Rd
Champlin Hill Rd
Old Hollow Rd
Ashley Rd
Greenbush Rd
Quaker St
Dakin Rd
Four Winds Rd
Fuller Hand Rd
Mountain Rd
State Forest Rd
Robinson Rd
Shellhouse Mountain Rd
Shellhouse Mountain 705
Mount Florona 725
Jockey Ln
Pond Ln
Old Ledge Ln
Echo Rd
Buckwheat St
Middlebrook Rd
Wing Rd
Town Beach Rd
Hawkins Rd
Fort Cassin Rd
Sand Rd
Kimball Dock Rd
Kellogg Bay Rd
Schoolhouse Rd
Basin Harbor Rd
Button Bay Rd
Webster Rd
Jersey St
Arnold Bay Rd
Little Chicago Rd
Avery Rd
Satterly Rd
Botsford Rd
Tuppers Crossing
Locust Ln
Marsh Hill Rd
Meigs Rd
Cross Rd
Walker Rd
Sand Rd
Brickyard Rd
Basin Harbor Rd
Reed Rd
Burroughs Farm Rd
Monkton Rd
Ridgeview Dr
New Haven Rd
Church St
Plank Rd
South Middlebrook Rd
Field Rd
Dean Rd
Bisbee Rd
Clark Woods Rd
Pea Ridge Rd
LaDuke Rd
Lime Kiln Rd
Sources:
Accident Data: VT Agency of Transportation, 2009,.
ACRPC traffic count data.
Lake Champlain Bikeways brochure:
Heart of Vermont Bikeways
ACRPC 2/2014
Road Accidents
CRASHTYPE
Fatal
Injury
Property Damage Only
Unknown Crash Type
2006-2010_High_Crash_Location_Section_Map (none)
2006-2010_High_Crash_Location_Intersection_Map (none)
Speed Data (85 percentile, A & B directions)
Lake Champlain Bikeways
Town & Country
Rebel's Retreat
VT Assoc of Snow Travelers
VAST
0 0.5 1 2 Miles
Addison County
REGIONAL PLANNING COMMISSION

40 feet, shoulder to shoulder, with 12 foot lanes and 8 foot shoulders. The road right-of-way, which varies in width, is under the control of the Vermont Agency of Transportation (VTrans). There are limited passing places and heavy traffic. Speed limits are 50 miles per hour for most of the distance through town, with 40 mile per hour speed zone through the center of town associated with the turn off for the school at Little Chicago Road and through North Ferrisburgh.

In 2012, VTrans measured the Pavement Condition for most of US 7 in Ferrisburgh to be in 'Good' condition, except for some short sections at the following locations; 1. the Charlotte town line, 2. the bridge crossing Lewis Creek (about 0.75 miles south of Old Hollow Rd.), 3. the bridge crossing Little Otter Creek (0.5 mile south of Little Chicago Rd.), and 4. the railroad crossing just north of Monkton Rd. In 2013, VTrans District 5 undertook a pavement "leveling" (i.e. the application of a temporary asphalt overlay over an especially rough section until it can be fully reconstructed) project at the Charlotte town line.

In 1990, the Annual Average Daily Traffic (AADT) on Route 7 north of the intersection of Little Chicago Road was about 10,000 vehicles per day. By 2011, the AADT had risen to 12,600 vehicles per day. In recent years, AADT for the section of Route 7 between Greenbush Road and Old Hollow / Stage Roads increased from 9,700 in 1990 to 10,400 in 2010 (See Table 2 above).

Town of Ferrisburgh ~ High Crash Locations (HCL) ~ 2003 to 2010



According to the State of Vermont, Agency of Transportation's records, other locations along the US Route 7 corridor in Ferrisburgh have experienced relatively small increases in AADT over the past twenty years. With respect to truck traffic, data collection has been sparse. The Chittenden County MPO conducted a count in 2004 at the Charlotte/Ferrisburgh town line, indicating a Truck AADT of about 1000 vehicles per day. VTrans conducted counts between 2000-2002 at a location about 0.4 mile south of the Little Chicago Road/Middlebrook Road intersection, indicating Truck AADT's of 1200 vehicles per day for both time periods.

The 1995 edition of "Vermont's Long Range Transportation Plan" noted, "Uncontrolled access along our major transportation routes leads to a breakdown in their ability to provide regional mobility and safe operation. The highway development brings with it traffic congestion and the hazards of frequent, random turns into and off the highway."

In the 2002 edition, the agency's main planning objectives included;

•Manage the state's existing transportation system facilities to provide capacity, safety, and flexibility in the most effective and efficient manner.

•Improve all modes of Vermont's transportation system to provide Vermonters with choice.

TABLE 3a. Annual Average Daily Traffic *(& Truck Traffic)* upon Greenbush Road					
Road Segment	**AADT 2013**	**AADT 2012**	**AADT 2010**	**AADT 2003**	**85th % Speed**
Just West of US 7	-	930	-	-	-
0.9 Mile North of US 7	840 *(70)*	-	-	-	53 mph
At Charlotte Town Line	-	-	1000 *(90)*	760 *(90)*	50-52 mph

TABLE 3b. Annual Average Daily Traffic *(& Truck Traffic)* upon Monkton Road					
Road Segment	**AADT 2013**	**AADT 2011**	**AADT 2007**	**AADT 2003**	**85th % Speed**
600 ft. East of US 7	2000 *(160)*	-	-	-	42-43 mph
0.2 Mile West of Middlebrook Rd.	-	1900	2100	1900	-

TABLE 3c. Annual Average Daily Traffic *(& Truck Traffic)* upon Mt. Philo Road					
Road Segment	**AADT 2012**	**AADT 2010**	**AADT 2002**	**AADT 1995**	**85th % Speed**
At Charlotte Town Line	-	1300 *(40)*	1200 *(40)*	1300	43-44 mph
590 ft. North of Old Hollow Rd.	1400 *(60)*	-	-	-	39-42 mph

TABLE 3d. Annual Average Daily Traffic *(& Truck Traffic)* upon Old Hollow Road					
Road Segment	**AADT 2013**	**AADT 2012**	**AADT 2007**	**AADT 2003**	**85th % Speed**
About 0.2 Mile East of US 7	2200 *(120)*	-	-	-	39-41 mph
About 0.2 Mile East of Mt. Philo Rd.	-	1100 *(60)*	-	-	40-42 mph
About 0.2 Mile West of Four Winds Rd.	1400 *(90)*	-	2000	1700	41 mph
About 600 ft. East of Four Winds Rd.	1100 *(70)*	-	-	-	44-46 mph

•Strengthen the economy, protect and enhance the quality of the natural environment, and improve Vermonters' quality of life.

To meet these goals, Ferrisburgh should continually evaluate future development along the Route 7 and Route 22A corridors, work closely with the state, and develop clear highway policies.

Entering US Route 7 from side roads is difficult due to heavy traffic at times, the relative high speeds and reduced site distance in certain directions. One such problematic intersection on US Route 7 was identified at Old Hollow Road and Stage Road. A Traffic study was undertaken by VTrans District 5 in 2002, indicating a high incidence of crashes occurring in late afternoon, particularly in the period October through December. There are also numerous accesses onto Route 7 in this area, which exacerbated the situation. The 2002 traffic study presented a number of mitigating measures for this intersection, including; lowering the speed limit, installing overhead flashing beacons, enforcing the no-parking along the road, and providing left turn lanes. Some of these measures have been undertaken and are discussed below.

To further reduce the incidents of crashes on US 7 in Ferrisburgh, Road Safety Audit Reviews (RSAR) were undertaken at US 7 and Stage Road/Old Hollow Road, and at US 7 and Little Chicago Road/Middlebrook Road in 2006 and in 2004, respectively. Since the implementation of the RSARs, the intersection of US 7 & Stage Road/Old Hollow Road has been eliminated from the State's High Crash Location (HCL) list. Implementation of the RSARs are further discussed in the "High Crash Locations" paragraph (below). To view the RSAR reports, please visit the following website: http://www.acrpc.info/transportation/safety/

In 2011-2012, the Ferrisburgh Central School, VTrans, and the Addison County RPC developed a school travel plan to help identify infrastructural improvements which will increase safety for students walking and biking to and from the school, such as sidewalks and crosswalks. To view the recommended improvements of school travel plan, please visit the following website: http://acrpc.org/sr2s/

In 2012, a traffic signal warrant analysis for the intersection of US 7 and Little Chicago Rd. and Middlebrook Rd. was conducted and met by VTrans. The traffic light is scheduled to be installed in 2016.

VT Route 22A: In addition to Route 7, there is a short section of Route 22A near the Vergennes turnoff in Ferrisburgh. Route 22A is a major truck route connecting to Route 7 in Ferrisburgh with an estimated Truck AADT of about 830 vehicles per day (VTrans, 2002). Route 22A is a regional connector that passes through the City of Vergennes and connects to Route 4 in Fair Haven. This is the primary route from this area to connect with Interstate 87 in New York. Route 22A and Route 7 are maintained by the State.

Town Highways: Ferrisburgh maintains 77.72 miles of highways. 55 miles of the roadways are paved. 31 miles are dirt roads; 24 miles of which are gravel, 5 miles are graded earth, and 2 miles are untraveled. For 2015, the Class of road for Ferrisburgh's town highway mileage are certified as:

Class I Town Highways: 0.0 miles Class II Town Highways: 18.39 miles Class III Town Highways: 56.6 miles Class IV Town Highways: 2.73 miles

There are also numerous legal trails in Ferrisburgh that the town maintains

legal rights-of-way across. Many of these are mapped, but the total mileage is not presently known. In fiscal year 2014-2015, the Town of Ferrisburgh was programmed to receive $161,737.36 from the State of Vermont for the purpose of town highway maintenance. This comprised $75,627.96 for Class II and $86,109.40 for Class III highways.

Class II Town Highways generally provide access to neighboring municipalities or connect residential and/or commercial activity centers and would have at least 500 AADT. The municipality maintains the road, but has the option to notify VTrans to replace the yellow centerline pavement marking if it is paved. In Ferrisburgh Class II roads include; Basin Harbor Road, Button Bay Road, Greenbush Road, Long Point Road, Monkton Road, Old Hollow Road, and a 0.9 mile section of Little Chicago Road (from US 7 to Hawkins Road). The following tables outline the level of traffic and vehicle speeds (where available) for most of the Class II town highways:

Class III Town Highways include all of the other town highways that are negotiable in all seasons. They are fully maintained by the municipality. For Ferrisburgh, there has been very little traffic data collected on these roads in recent years.

At the request of residents in The Hollow, a traffic study was conducted in 2014 which culminated in lowering the speed limit to 30 mph on Old Hollow Road.

Class IV Town Highways are fully maintained by the municipality and have no State-aid apportioned for their maintenance. Ferrisburgh's Class IV roads include a few minimally travelled (e.g. Burroughs Farm Road, Town Beach Road at Kingsland Bay State Park) and impassible or untraveled highways (not including town trails) that are not maintained year-round.

Truck Traffic: Although the secondary roads not designed for overweight vehicles (e.g. milk trucks, logging trucks, and manure haulers), they This nevertheless have been regularly observed travelling upon them. Some manure haulers in nearby communities have been observed by road foremen to weigh-in at over 150,000 pounds. kind of vehicular traffic causes the road surface and sub-base to deteriorate at a greatly increased rate.

"Recent research indicates that an 80,000 pound commercial vehicle has the equivalent single axle load (ESAL) value of 26,000 passenger vehicles, while a 100,000 pound commercial vehicle has the same ESAL value as 70,500 passenger vehicles." (AASHTO, 2007)

Bicycle & Pedestrian Traffic: There are no sidewalks throughout Ferrisburgh and lack of shoulders is also a concern for pedestrians, bicycles and strollers as the traffic levels increase over time. Currently the Champlain Bikeway has marked routes through Ferrisburgh using Route 7 and a number of the secondary roads (e.g. Greenbush Rd., Mt. Philo Rd., Little Chicago Rd., Hawkins Rd., Sand Rd., Basin Harbor Rd., and Button Bay Rd.).

The Ferrisburgh Central School's recreation committee has established a Safe Routes to School Team (SRTS) which is a State and National organization which advocates for and addresses the need for safe walking and cycling pathways to and from schools. Ferrisburgh's SRTS team has partnered with town officials and the Addison County Regional Planning Commission to create a 'Travel Plan', which outlines goals for the future walk-ability of Ferrisburgh for school-aged children.

Any improvements to roads in Ferrisburgh should allow safer movement of pedestrian, cyclist and equestrian traffic, as directed in VTRANS *Complete Streets Bill. This bill recognizes the significant impacts street design has on

**Complete Street Law: Vermont's Complete Streets bill (H.198, Act 34) came into law, effective July 1, 2011. The purpose of the Complete Streets bill is to ensure that the needs of all transportation system users are considered in all state and municipally managed transportation projects and project phases, including planning, development, construction, and maintenance, except in the case of projects or project components involving unpaved highways. The policy applies when new roads are being constructed, and when paved roads are being reconstructed, rehabilitated, or otherwise maintained.*

the experience of any given place. Complete streets also incorporate vegetation, including street trees, as a way to bring shading, stormwater management and aesthetic value to a street. Ferrisburgh can take advantage of a number of state and regional grant programs that provide street trees.

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High Crash Locations (HCLs): For every five-year period, the Vermont Agency of Transportation analyzes sections of highways and intersections for their vehicle crash rates on the Federal-aid Highway System (FAS).

Those locations which have experienced five or more crashes within a five-year period, or the average of one crash per year, and exceed a statistically calculated critical rate are then identified as an HCL. Over the past decade, Ferrisburgh has had a few HCLs identified within the town (see the following figure).

During 2003-2007, the section of roadway near the intersection of US 7 and Old Hollow Rd./Stage Rd. was designated as an HCL where at least 24 crashes occurred. However, this location was removed from the State's HCL list for the 2006-2010 period. This improvement may have been due to the implementation of recommendations from the 2006 RSAR undertaken at this location. Some of the improvements to the location included;

1. Upgrade of 'Stop' signs and the installation of 'Stop Ahead' signage and stop bars (pavement markings) on the Stage Rd. and Old Hollow Rd. approaches to US 7.

2. Restriction of parking along US 7 of trucks at the Mobil gas station (which had reduced the line of sight for vehicles at the Stage Road approach).

3. Installation of speed limit and route marker signs along Route 7.

4. Installation of a new gate along with relocation of intersection warning signs 750' from the intersection.

5. Replacement of 40 mph advisory signs with street name signs.

6. Installation of left turn lanes at the intersection on US 7 in northbound and southbound directions.

During 2003-2007, another section of roadway near the intersection of US 7 and Monkton Rd. was designated as an HCL where at least 11 crashes occurred. In 2008, VTrans conducted a pavement project at this location, which was considered a significant improvement for reducing crash rates there. The project entailed widening the road and shoulders, improving guardrails and signage, as well as the installation of more durable and brighter pavement markings. As a result, this location was removed from the State's HCL list for the 2006-2010 period.

During 2006-2010, a 0.3 mile section of roadway on Monkton Rd. between Pea Ridge Rd. and Dean Rd. was designated as an HCL where at least 5 crashes occurred during the period.

Highway Department: The Town of Ferrisburgh has its own Highway Department with a full-time Road Foreman and four additional employees. The department is responsible for summer maintenance, winter snow removal and maintenance, and reconstruction of town highway infrastructure. The Town has a maintenance facility and a variety of road maintenance and construction equipment. On 10 Dec 2013, the Town passed a twenty-year bond for the construction of a new highway garage to replace the currently undersized facility (originally built circa 1950) and a salt shed where two walls have failed (which are currently held together by concrete blocks).

Highway expenditures are the largest item within the town (non-school) budget. For FY-2015, the proposed highway budget was $763,748. Generally, about half of the budget pays for winter maintenance with small portions

going toward bridge and highway construction.

I. Recreation

There are many town or state owned open spaces and recreational facilities in Ferrisburgh, making the town an important recreational location for local residents and visitors from afar. In the past two town surveys Ferrisburgh residents have clearly stated their support and desire for a diversity of recreational opportunities, easily available to everyone throughout town. While recreation considers outdoor pursuits such as hiking, snow-sports, fishing, boating, birding etc. It also includes building on opportunities to walk and cycle throughout town. Bicycle riding is a healthy activity for Vermonters of all ages, and an important aspect of modern tourism in Vermont. In a 2013 town-wide survey, a high percentage of respondents listed access to safe walking and biking as important to them. In a 2004 survey, a very high percentage of school-age children asked for more recreation trails and bike paths in town. Please refer to the Transportation Section, above, for more on pedestrian and cycling opportunities.

Despite the abundance of recreation opportunities in town, Ferrisburgh has only a limited selection of overnight accommodations and places to eat, with the exception of the Basin Harbor Resort. In other parts of Vermont, the rise in bed-and-breakfast accommodations, especially in historic houses or farmhouses to supplement farm income, is becoming much more common and in high demand. Ferrisburgh's policies may wish to encourage such economic growth.

Ferrisburgh has some roads designated as official routes by the Lake Champlain Bikeways. However, many roads are not maintained in a manner that would allow safe bicycle riding. Many scenic roads have no shoulders, including: Basin Harbor, Kellogg Bay, Schoolhouse, Botsford, Vergennes-Monkton, Hawkins, Sand, Old Hollow, Mt. Philo, Shellhouse Mountain, Four Winds, Middlebrook and Little Chicago

Ferrisburgh Recreation Committee
Ferrisburgh community members have formed an ad hoc Ferrisburgh Rec Committee to plan and implement a recreation area for Ferrisburgh. Located at the present sand and gravel pit adjacent to Ferrisburgh Central School and across from the Town Garage on Little Chicago Road, this parcel of land is the site proposed for a covered winter skating rink/summer basketball, multi-use court, surrounded by landscaped picnic/leisure acreage. At present, this plan is being financed by matching grants and donations from friends, families, and members of the community.

Public Access
All the waters of Lake Champlain are navigable and in the public trust, and the lower sections of Otter, Little Otter and Lewis Creek up to the waterfalls just upstream of Old Hollow Road in North Ferrisburgh are also classified as part of Lake Champlain and open to fishing all year round. Maintaining public access is important to the majority of Ferrisburgh residents according to the recent survey.
Ferrisburgh's current recreational facilities and natural areas include:

State Parks: Kingsland Bay and Button Bay.

Wildlife Management Areas: Little Otter Creek, Lower Otter Creek, Fort Cassin and Dead Creek.

Lake and River Access Areas: Fort Cassin, Lewis Creek, the Town Beach, South Slang, Button Bay and Kingsland Bay.

Town Forest: Shellhouse Mountain Municipal Forest (121 acres).

Village Green: 1 acre at the town center

Town Beach: A picnic and swimming area (1 acre) on Lake Champlain. Car-top boaters also frequently use this area.

Ferrisburgh Central School has a playground, playing fields and a gym on approximately 24 acres.

The Basin Harbor Club has a golf course and a private airstrip.

Vergennes Pool: Residents of Ferrisburgh may also use the Sam Fishman Pool in Vergennes.

VAST snowmobile trails weave across many acres in Ferrisburgh.

Champlain Bikeway routes are marked along many roads in town,

especially in West Ferrisburgh.

Ferrisburgh's Lake Champlain shoreline is part of a lake-wide canoe and kayak Paddlers' Trail with access to public and private campsites along the shoreline. Two Paddler's Trail campsites are located in Ferrisburgh, at Kingsland Bay and Button Bay State Parks.

The Lake Champlain Maritime Museum, located adjacent to the Basin Harbor Resort on Lake Champlain, has become a nationally renowned center for research on Lake Champlain especially as it applies to the early history of North America. Here there is a replica of the Philadelphia, and many artifacts from the Revolutionary War period of American History.

Underwater Historic Preserve: Like all such underwater preserves in navigable water, it belongs in the public trust, and is under the protection of the Vermont Division for Historic Preservation and the New York Department of Environmental Conservation.

Fishing and Marinas: There is a large boating and fishing recreation business on Lake Champlain with some of the best bass fishing in the nation attracting thousands of visitors a year. One of the many marinas on Lake Champlain can be found on Basin Harbor road, and another is located at Basin Harbor Club.

Reference Section

The Historic Architecture of Addison County, Vermont State Register of Historic Places, Vermont Division for Historic Preservation, 1992.

The Lake Champlain Committee, www.lakechamplaincommittee.com; the Vermont Recreation Trails, Department of Forests, Parks and Recreation, and the Land and Water Conservation Fund (LWCF) periodically have funding to assist in improving recreation facilities, trails and access.

For more information about snowmobiling in town contact the Vermont Association of Snow Travellers (VAST) at www.vtvast.org or (802) 229-0005.

CHAPTER 4. Ferrisburgh Future

4.1. Natural Resources Policies

A. Earth Resources

Policy

1. Follow a public hearing process to discuss the development of local extraction sites, being sure to distinguish between gravel (crushing) and hard-rock (blasting) extraction.

2. Local resource extraction shall happen only if the process does not unduly impact environmental quality or the character of the community. The extraction process must:

a. Prevent debris from erosion from entering watercourses;
b. Reduce safety hazards caused by pits or steep or unstable slopes;
c. Restore terminated extracted sites to a condition suited for an approved alternative use of development.
d. Prohibit the removal of sand or gravel directly from watercourses, as stated in Vermont State law.

B. Steep Slopes & Shallow Soils

Policy

1. Discourage removal of existing vegetative cover on all areas with slopes over 15 percent or where soils are shallow to bedrock, less than three feet.

2. Ensure that grading, cutting or filling does not result in a finished grade over 50 percent.

3. Discourage development, including driveways, on slopes over 15 percent without review by the Fire Department.

4. Refer to ANR's River Corridor maps to determine vulnerable areas for shoreline erosion.

C. Wastewater

Policy

1. Issue town permits for development contingent upon applicants receiving all required state and federal permits, including a state water and wastewater permit.
2. Maintain accurate town records of approved septic systems.
3. Encourage upgrading of old or inadequate septic systems, especially near shorelines, rivers and wetlands.

Recommended Action

1. Inventory the condition of septic systems in the Shoreland Planning Area, Long Point Corporation, and North Ferrisburgh Historic Village (see also Land Use Plan and Map).

2. Apply for grant from the Vermont State Department of Environmental Conservation for a waste water feasibility study to understand more efficient, community treatment systems for population-dense and future mixed-use areas.

D. Flood Resiliency, High Water Table and Stormwater Runoff

Policy

1. Continue Ferrisburgh's participation in and compliance with, the National Flood Insurance Program.

2.Stormwater runoff from developed lands, parking areas, roads and driveways must not negatively impact ground and surface waters.

3. Subdivisions subject to state stormwater regulations should provide an adequate stormwater drainage plan for the entire subdivision parcel.

4. See also all policies in sections G: Wetlands, H:Natural areas and I: Critical Habitat and Forestlands.

Recommended Action

1. Adopt a "no build" policy in identified River Corridors, and in Flood Hazard Areas, currently defined as the area that would be inundated during a 100 year flood.

2. Explore inclusion in the National Flood Insurance Program's Community Rating System (CRS).

3. Encourage residents to obtain information regarding low-impact-development (LID) strategies for managing stormwater at the residential level.

E. Watershed, Wellhead Protection and Well Isolation Zones

Policy

1. Development on recharge areas or protection areas for municipal or private water supplies must not diminish the potential quantity or quality of ground and surface water by disrupting the flow, or polluting the water supply as a result of failed septic systems, storage of hazardous waste materials, runoff or other cause.

2. Private well isolation zones must be delineated on final plats and, as far as is feasible, contained on the property where the well is located.

F. Streams, Headwaters and Shorelines

Policy

1. Use the Vermont Agency of Natural Resources fluvial erosion maps or, if not available, a 50 foot buffer, to guide development near stream banks.

2. Avoid any new construction within River Corridor Zones to mitigate damages caused when stream banks erode.

3. Set all development along the Lake Champlain shore back as specified in the Shoreland Protection Act.

4. Encourage further conservation of lands adjacent to surface waters and those which serve as flood attenuation resources such as floodplain, and follow the *Vermont Better Back Roads* program.

5. Recognize that bank stabilization is critical to preserve lakeshore character and reduce sedimentation and runoff carrying nutrients like phosphorus and pollutants into the lake; require development setbacks to prevent increased bank erosion and pollution; and use of site plan review for lakeshore district development proposals.

6. Encourage the participation by Ferrisburgh's landowners in programs sponsored by the Natural Resource Conservation Service to implement soil conservation and ecologically sound farm management practices.

Recommended Action

1. Update zoning regulations to meet and/or exceed specifications of the Shoreland Protection Act in order to maintain local jurisdiction over Ferrisburgh's unique shoreline resources.

2. Encourage Addison County River Watch Collaborative and other organizations to maintain an inventory of stream sampling data and needs for riparian buffers.

See also the 'Shore land Planning Area' policies and recommended actions in the Land Use chapter of this plan.

G. Wetlands

Policy

1. Follow all federal and state laws regarding development in or near wetlands and wetland buffers.

2. Maintain a minimum 50-foot buffer of natural vegetation around all Class Two wetlands.

3. Require that a formal assessment be conducted of all wetlands, both Class Two and Class Three, on the portion of the parcel intended to be developed, including field delineation by a qualified wetland ecologist, with the costs borne by the applicant.

4. Recreational use in or near a wetland will not interfere with necessary wildlife habitat or significant wetland function.

Recommended Action

1. Ensure most current wetlands classification and identification maps are being used in town documents.

H. Natural Areas and Significant Habitat

Policy

1. Work with the Vermont Agency of Natural Resources Non-game and Natural Heritage Program to ensure development does not endanger significant habitats or state rare, threatened or endangered species.

2. Maintain a natural buffer from any development adjacent to significant habitat, as shown on the *Significant Habitat* map, and from conservation areas, shown in green on the *Planning Areas* map.

3. Prohibit any unreasonable, out-of-the-ordinary, or unexpected noise, odors or artificial lighting.

4. Use the most current Significant Habitat map and other natural resource maps in any town planning decision process, including subdivision review.

5. Encourage landowners, hunters, wildlife viewers and the Ferrisburgh Conservation Commission to map wildlife trails and corridors.

6. Support the Conservation Commission and their outreach to interested residents.

Recommended Action

1. Develop an overlay district which increases awareness of, and preservation of rare, threatened and endangered species, wildlife habitats and travel corridors.

2. Require lighting in adjacent developments to be down-directed and shielded to minimize light directed upward or outward, to the greatest extent possible.

3. Encourage landowners, hunters, wildlife viewers and the Ferrisburgh Conservation Commission to map wildlife trails and corridors.

4. Consider a conservation fund to support conservation activity and land purchase at the local level.

5. Encourage landowners to improve wildlife habitat, such as by applying for funding to improve wildlife habitat through the Natural Resources Conservation Service (NRCS - www.vt.nrcs.usda.gov).

6. Identify and protect deer wintering yards, identified bobcat and bear denning sites.

I. Forestlands

Policy

1. Encourage future generations to continue forestry and farming and maintain traditional resource-based economic activity.

2. Maintain and refer to the Town Forest Management Plan.

3. Encourage landowners to inventory their forestlands and manage them sustainably, through mechanisms such as third-party certification, use-value appraisal program/'current use' and value-added products.

4. Encourage forestry activity that meets Vermont best management standards.

Recommended Actions

1. Encourage the Ferrisburgh Conservation Commission to update, maintain

and implement the Town Forest Management plan.

2. Identify forestlands not included in the conservation zoning district and determine how best to preserve them as determined in VNRC's A Guide for Local Action. (refer to VNRC's 'Community Strategies for Vermont's Forests and Wildlife, 2013 report for non-regulatory and regulatory actions).

3. Update zoning to a density-based code and require at least 50% of a development over 40 acres, to be open or forested.

4. Provide incentives to developers to maximize open space.

J. Agricultural and Forest Soils

Policy

1. Discourage development on soils classified as Prime, Statewide and Local by requiring clustering, minimal soil loss to development, and/or mitigation on- or off-site.

2. Encourage permanent easements to conserve agricultural soils and productive forest soils.

K. Scenic Areas, Roads and Views

Policy

1. Refer to all land use policies in Chapter 4, Sections 4.1 and 4.3 of this plan when considering development within Ferrisburgh.

2. Encourage regular maintenance of trees along roadsides to limit damages to co-located power lines in high wind and ice events

3. Refer to Vermont's Better Back Roads manual for managing stormwater runoff from roads.

Recommended Actions

1. Establish Design Standards for all business areas along Route 7 to determine appropriate scale, siting, massing, landscaping and parking policies.

2. In the next zoning update, consider density-based code to increase opportunities to cluster buildings and place them in a way that maximizes open space and natural areas.

L. Air Resources

Policy

1. Impacts to air quality shall be considered in all development review processes. Impacts shall be considered to adjacent residents, properties, natural areas and town-wide impacts.

2. Woodstoves and Wood burning boilers must adhere to current State and EPA air-quality regulations.

3. Support efforts for car-pooling, public transportation and other cleaner modes of transportation.

Recommended Actions

1. Provide current local, state and EPA educational materials regarding environmental air pollutants and acceptable practices.

2. Encourage a no-idling policy at all town buildings and Ferrisburgh Central School.

4.2. Human Resources Policies

The following actions are recommended based on the history and data presented in the foregoing sections and the vision articulated by town residents.

A. Population

Policy

1. Maintain public facilities and spaces that encourage social interaction among town residents.

2. Foster greater cooperation and mutual respect among persons with different views and opinions.

3. Increase residents' understanding of how town government works.

4. Publicize town news and information to residents through media such as a newsletter, website or periodic reports to press and broadcast media.

5. Support elderly residents and their assisting organizations in efforts to maintain independence.

Recommended Actions

1. See D, Education and Childcare below

2. Survey residents on perceived gaps in needs and services.

3. Initiate outreach to Ferrisburgh's senior population to connect them to services and events.

B. Housing

Policy

1. Encourage all Planned Unit Developments (PUDs) to include affordable housing units.

2. Encourage multi-family and manufactured housing that can provide affordable places for people to live.

3. Prioritize affordable housing building to first renovate, second to infill with new construction on vacant lots in densely settled areas, and third to build new homes.

4. Allow for density bonuses for creation of affordable housing units in PUDs.

5. Support the provision of housing that will allow elderly residents to continue to live in the community.

6. Support the provision of housing that will allow young people to buy homes and raise their families in the community.

7. Work to ensure that Ferrisburgh is an attractive community with affordable housing options for younger residents.

8. Work with land trusts and developers to encourage development of small-scale affordable housing PUDs.

9. Promote affordable housing and an increase in availability of rental housing by allowing for apartments associated with existing houses or conversion of large single-family homes into multi-family homes, consistent with rural Ferrisburgh.

10. Encourage accessory dwellings by adding rental units to existing homes or accessory structures.

11. Maintain a mix of housing types and values by discouraging 'cookie cutter' housing developments that contain homes of a single style, size or sale price.

12. Encourage any new residential development to be energy efficient and promote use of the Vermont Sate Energy Code.

Recommended Actions

1. Use the Vermont Housing Needs Assessment, a tool constructed by the

Vermont Housing Finance Agency, to determine Ferrisburgh's housing needs.

www.vermonthousingdata.org

C. Economic Development

Policy

1. Encourage and support home occupations and home-based businesses throughout Ferrisburgh, so long as they are in-keeping with the policies of the land use plan, human resource policies and natural resource policies within this document, and adhere to the Ferrisburgh's zoning regulations.

2. All new commercial growth, which cannot be defined as a home-based business, and which are neither recreation nor agriculture-related businesses, should be developed within one of the four business planning areas associated with Route 7 - North Business Planning Area Central Village Planning Area, South Business Planning Area or within the Indusrial Planning Area. Proposals must adhere to the policies of the Land Use Plan and natural resource section within this document.

3. Encourage businesses associated with tourism, recreation, local-food production and processing, which grow the skills, expertise and interests of Ferrisburgh residents and which are in-keeping with the goals of the land use plan and natural resource policies within this document, and adhere to the Ferrisburgh's zoning regulations.

4. Support and encourage businesses that produce value-added products and engage in sustainable business practices, especially as they enhance and support the traditional agriculture and forestry and rural character of the town.

5. Uphold farmers' right to farm using generally accepted agricultural practices.

6. Support and encourage the use of local grown food products, farm stands and Community Supported Agriculture (CSA) in all parts of town.

7. Ensure availability of high-speed, broadband internet connections.

Recommended Actions

1. Clearly define home-based business and home occupation within Ferrisburgh's zoning regulations.

2. Develop design standards within the Ferrisburgh zoning regulations, for business developments within the Route 7 corridor which ensures development does not diminish the scenic characteristics of this travel corridor and which positively impacts the residents of Ferrisburgh.

3. Seek funding for a wastewater feasibility study to better understand the opportunities and constraints for the Route 7 business areas.

4. Engage with Addison County Economic Development Corp and other rural economic professionals to provide a roadmap for appropriate local business development.

5. Increase access to in-door and outdoor gathering opportunities (farmers markets, craft fairs, talent shows, seasonal celebrations), including access to the Town Offices/Community Center Hall, in order to increase social, local capital.

6. Review business development proposals for their ability to provide safe and enjoyable access to goods and services.

D. Education and Childcare

Policy

1. Encourage high quality childcare services that meet the needs of the town's working parents.

2. Ensure that the town has planning in place to provide adequate municipal facilities to meet current and future growth.

3. Encourage the school students to take an active role in their town through working with the Planning Commission, Conservation Commission and related activities.

4. Work in partnership with appropriate state agencies and the school to improve and maintain the school recreation area.

5. Promote and encourage volunteering in school programs and activities.

6. Encourage safe access to the elementary school and plan for future connections that would allow pedestrian or bike access, as outlined the 2012 Safe Routes to School Travel Plan.

7. Support the development of programs that incorporate an appreciation of local history, community participation and the democratic process into the learning environment.

8. Encourage citizen participation in the school policy-setting process.

9. Support the development of programs in Ferrisburgh's elementary school to promote an increased understanding of natural systems and to use the town's natural areas as a resource for engaging children in their local environment.

10. Support the provision of early education and after-school programs.

11. Ensure excellent and diverse educational opportunities in order to facilitate a tradition of lifelong learning by town residents and work to engage residents of all ages the town's education system.

Recommended Actions

1. Work with the Ferrisburgh Central School on a regular basis to support the school in its mandated requirements and enhancements that support rural education.

2. Continue dialogue with town's schools to encourage participation in all town boards, committees, commissions, and related activities.

E. Historical and Cultural Resources

Policy

1. Encourage the adaptive re-use of historic buildings, which retain authentic features.

2. Use landscaping as an integral aspect of all development in town such that protective ground cover is established and shade trees, screening trees and shrubs are planted in a manner that reflects a rural landscape.

3. Encourage use of native species for landscaping plants.

4. Protect all archeological sites or potential sites, notably along all riverbanks and conservation areas, working with the appropriate state and federal agencies.

Recommended Actions

1. Determine how best to identify the 156 historic buildings in town and gather current addresses for all the structures.

2. Identify and maintain the town's historical records.

3. Continue to support the work of the Ferrisburgh Historical Society.

F. Community Facilities and Services

Policy

1. Balance new development with the town's ability to assimilate new residents.

2. Support the local volunteer fire and rescue services and ensure there is adequate road access for emergency responders and emergency vehicles to be able to reach buildings.

3. Maintain and promote Town Offices/Community Center as an active resource to be used for a diversity of events/purposes for residents of

Ferrisburgh.

Recommended Actions

1. Work with Addison County Regional Planning and other State and Federal agencies on a hazard mitigation plan.

2. Continue to work with residents and town staff to promote the use of Town Offices/Community Center as an active resource for all ages of the community.

3. Survey residents of Ferrisburgh regarding their interests/needs on using the Town Offices/Community Center/ community center.

4. Continue to work on town's solid waste disposal needs by participating in the Addison County Solid Waste Management District.

5. Work with the state and county sheriff as needed for police services.

G. Utilities and Energy

Policy

1. Encourage growth toward compact development within village areas with appropriate sidewalks and paths linking amenities and services.

2. Promote the use of energy efficient lighting appliances and practices, replacing incandescent lights with compact fluorescent lights (CFL) or light-emitting diode (LED) lighting.

3. Support alternative energy projects which do not impact our identified scenic and natural resources.

4. Encourage Municipal energy efficiency and conservation.

5. Reduce energy use by town residents and business.

6. Encourage the development of alternative energy sources.

7. Increase energy conservation in new development projects.

8. Encourage public transportation.

9. Encourage the use of solar, wind, biomass, hydro and geothermal. Carefully weighing the benefits of such installations against their impacts on water, wildlife, scenic, forest, and historic resources.

10. Support the development of local and sustainable food systems within town.

Recommended Actions

1. Promote car and van pooling from the Ferrisburgh Park and Ride.

2. Encourage building practices that use energy efficient materials and heating systems, solar orientation, and other alternative or renewable energy systems.

3. Encourage programs such as Efficiency Vermont to analyze residential, commercial and municipal buildings that identify conservation and energy efficiency measures that owners can take to reduce energy use and live more comfortably.

4. Review zoning bylaws to insure that they encourage and support the installations of renewable energy technologies/Vermont Energy Code in existing and new homes.

5. Encourage the Energy Committee to research funding sources and supportive programs that would enable the town to retrofit/install renewable energy systems for town buildings and the school.

6. Continue support for Ferrisburgh Central School (FCS) composting efforts, and promoting composting throughout the town as a way to divert organic waste from the waste stream. (Note: composting of food waste will be mandatory in the future.)

7. Encourage Energy Committee's efforts in creating a wood-bank as a source of heating fuel for those in need.

Transportation

Policy

1. Maintain a safe network of roads which accommodates vehicular traffic and considers the safety of all users, on foot, cycle or horse.

2. Review Vermont's Complete Street Law when upgrading roads, constructing new roads or improving intersections.

3. All public and private streets and walking/cycling trails, including those of any PUD, should connect to the greater network of streets and trails to support better emergency vehicle and public service access, improved bicycle and pedestrian routes, and to reduce redundant travel time for drivers.

4. Maintain an up-to-date inventory of roads, highway structures, bridges, buildings and maintenance equipment to ensure that residents have a properly maintained highway system.

5. Roadside maintenance should follow recommendations of Vermont's Better Back roads Program, seeking to minimize stormwarter run-off, erosion and sedimentation to local surface waters.

6. Work with the Agency of Transportation (AOT) to implement changes to US Route 7 in ways which support the four business planning areas (including the industrial area) and other adjacent land uses, as identified and described in the land use plan. Please refer to the landuse plan for these specific policies.

7. Limit the number of curb cuts when developing new roads or drives.

8. Involve the Ferrisburgh Central School's SRTS team and Recreation Committee in discussions regarding street upgrades within the Central Village planning district and other areas of town adjacent to school property.

9. Encourage car pools, ride sharing and public transportation opportunities to and from Burlington, Vergennes, Bristol and Middlebury.

10. Use the minimum amount of salt necessary to keep roads clear of snow and ice in order to reduce ecological damage, and consider use of non-salt de-icing agents where appropriate

11. Ensure that private roads and drives are constructed in a manner that causes minimal erosion, are not overly engineered, or not in keeping with the rural character of the town.

12. Consider the construction of new paved sections of town road in regards to safety, traffic demand and maintenance considerations dictate that a paved road section is appropriate.

13. Maintain the town's roads and bridges, and make needed improvements in a manner that protects Ferrisburgh's special features.

14. Encourage the maintenance of street trees in order to preserve and cultivate this scenic feature of our roadways.

15. Maintain safe sight distances for access to US Route 7 and other major intersections.

Recommended Actions

1. Ask the Town Road Foreman, working with the AOT, to clearly identify intersections in town that are becoming potentially hazardous and begin to develop a long-term plan to maintain safety.

2. Work with farmers, commuters, local residents, pedestrians, bicyclists and other interested parties to develop a plan to share the town's roads that would include specific recommendations to address safety and maintenance issues.

3. Encourage a town-wide plan for bicycle and pedestrian routes.

4. Maintain inventory of all Class 4 roads and maintain them so that they are available for public access for trails or other public uses.

5. Explore a taskforce to determine the feasibility of establishing adequate park-and-ride locations for Ferrisburgh residents who commute on Route 7.

6. Assess age structure of resident population and determine needs for transportation, especially in times of emergency.

7. Encourage Selectboard to maintain an ongoing review and revision of speed limits on all town roads.

8. Discuss opportunities with ACTR for public transportation services to extend to Ferrisburgh residents.

9. Consider the weight and size of delivery vehicles, milk trucks and agricultural equipment as new connecting roads are built and older ones are reconstructed.

10. Encourage the Conservation Commission to continue identifying and promoting awareness of key animal crossings in town.

11. Work with town staff to determine enforcement needs and any needs for speed limit changes, particularly in higher density areas and business areas of town.

I. Recreation

Policy

1. Maintain the Town Beach and associated facilities.

2. Encourage the local snowmobile club to maintain and clearly mark places where VAST trails cross roads.

3. Refer to the Safe Routes to School Travel Plan when considering upgrades to/new streets and trail connections.

4. Encourage lakeshore landowners to support the Lake Champlain Paddlers' Trail.

5. Maintain public access to traditional recreation areas and encourage the common rural practice of allowing for hunting, fishing and other low-impact recreational activities on private lands..

6. Encourage all recreationists to respect private property by removing litter, avoiding trails in mud season, using care crossing fences and not discharging firearms near homes.

Recommended Actions

1. Continue supporting activities of Ferrisburgh's recreation committee in the pursuit of a year-round recreation facility in the central village planning district.

2. Coordinate with the FCS Recreation Committee, the Safe Routes to School team to address the need for safe walking and cycling pathways to and from schools.

4.3. Land Use Plan

A. Overview

A land use plan identifies places within a town or region which share similar characteristics such as ecological, geological and/or previous development patterns and determines the appropriate future land use for each area. Land use plans play an important role in Act 250 cases and in section 248 decisions regarding appropriate utility and infrastructure placement, and play an important role in determining appropriate zoning decisions for specific locations across Town.

The over-arching goals of this land use plan are to maintain Ferrisburgh's unique, rural character much loved by residents and visitors; its views, agricultural lands and special natural features, to support local businesses, and determine best case scenarios for growth that provide residents with a safe and enjoyable place to live, work, play.

This can be done by identifying prime agricultural lands, much of which have already been conserved, and also identifying our sensitive and important resources areas such as: wetlands, flood hazard areas, steep slopes, deer wintering yards, areas with shallow soil, rare, threatened or endangered species and outdoor recreation areas. Many of these resources are already protected within Ferrisburgh's conservation district (CON-25). See Ferrisburgh Zoning Regulations for these details.

To further sustain our natural, scenic and agricultural resources, development policies must encourage flexible siting of buildings, support growth concentration in town centers, support the re-use and restoration of historic buildings, and require design standards for those areas most vulnerable to growth pressure, such as the Route 7 corridor.

The planning areas identified in this plan are reflective of much of Ferrisburgh's current zoning districts, with recommendations for some future zoning revisions. Recommendations include revisions to the Route 7 business areas, in order for them to grow in a way that are safe and accessible, and have the least visual and environmental impact to the surrounding landscape.

B. How To Use The Land Use Plan

This land use plan describes Ferrisburgh's eight planning areas, their associated zoning (found in the Ferrisburgh Zoning Regulations) and corresponding Land Use Policy. **Each numbered policy set forth for each planning area, below, is intended to be strictly adhered to in all regulatory actions and decisions involving development, including but not limited to decisions rendered under zoning, Section 248 and Act 250 review.**

Each planning area has **'recommended actions'.** These tasks are listed to guide the Ferrisburgh planning commission, legislative body and any associated committees in planning strategies and decisions now and into the future. Priority tasks can be found in the Implementation chapter of this plan. Some policies refer to the illustrations in 'Design Considerations in Ferrisburgh's Rural Landscape'. This reference is found on the following page.

C. Explanation of Planning Areas

The following are Ferrisburgh's land use planning areas, described in detail below:

- **Rural**
- **Shoreland**
- **Conservation**
- **North Ferrisburgh Historic Village**
- **Industrial**
- **North Business**
- **Central Village**
- **South Business**

RURAL PLANNING AREA

Associated zoning districts: Rural Residential (RR-2) and Rural Agricultural (RA-5)

Where Is It?

This planning area is found throughout Ferrisburgh, both east and west of Route 7.

What We See
The rural planning area covers the majority of land in Ferrisburgh. This planning area is characterized by woodlands, wetlands, open farmland and sparse residential development. This area houses soils best suited for agricultural and forestry uses, including areas with prime agricultural soils, soils of statewide significance and soils of local significance (see glossary for definitions). A significant percentage of these lands have been conserved, ensuring that they can remain in productive use in perpetuity.

Historically, residential properties in this planning area have been sited along rural roads. In the past 30 years or more, homes have been sited further from the road, with access via long, singular driveways cutting through wooded land or open fields. Home-based businesses and pre-existing commercial businesses can be seen throughout this area.

Land Use Policy
1. The "suburban pattern of development' depicted in Illustrations B1 and B2 of "Design Considerations in Ferrisburgh's Rural Landscape" are not allowed. Instead, development should adhere to the "Sensitively Designed Planned Unit Development (PUD)" and "Small New England Village Pattern of Development" shown in Illustrations C1 and C2.

2. Low-density residential uses and other compatible uses such as open space, conservation, low-intensity outdoor recreation, forestry and farming are encouraged. Other uses, such as small-scale commercial activities which support agriculture, should be permitted as conditional uses only.

3. Utilize PUDs so as to cluster the residential development whenever possible, and maximize usable blocks of undeveloped land when residential development is sought in this planning area. (See policy 1.)

4. Home-based businesses, home occupations and telecommuting should be supported in this planning area so long as they are fitting with the goals and policies of this plan.

5. Recognize the economic strains on area farmers, and support the current-use program and other programs to keep property in its undeveloped state.

6. All land identified by the state as prime agricultural, soils of statewide or local significance will not receive densities above 1 unit per 5 acres (or currently 5 acre minimum lot size).

7. Siting of new residential properties should place ample consideration on maximizing open space, minimizing new infrastructure and utilities, maintaining our working landscapes and keeping contiguous natural areas intact.

Recommended Actions
1. Revise associated regulations to allow development based on density instead of minimum lot size to allow flexibility of building placement within the context of the immediate, surrounding landscape.
2. Encourage shared driveways and utilities to minimize impacts to surroundings landscape.

3. Revise the planned unit development (PUD) provisions to ensure specific development standards support the policies in this plan.

SHORELAND PLANNING AREA

Associated zoning districts: Shoreland District (SD-2)

Where Is It ?
This planning area includes the lands adjacent to the shores of Lake Champlain, running the entire length of Ferrisburgh's most westerly boundary, and includes the lands of the Basin Harbor Club.

What We See
This area includes forested and open land, recreational and tourism related businesses, year round homes and many seasonal cottages. It includes areas of Button Bay State Park, Kingsland Bay State Park, the Basin Harbor Club, commercial marinas, and Ferrisburgh's public beach, all of which are directly adjacent to the shores of Lake Champlain. Many of the properties in this planning area include sweeping views of the Lake, the foothill of the

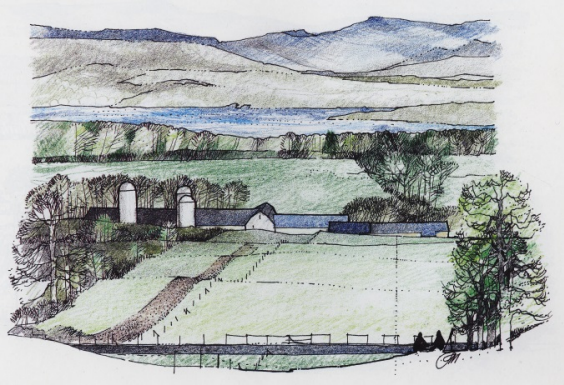
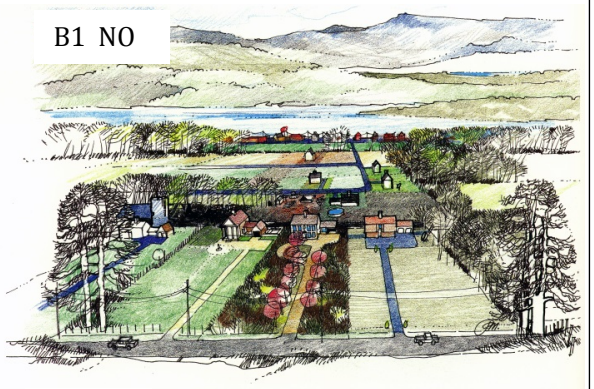


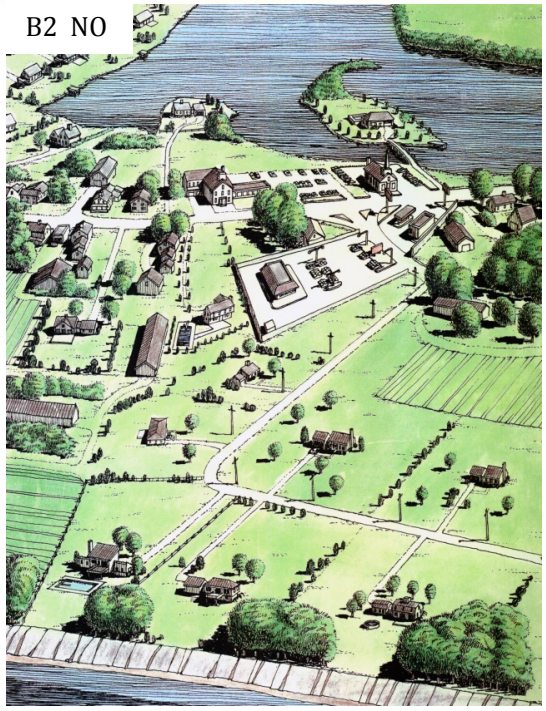
Illustration A: *Existing Condition*

The character of Ferrisburgh's rural lands are captured in the above illustration A and can be described as a broad valley with sweeping views to Lake Champlain and the distant Adirondack and Green Mountains visible from roads throughout town. Farm buildings are large and the open space around them is relatively flat and open.

Illustration B1 shows how poorly guided growth has destroyed the historic farm complex and has allowed sprawling residential development to obscure the sweeping view and consume the open land. Instead, illustration C1 shows a PUD that has been carefully located to maintain a maximum amount of open space, reuse the farmstead and reinforce the traditional agrarian settlement pattern.

Overtime, illustration B2 shows how a suburban pattern is imposed on the rural landscape. Illustration C2 shows an alternative to this resulting in a development pattern similar to a small, traditional New England village.





Illustrations B1 and B2: *Conventional rural Subdivision and suburban sprawl*

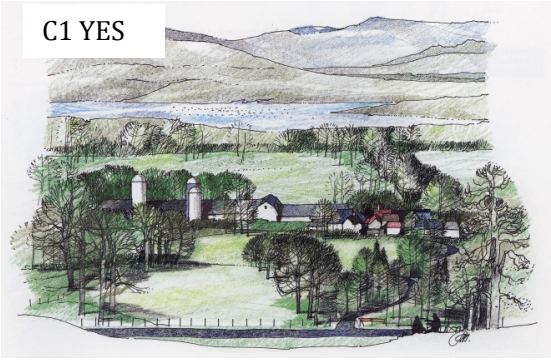
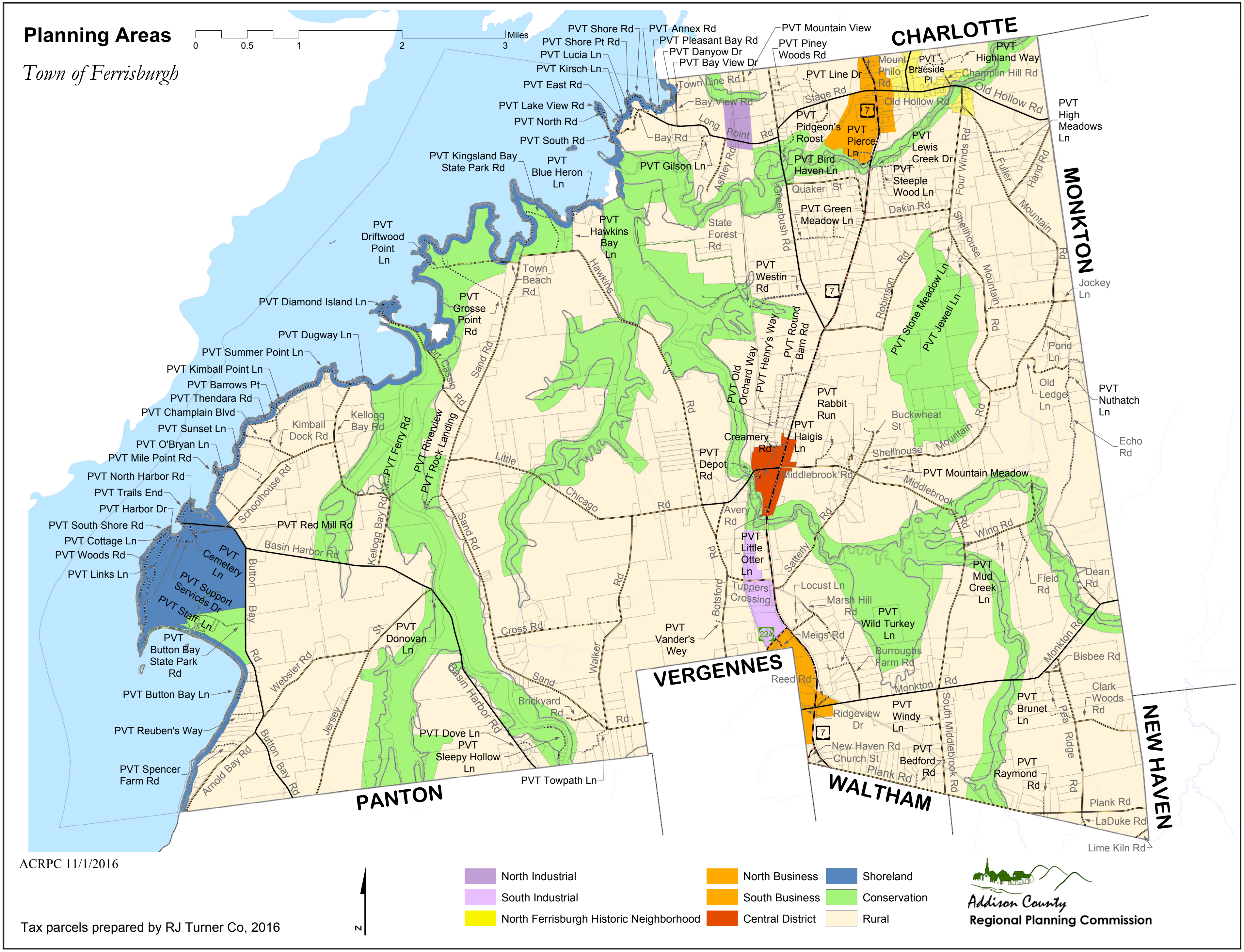


Illustration C1: *Sensitively Designed Planned Unit Development (PUD)* ***C2:*** *Small New England Village Pattern of Development*

Image source: Dealing with Change in the Connecticut River Valley, Yaro, Arendt, et al, 1993.

H.


Planning Areas
Town of Ferrisburgh
0 0.5 1 2 3 Miles
CHARLOTTE
MONKTON
NEW HAVEN
WALTHAM
VERGENNES
PANTON
PVT Shore Rd
PVT Annex Rd
PVT Shore Pt Rd
PVT Pleasant Bay Rd
PVT Lucia Ln
PVT Danyow Dr
PVT Kirsch Ln
PVT Bay View Dr
PVT East Rd
PVT Lake View Rd
PVT North Rd
PVT South Rd
PVT Kingsland Bay State Park Rd
PVT Blue Heron Ln
PVT Mountain View
PVT Piney Woods Rd
PVT Line Dr
PVT Highland Way
PVT Braeside Pl
Champlin Hill Rd
Old Hollow Rd
PVT High Meadows Ln
PVT Pidgeon's Roost
PVT Pierce Ln
PVT Lewis Creek Dr
PVT Bird Haven Ln
PVT Steeple Wood Ln
PVT Gilson Ln
PVT Green Meadow Ln
PVT Hawkins Bay Ln
PVT Driftwood Point Ln
PVT Westin Rd
PVT Diamond Island Ln
PVT Grosse Point Rd
PVT Dugway Ln
PVT Summer Point Ln
PVT Kimball Point Ln
PVT Barrows Pt
PVT Thendara Rd
PVT Champlain Blvd
PVT Sunset Ln
PVT O'Bryan Ln
PVT Mile Point Rd
PVT North Harbor Rd
PVT Trails End
PVT Harbor Dr
PVT South Shore Rd
PVT Cottage Ln
PVT Woods Rd
PVT Links Ln
PVT Cemetery Ln
PVT Support Services Dr
PVT Staff Ln
PVT Button Bay State Park Rd
PVT Button Bay Ln
PVT Reuben's Way
PVT Spencer Farm Rd
PVT Red Mill Rd
PVT Ferry Rd
PVT Riverview
PVT Rock Landing
PVT Donovan Ln
PVT Dove Ln
PVT Sleepy Hollow Ln
PVT Towpath Ln
PVT Vander's Wey
PVT Old Orchard Way
PVT Henry's Way
PVT Round Barn Rd
PVT Rabbit Run
PVT Haigis Ln
PVT Depot Rd
PVT Little Otter Ln
PVT Stone Meadow Ln
PVT Jewell Ln
PVT Nuthatch Ln
PVT Mountain Meadow
PVT Mud Creek Ln
PVT Wild Turkey Ln
PVT Windy Ln
PVT Bedford Rd
PVT Brunet Ln
PVT Raymond Rd
Jockey Ln
Pond Ln
Old Ledge Ln
Echo Rd
Field Rd
Dean Rd
Bisbee Rd
Clark Woods Rd
Plank Rd
LaDuke Rd
Lime Kiln Rd
ACRPC 11/1/2016
North Industrial
South Industrial
North Ferrisburgh Historic Neighborhood
North Business
South Business
Central District
Shoreland
Conservation
Rural
Addison County Regional Planning Commission
Tax parcels prepared by RJ Turner Co, 2016

Adirondack Mountains and the Adirondacks themselves. Much of the past development within the shoreland area has been seasonal, summer homes built relatively close together. Many of the roads and driveways are narrow and winding and do not meet typical modern road standards. More recent development has been primarily intensive renovation of older, seasonal housing stock with some very high value new construction.

The Basin Harbor area is a particularly unique, historic area of Ferrisburgh and the Champlain Valley. An inn and ferry were first established here in 1790 and the hotel continues to operate today as part of the Basin Harbor Club. The Basin Harbor Club is one of Ferrisburgh's biggest businesses, having a year-round staff of 30 and a seasonal staff of 300. It has operated since 1886.

Natural resources associated with this planning area have been relatively well protected through the presently designated Shoreline zoning district and associated bylaws, although these regulations could be amended to increase these efforts.

Land Use Policy

1. This planning area will house both seasonal and year-round homes and provide both private and public recreational opportunities associated with Lake Champlain.

2. Recreation and tourism related businesses shall be supported given they meet the goals and policies of this town plan.

3. Review all development in this area as conditional use only, based on detailed standards and clear conditions that address issues such as riparian setbacks, soil erosion, possibility of wastewater pollution to surface water or surrounding wetlands, vegetation and wildlife corridors, scenic vistas and view corridors.

4. Development densities should be used for Planned unit Developments and utilize the land use plan where necessary to prevent impairment of adjacent, sensitive resources.

5. Ensure the upkeep of all public access points, beaches and trails.

6. Home occupations, telecommuting, and appropriate home-based-businesses, meeting the goals and policies of this planning area are supported.

Recommended Actions

1. Create specific design and siting standards for this area within Ferrisburgh's zoning regulations, that at a minimum, meet any requirements set by the State associated with shoreline protection.

2. Include specific vegetated buffer requirements for all shoreline properties within Ferrisburgh's shoreline zoning regulations.

3. Work with ANR and ACRPC to determine River Corridor Areas and flood mitigation measures needed for Ferrisburgh.

4. Include stormwater management regulations within Ferrisburgh's zoning regulations.

5. Work with the Ferrisburgh Conservation Commission and other local organizations on outreach efforts be made to residents regarding water quality and habitat protection measures and make the information available on Ferrisburgh's website and town office.

6. Review the concept of private driveway standards that could retain the close-knot neighborhood feeling of seasonal, lake-side areas while increasing the accessibility of emergency services.

CONSERVATION PLANNING AREA

Associated zoning districts: Conservation (CON-25)

Where Is It

The conservation planning area identifies Ferrisburgh's vast system of river corridors, wetlands, contiguous forested areas and steep slopes, including Shell House Mountain. These critical and sensitive ecological features are found throughout Ferrisburgh.

What We See

Ferrisburgh is renowned for its vast acres of wetlands, essential wildlife habitat, and natural areas with rare plant and animal species. Surface waters include tributaries directly associated with Lake Champlain, Dead Creek, Otter Creek, and the vast majority with the Little Otter Creek. These forested river corridors provide important wildlife travel corridors, a natural constrain to development, essential flood mitigation and water quality protection. There are only a few clusters of preexisting development located directly on the major streams, most of which is in agricultural use or is part of a state-owned Wildlife Management Area. These natural areas are also used for outdoor recreational purposes such as fishing, boating, hiking, cross-country skiing, snow-shoeing, to name a few.

Land Use Policy

1. Due to the importance of these areas for wildlife habitat, natural flood and erosion mitigation and/or scenic qualities, best uses for land in these areas are limited to agriculture, forestry, non-motorized, outdoor recreation such as walking or hiking trails, or wildlife refuge.

2. Commercial use in the conservation district is limited, through conditional use permit, to marinas and outdoor recreation facilities.

3. Camps and single-family homes are conditional-use only, and shall be reviewed to determine potential impact on critical ecological habitats, soils, sewage, water, access, frontage and scenic considerations.

4. A 50 foot vegetated buffer with a diversity of canopy heights must be maintained directly adjacent to banks of rivers and streams unless an alternative buffer that is approved by federal or state agricultural agency or certified consultant is designed and implemented.

5. All agricultural and forestry uses must adhere to Best Management Practices in order to restrict undue impact on wildlife habitat and water quality.

6. Support the efforts of the local Addison County River Watch Collaborative and the Ferrisburgh Conservation Commission.

7. Use the Vermont Agency of Natural Resources fluvial erosion maps and FEMA identified floodplain areas, to guide development near stream banks. Avoid any new construction within River Corridor Zones to mitigate damages caused when stream banks erode.

Recommended Actions

1. Work with ACRPC to determine River Corridor Areas and needed flood mitigation measures needed for Ferrisburgh.

2. Conservation commission should identify all contiguous woodlands and other prominent natural features, such as ridges and steep slopes currently within the rural planning area and adjacent to bordering towns to determine what additional lands should be considered for the conservation planning area and conservation zoning district.

3. Review the conservation district zoning regulations to determine needed updates to match the goals of this landuse plan and the permitted and conditional uses.

4. Continue to work with the State and local organizations, including, ACRPC, the Addison County River Watch Collaborative and the Ferrisburgh Conservation Commission to determine best management of these resources.

5. Change zoning regulations to allow no new structures within the designated FEMA floodplain or FEH areas. Improvements and/or repair of existing structures must get a conditional use permit and comply with applicable federal and state regulations.

NORTH FERRISBURGH HISTORIC NEIGHBORHOOD PLANNING AREA

Associated zoning districts: Rural residential (RR-2)

Where Is It?

The North Ferrisburgh Historic Neighborhood Planning Area, includes the area from property lines east of Route 7, along both sides of Old Hollow Road, north up Mount Philo Road to the boundary with Charlotte, east along Old Hollow Road, including Champlin Hill, over the Lewis Creek

Bridge, a short way up the hill on Old Hollow Road to include the historic houses located there, and south a short distance to include the historic houses and old schoolhouse along Four Winds Road, including the stretch of Old Hollow Road and the north end of Four Winds Road, is a compact historic hamlet within Ferrisburgh.

What We See

This area is listed by the state as an official Historic District. Primarily residential, this planning area houses a number of businesses, all of which reside in historic, re-purposed buildings. Local roads in this area are relatively narrow with little to no shoulder. A compact residential settlement pattern is evident today with both historic and newer homes, many of which sit close to the road edge. This area is home to the North Ferrisburgh Methodist Church, the North Ferrisburgh Cemetery, and several home-based businesses. Due to its historic nature, there is a diversity of lot sizes, a number of which are less than 1 acre. Most of the residential areas are surrounded by open meadows and woodland. Lewis Creek runs through this planning area. Currently most residential sections of this planning area are zoned at a 2 acre minimum, with many non-conforming lots that are smaller than this.

Land Use Policy

1. The "suburban pattern of development' depicted in Illustration B1 and B2 of "Design Considerations in Ferrisburgh's Rural Landscape" are not allowed. Instead, development should adhere to the "Sensitively Design Planned Unit Development (PUD)" and "Small New England Village Pattern of Development" shown in Illustrations C1 and C2.

2. All commercial uses should be conditional, make use of pre-exiting buildings or building footprints, conform to a set of design standards and fit with the goals of this plan of supporting walkable, mixed-use, business areas which preserve large, contiguous blocks of surrounding open space and woodlands, and which maintain scenic views from Route 7.

3. All new and upgrades to, town streets, roads and highways should adhere to the State's Complete Street Law and safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer, not limited to vehicular only (walking, cycling, public transportation, equestrian etc.).

4. Densities of more than two units per acre is not recommended until further waste water feasibilities have been studied.

Recommended Actions

1. Update zoning to reflect the unique opportunities for both residential and appropriate re-use and restoration of commercial structures and small-scale businesses in this area.

2. Allow development based on density instead of minimum lot size.

3. Incorporate FEH and Floodplain regulations along the Lewis Creek hazard areas.

NORTH BUSINESS PLANNING AREA

Associated zoning districts: Village (VIL-2) and Highway Commercial (HC-2) (this plan recommends a change to these zoning districts, see *recommended actions* below)

Where Is It?

This area sits at the northern edge of Town, on both side of Route 7, and south to the Conservation District associated with Lewis Creek.

What We See

Currently this area houses a gas station, several businesses including used car dealerships, a landscaping company, a bakery, and the North Ferrisburgh post office. There are also residential properties in this area, although the area has no accommodations for safe walking from residential to commercial entities. Traffic counts and speeds are very high in this area. Businesses are not densely placed and currently cater to vehicular traffic only. There are numerous driveway cuts, or large driveway cuts for businesses in this area, creating unpredictable entering and exiting movements from traffic on and off of Route 7. There is a variety of building styles and ages from colonial, residential to prefabricated commercial buildings.

Land Use Policy

1. The "suburban pattern of development' depicted in Illustrations B1 and B2 of "Design Considerations in Ferrisburgh's Rural Landscape" are not allowed. Instead, development should adhere to the "Sensitively Design Planned Unit Development (PUD)" and "Small New England Village Pattern of Development" shown in Illustrations C1 and C2.

2. All commercial uses shall conform to a set of design standards and fit with the goals of this plan of supporting walkable, mixed-use, business areas which preserve large, contiguous blocks of surrounding open space and woodlands, and which maintain scenic views from Route 7.

3. All new and upgrades to town streets, roads and highways should adhere to the State's Complete Street Law and safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer, not limited to vehicular only (walking, cycling, public transportation, equestrian etc.).

4. Priority should be given to the re-use existing historic building or building footprint. Setback waivers apply for the re-use/re-purposing of existing historic buildings.

5. Development must adhere to the criteria within the natural resource section of this plan, zoning regulations and state regulations to protect and conserve Ferrisburgh's natural and scenic resources.

6. Protect and maintain vegetated open space north and south of this planning area, in order to provide distinct and identifiable boundaries to the concentrated growth in this area.

Recommended Actions

1. Incorporate design standards into zoning regulations for Route 7 business areas which restricts scale and massing, and encourage safe access for vehicular and pedestrian circulation.

2. Allow development based on density instead of minimum lot size.

3. Work with the road commissioner and Selectboard and attend a 'Complete Streets Technical Workshop', hosted by the Vermont Local Roads Scholar/ Vermont League of Cities and Towns.

4. Consider creating a limited access policy to encourage limited driveway cuts and shared driveways to increase safety in this area.

F. CENTRAL DISTRICT PLANNING AREA

Associated zoning districts: Highway Commercial (HC-2), Rural Residential (RR-2) (this plan recommends a change to these zoning districts, see *recommended actions* below)

Where is it?

Ferrisburgh's Central District Planning Area is located in the roughly geographical center of town surrounding the intersection of Little Chicago Road and Middlebrook Road with Route 7. It extends to the north property line just north of Atkins Farm Road.

What We See

This area along Route 7 is unique in that it houses several public and community facilities in close proximity, a number of which are historically recognized: Town Green on Route 7; the newly renovated Town Offices/ Community Center Hall and Town Offices, the Methodist Church; one of the two Ferrisburgh post offices; town properties for road equipment and storage; and the Ferrisburgh Central School. In addition, there are residential lots mixed in with a range of commercial uses including a sports vehicle shop and bakery. While there are a number of people-oriented services and amenities in this area, including the elementary school, there is currently little to no opportunities to safely walk or cycle in this area. While lots vary in size and setbacks, buildings along Route 7 sit relatively close to the road.

This area is surrounded by open space and farmland, some of which is conserved. At the current zoning, there is a limited amount of land available for development in this area, and the soils are not as conducive to conventional on-site septic development as in North Ferrisburgh. However, there is ample opportunity for re-use of existing buildings and/or building footprints. The biggest challenge to this planning area is the heavy, fast traffic on Route 7 and its current lack of a public/community sewage treatment system which would

support a denser concentration of development.

Land Use Policy

1. The "suburban pattern of development' depicted in Illustration B1 and B2 of "Design Considerations In Ferrisburgh's Rural Landscape" are not allowed. Instead, development should adhere to the "Sensitively Design Planned Unit Development (PUD)" and "Small New England Village Pattern of Development" shown in Illustrations C1 and C2.

2. All commercial and municipal uses shall conform to a set of design standards and fit with the goals of this plan of supporting mixed-use business areas within walkable distances of each other, which preserve large, contiguous blocks of surrounding open space and woodlands, and which maintain scenic views from Route 7.

3. Priority should be given to the re-use existing historic building or building footprint. Setback waivers apply for the re-use/re-purposing of existing historic buildings.

4. All new and upgrades to, town streets, roads and highways should adhere to the State's Complete Street Law and safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer, not limited to vehicular only (walking, cycling, public transportation, equestrian etc.).

5. Conserve open space for future expansion of the school or other village center amenities, on the west side of Route 7.

6. Encourage protection and maintenance of vegetated open space north and south of the central village planning area, in order to provide distinct and identifiable boundaries to the concentrated growth in this area.

7. Development must adhere to the criteria within the natural resource section of this plan, zoning regulations and state regulations to protect and conserve Ferrisburgh's natural and scenic resources.

8. Consider applying for 'Village Center Designation' through the Vermont Department of Housing and Community Development to bolster incentive and opportunity for compact mixed-use development.

Recommended Actions

1. Revise the current zoning to reflect the policies of this planning area, by renaming the Highway Commercial (HC) district and creating one mixed use/central village district instead, focused on creating a community center.

2. Incorporate design standards into zoning regulations for Route 7 businesses, which restricts scale and massing, and encourages safe access for vehicular and pedestrian circulation.

3. Make safety improvements at the intersection of Little Chicago Road and Route 7, especially for the traffic related to the school.

4. Work with VTRANS and the Ferrisburgh Selectboard to reduce traffic speeds on Route 7, within this defined area.

5. Conserve open space for future expansion of the school or outdoor space on the west side of Route 7.

6. Support the efforts of the FCS recreation and Safe Routes to School committee.

G. SOUTH BUSINESS PLANNING AREA

Associated Zoning Districts: Highway Commercial (HC-2) (This plan recommends a change to these zoning districts, see *recommended actions* below.)

Where Is It?

This planning area lies on both sides of Route 7 south of Monkton Road. North of Monkton Road, it continues north on both sides of Route 7. However the area terminates quickly on the east side of Route 7 at its intersection with the railroad tracks. It continues up the west side of Route 7 bounded by the City of Vergennes to the west and Route 7 to the east until it ends at Route 22A to the north.

What We See

Various development types and styles have occurred in this planning area over the past 30 years. It is currently vehicular-oriented development, with no sidewalks connecting to adjacent residential properties in Vergennes. Commercial enterprises in the area include: a solar array project, an Aubuchon Hardware store, an auto-repair garage. A large park-and-ride facility with an historic train station building is included in this area. Views are to rolling meadows and woodland. Route 7 is two to four lanes wide with wide shoulders on both sides, and a truck pull off on the east side. The development of a Dollar General store was approved in 2014 and now sits at the southeast corner of this intersection.

Future Development

This area is identified as a business area now and into the future. This planning area constitutes a natural extension of the existing development within the city of Vergennes.

In order to deter sprawl development along Route 7, future growth will be encouraged which connects directly to existing development in a way that facilitates shared resources and utilities, provides opportunities for a diversity of multi-modal connections to street networks other than Route 7, maintains unique natural and cultural features, and which fits with the economic development goals of the Town.

Land Use Policy

1.The "suburban pattern of development' depicted in Illustration B1 and B2 of "Design Considerations In Ferrisburgh's Rural Landscape" are not allowed. Instead, development should adhere to the "Context Sensitive Planned Unit Development (PUD)" and "Small New England Village Pattern of Development" shown in Illustrations C1 and C2.

2. All commercial uses shall be conditional-use only, conform to a set of design standards and fit with the goals of this plan of supporting walkable, mixed-use, business areas which preserve large, contiguous blocks of surrounding open space and woodlands, which maintain scenic views from Route 7, and which adhere to the economic development goals and policies in this town plan.

3. Protect and maintain vegetated open space north of, south of, and within this planning area, in order to provide distinct and identifiable boundaries to the concentrated growth in this area.

4. All new and upgrades to, town streets, roads and highways should adhere to the State's Complete Street Law and safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer, not limited to vehicular only (walking, cycling, public transportation, equestrian etc.).

5. Encourage any new services, amenities and/or street designs to safely connect vehicular and pedestrian traffic with those existing along Monkton Street in Vergennes, with no new roads and/or new driveways connecting directly onto Route 7.

6. Support the re-use of existing historic building or building footprint. Setback waivers apply for the re-use/re-purposing of existing historic buildings.

7. Development must adhere to the criteria within the natural resource section of this plan, zoning regulations and state regulations to protect and conserve Ferrisburgh's natural and scenic resources.

Recommended Actions

1. Review and revise zoning regulations, permitted and conditional uses for this area to determine best future use for this business area.

2. Incorporate design standards into zoning regulations for this Route 7 business planning area. Design Standards will restrict scale and massing and encourage safe access for vehicular and pedestrian circulation.

3. Continue discussions with the City of Vergennes to better understand common land use goals and policies of this business area and abutting properties.

H. INDUSTRIAL PLANNING AREAS

Associated Zoning Districts: Industrial (IND-2)

Where Is It?

One of the industrial planning areas, the South Central Industrial Planning Area, is off of Route 7, north and south of Tupper Crossing and directly east of the rail road. It is accessed by Tupper Crossing and 22A. There is currently no stopping area on the rail road.

The second industrial planning area, the Northwest Industrial Planning Area, is adjacent to the railroad track where it meets Long Point Road in the Northwestern part of Ferrisburgh.

What We See

There is currently no industrial development at the South Central Industrial Planning Area. Dedicating land off of Route 7, but in easy access of Route 7, strikes a balance between transport/utility efficiency and screening industrial development from a scenic travel corridor.

At the Northwest Industrial Planning Area, there are currently several warehouse-type buildings and a major electrical substation.

Future Development

It is important to plan for industrial development as a way to bolster the local – town and County economy. The south central industrial planning area utilizes the railroad corridor at Route 22A and Route 7 to define a limited area adjacent to existing development and infrastructure in the City of Vergennes to provide for future industrial capacity.

In order to deter sprawl development along Route 7, future growth will be encouraged which connects directly to existing development in a way that facilitates shared resources and utilities, provides opportunities for a diversity of multi-modal connections to street networks other than Route 7, maintains unique natural and cultural features, and which fits with the economic development goals of the Town.

Land Use Policy

1. In reviewing industrial uses, the town should consider the impacts of the proposed use including traffic, noise, light and pollution, and require adequate buffers between industrial and non-industrial uses, and which adhere to the economic development, natural resources and land use goals and policies in this town plan.

2. More than one use can be considered on the two-acre lot density if the infrastructure is adequate, especially water, wastewater and road access.

3. Whenever possible, existing structures should be used for further economic development.

Recommended Actions

1. Review and revise the current boundaries of the industrial district in Ferrisburgh's zoning regulations to reflect the above planning area and to allow an ample vegetated buffer and visual screen from Route 7 and any adjoining properties.

2. Investigate current industrial businesses in Ferrisburgh and survey residents as to what they would consider appropriate uses in the future.

CHAPTER 5. Epilogue

5.1 IMPLEMENTATION

This chapter of the plan suggests specific actions, responsible parties, and time lines for many of the goals and recommendations from earlier chapters. These lists are not intended to cover all possible actions by the town. However, it does offer some of the more important steps that may be taken to implement this plan.

TASK 1. Update zoning regulations

Action 1: Establish design standards for the North Business Planning Area, the Central Village Planning Area, and the South Business Planning Area along the Route 7 corridor.

Action 2: Establish appropriate zoning regulations for the sections of the Route 7 corridor between the designated Planning Areas.

Action 3: Develop zoning regulations to promote density-based zoning, applicable to lots smaller than required for PUDs.

Action 4: Ensure zoning regulations comply with federal and state regulations with regard to floodplains and Fluvial Erosion Hazard areas.

Completion date: Ongoing/2 years

Who: Planning Commission with appropriate support. Conservation Commission will assist with Action 3.

How: Explore the possibility of funding from the Orton Family Foundation and other sources.

Why: Zoning regulations need to reflect the Town Plan.

TASK 2. Encourage community use of the Town Hall and Community Center

Action 1: Develop programming and special events that draw town residents to the Town Hall and Community Center.

Completion: Ongoing

Who: Planning Commission with the Recreation Committee

How: Explore a variety of activities that can occur at the Town Hall and Community Center to foster a deeper sense of community within Ferrisburgh and promote more frequent use of the building.

Why: Results of the town survey and the open house indicated widespread support for more community activities and better use of the building.

TASK 3. Provide more options for recreation

Action 1: Develop recreational activities in which town residents can participate and which encourage fitness and community-building.

Completion: Ongoing

Who: Planning Commission with the Recreation Committee

How: Assess what kinds of activities and supporting infrastructure - such as walking and bike paths, spaces for fitness classes and other group activities, possibly team sports – are of most interest to town residents. Explore sources of funding, scout locations, develop a long-term recreation plan.

Why: Results of the town survey and the open house indicated widespread support for more recreational opportunities.

TASK 4. Protect important forests and natural areas

Action 1: Form a task force to inventory wildlife corridors and other important habitat areas.

Action 2: Identify zoning tools that can be applied to the zoning by-laws to protect important wildlife habitats.

Completion: Ongoing

Who: Conservation Commission (and Planning Commission?)

How: Consult resource people from the Department of Fish and Wildlife, Audubon Society, and other appropriate organizations.

Why: Protecting the habitats of other species simultaneously protects our own.

5.2. COMPATIBILITY

A. Addison County Regional Plan

The Town of Ferrisburgh is located in the Addison Region. By state statute, town plans must be compatible with the Regional Plan and both must be in conformance with the state's planning goals. The Ferrisburgh Town Plan contains goals and objectives similar to the Addison County Regional Plan. The Regional Plan adopts the land use plans of its member municipalities as its own, so there can be no conflict between local and regional land use plans. Therefore, the Ferrisburgh Plan is compatible with the Addison County Regional Planning Commission's Regional Plan, which was last adopted in December, 2011.

B. Panton

Panton's current Town Plan was adopted in 2011. Panton's planned land uses and zoning districts along the town line are compatible with those of Ferrisburgh. Both towns have recognized the areas around the Otter and Dead Creeks as environmentally sensitive areas requiring special protection. Most of the remaining lands along the border are part of low-density agricultural and rural residential areas.

C. Vergennes

Vergennes' current plan was adopted in 2009. The city's planned land uses and zoning districts along the border are compatible with those in Ferrisburgh. The Ferrisburgh plan includes an industrial area that wraps around the eastern and northern borders of the city along Route 7. This is an extension of the city's commercial and industrial corridor along Route 22A. The rest of the Ferrisburgh's land is part of agricultural and rural residential planning areas, which are compatible with Vergennes' agriculture and conservation district on its north and western borders.

D. Waltham

Waltham's current plan was adopted in 2009. Most of the land along the town line in Ferrisburgh is classified as rural residential, with a small area of industrial between Route 7 and Vergennes. Waltham's land use plan puts the area adjacent to Ferrisburgh in its north-central planning area. The Waltham plan describes the land along the border as residential where the clusters of housing are kept distinct by large pockets of farm and forest land. This is compatible with the rural residential planning area along the town line in Ferrisburgh.

E. New Haven

New Haven's current Town Plan was adopted in 2012 with planned land uses and zoning districts along the town line that are compatible with those of Ferrisburgh. Along the border, most of the land in New Haven is classified as residential agricultural. New Haven's zoning system allows for higher density development in a narrow strip along town roads, with larger lot sizes for interior land. Most of the border land in Ferrisburgh is rural residential with a small area of conservation land along Mud Brook, which is similarly identified as conservation in New Haven.

F. Monkton

Monkton's Municipal Development Plan was adopted in 2014. It calls for land uses and development patterns along the town line which are compatible with those of Ferrisburgh. Along the border, most of the land in Monkton is classified for low-density agricultural use with some conservation areas along the hills. This is consistent with Ferrisburgh's upland conservation and rural residential planning areas.

G. Charlotte

Charlotte's plan was adopted in 2013. The two towns share a long border and the land use plans for most of this area are compatible. Ferrisburgh and Charlotte have both identified the shoreline and the Lewis Creek corridor as

areas requiring special protection. Most of the land along the border is part of rural residential and agricultural areas.

The North Ferrisburgh neighborhood, however, has been an area of noticeable difference for many years. Charlotte's plan expresses concern over the highway commercial character of the Route 7 corridor in Ferrisburgh at the town line, which contrasts with their rural designation and Route 7 protection strategies. It is, however, the intent of this Ferrisburgh plan to prevent strip commercial development along Route 7 and support well-defined centers with commercial and residential uses in North Ferrisburgh. The presence of the town line and the difference in the town's land use plans will help ensure that this center remains distinct from the surrounding rural lands on its northern edge.

5.3. Glossary of Terms

(Other definitions that apply to this town plan can be found at 24 VSA 4303)

Agricultural Soils: Primary Agricultural Soils means soil map units with the best combination of physical and chemical characteristics that have the potential for growing food, feed, and forage crops, have sufficient moisture and drainage, plant nutrients or responsiveness to fertilizers, few limitations for cultivation or limitations which may be easily overcome, and an average slope that does not exceed 15 percent. Present uses may be cropland, pasture, regenerating forests, forestlands or other silvicultural or agricultural uses. However, soils must be of a size and location relative to adjoining land uses so that those soils will be capable, following any identifiable limitations, of supporting or contributing to an economic or commercial agricultural operation. Primary agricultural soils shall include important farmland soil map units with a rating of prime, statewide or local importance as defined by the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA).

Agricultural Soils, Local: In Addison County those soils which are classified as Adams Loamy Fine Sand, 5- 12% slope; and Colton Gravelly Sandy Loam, 5 - 12% slope; and Raynham Silt Loam, 6 -12% slope.

Affordable Housing: Either a) Housing that is owned by its inhabitants whose gross annual household income does not exceed 80% of the county median income and the total annual cost of the housing including principal, interest, taxes, insurance, and condominium association fees is not more than 30 % of the household's gross annual income; or b) Housing that is rented by its inhabitants whose gross annual income does not exceed 80% of the county median income, and the total annual cost of the housing including rent, utilities and condominium association fees is not more than 30% of the household's gross annual income.

Aquifer: A sub-surface geologic formation capable of yielding water in useful quantities to wells and springs.

Capacity Study: An inventory of available natural and human-made resources, based on detailed data collection that identifies the capacities and limits of those resources to absorb land development (see also 24 VSA 4303).

Cluster Development: A development design technique that concentrates building in specific areas of a site to allow the remaining land to be used for recreation, common open space, or preservation of environmentally sensitive features.

Commercial: for-profit business at a scale larger than a home-based business

Conserved Land: Land on which development rights have been restricted through public or private mechanisms.

Design Standards: Specific design criteria listed within zoning regulations pertaining to size, scale, siting, parking, massing, landscaping and/or other architectural elements.

Development: for the purpose of Town Planning development means any change in use land.

Flood Hazard Area: Land subject to flooding from the base flood, the flood having a one percent chance of being equaled or exceeded in any given year (100-year flood). See also floodproofing, floodway, hazard area, new construction and substantial improvement as defined in 24 VSA 4303.

Flood Erosion Hazard (FEH): includes the stream and adjacent lands necessary to accommodate the slope and plan form requirements of a geomorphically stable channel, and is subject to fluvial erosion as defined by the Vermont Agency of Natural Resources and delineated on the State's Fluvial Erosion Hazard Zone Map.

Forest Soils: Soils which are not primary agricultural soils as defined above, but which have a reasonable potential for commercial forestry or maple syrup production and which have not been developed. In order to qualify as productive forest soils the land containing such soils shall be of a size and location relative to adjoining land uses, natural conditions and ownership patterns so that those soils will be capable of supporting or contributing to a commercial forestry or maple sugaring operation.

Groundwater: Water found belwo the ground surface in porous material, or in porous or fractured rock strata.

Hazard Area: Land subject to soil erosion, landslide, water supply contamination, or other natural or human-made hazards.

Home-based Business: A business carried out in the principal dwelling unit and/or accessory structures by the residents of the dwelling unit and no more than four additional non-resident, full-time equivalent employees.

Home Occupation: An occupation customary in residential areas using a minor portion of a dwelling and carried out by the residents and no more than one additional non-resident, full-time equivalent employee.

Hydric Soils: Soils that are periodically saturated with water such that the physical, chemical and biological properties reflected in the soil profile clearly demonstrates long periods of saturation.

Level of Service: The operating conditions that a driver experiences while traveling on a particular street or highway, including frequency of stops, operating speed, travel time and traffic density.

Light Industry: an industrial scale that has minimal impact on the immediate residential and environmental surroundings, typically dependent on human opperated systems rather than machine opperated systems and focused on the production of goods for the retail consumer, including artisan/craft production and food processing and/or production.

Low impact: designed to cause minimal damage to the environment

Natural Area: An area of land or water with unusual or significant flora, fauna, geological or similar features of scientific, ecological or educational interest.

Nonconforming Lot, Structure, Use: See 24 VSA 4303.

Planned Unit Development (PUD): One or more lots, tracts or parcels of land to be developed as a single entity, the plan for which may propose any authorized combination of density or intensity transfers or increases as well as mixing of land uses. This plan, as authorized, may deviate from bylaw requirements that are otherwise applicable to the area in which it is located with respect to lot size, bulk, or type of dwelling or building, use, density, intensity, lot coverage, parking, required common space, or other standards.

Public Waterway: Any waterway that is accessible to the public and navigable when Lake Champlain is at the mean water level of 95.5 feet above sea level.

Renewable Energy Resources: Energy available for collection or conversion from direct sunlight, wind, running water, organically derived fuels, including wood and agricultural sources, waste heat and geothermal sources.

Rural Character: a pattern of land use and quality of life based on traditional landscapes, activities, lifestyles and aesthetic values, including the dominance of natural areas, wildlife habitat and agricultural lands, expansive natural views, dark night skies, low traffic volumes on residential streets and the maintenance of historic buildings and development patterns, such as distinct village and town centers.

Rural Town: A town having, as at the date of the most recent United States census, a population of less that 2,500 persons, as evidenced by that census, or a town having 2,500 or more, but less than 5,000 persons that has voted by Australian ballot to be considered a rural town.

Substantial Improvement: Any repair, reconstruction or improvement of a structure the cost of which equals or exceeds 50% market value (see 24 VSA 4303).

Telecommunications Facility: A tower or other support structure, including antennae, that will extend 20 or more feet vertically, and related equipment, and base structures to be used primarily for communication or broadcast purposes to transmit or receive communication or broadcast signals.

Watershed Protection Area: A specific geographical area of land and surface water designated by a municipality or other authority to have minimal human impact in order to protect water supplies in surrounding areas.

Wellhead (Source) Protection Area: An area designated by the Vermont Department of Conservation to protect the quality of public water supplies.

Wetlands: Those areas of the state that are inundated with surface or groundwater with a frequency sufficient to support vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction. Such areas include marshes, swamps, sloughs, potholes, fens, river and lake overflows, mud flats, bogs and ponds, but excluding such areas as grow food or crops in connection with farming activities. Wetlands are further described by State Wetland Rules as Classes I, II and III with decreasing levels of required protection under state and federal laws.