

2015 UNDERHILL TOWN PLAN

The Selectboard of the Town of Underhill adopted this Town Plan on June 23, 2015

Prepared by the
Town of Underhill Planning Commission

With assistance of
Sarah McShane, Planning & Zoning Administrator

TABLE OF CONTENTS

Introduction & Purpose

Compatibility with Adjacent Municipalities

Chapter 1: Natural Resources

<i>Section 1.1 Overview</i>	1
<i>Section 1.2 Open Space Planning</i>	1
<i>Section 1.3 Agriculture and Forestry</i>	2
<i>Section 1.4 Water Quality</i>	4
<i>Section 1.5 Flood Resiliency</i>	9
<i>Section 1.6 Wildlife Habitat</i>	10
<i>Section 1.7 Sensitive Natural Areas</i>	11
<i>Section 1.8 Geological Resources</i>	13
<i>Section 1.9 Invasive Species</i>	13
<i>Section 1.10 Air Quality</i>	14
<i>Section 1.11 Climate Change</i>	15

Chapter 2: Historic and Cultural Resources

<i>Section 2.1 Overview</i>	16
<i>Section 2.2 Historic Villages</i>	16

Chapter 3: Land Use

<i>Section 3.1 Land Use</i>	17
<i>Section 3.2 Land Use Planning in Underhill</i>	18
<i>Section 3.3 Underhill Flats Village Center Zoning District</i>	20
<i>Section 3.4 Rural Residential Zoning District</i>	22
<i>Section 3.5 Water Conservation Zoning District</i>	23
<i>Section 3.6 Mt Mansfield Scenic Preservation Zoning District</i>	26
<i>Section 3.7 Soil and Water Conservation Zoning District</i>	27
<i>Section 3.8 Special Flood Hazard District</i>	28
<i>Section 3.9 Fluvial Erosion Hazard Areas (FEH)</i>	29

Chapter 4: Services

<i>Section 4.1 Police, Emergency Services, Fire Protection</i>	31
<i>Section 4.2 Water and Septic Systems</i>	31
<i>Section 4.3 Solid Waste Disposal</i>	31
<i>Section 4.4 Electricity and Natural Gas</i>	32
<i>Section 4.5 Post Office</i>	32
<i>Section 4.6 Library</i>	32
<i>Section 4.7 Education</i>	32
<i>Section 4.8 Childcare</i>	33
<i>Section 4.9 Telephone Service</i>	33
<i>Section 4.10 High-Speed Internet Service</i>	34
<i>Section 4.11 Emergency Operations Planning</i>	34

Chapter 5: Infrastructure	
<i>Section 5.1 Public Assets</i>	36
<i>Section 5.2 Capital Improvement Program and Capital Budget</i>	38
<i>Section 5.3 Communication Systems</i>	40
<i>Section 5.4 Village Centers</i>	40
<i>Section 5.5 Development of Recreation Trails</i>	40
Chapter 6: Transportation	
<i>Section 6.1 Existing Conditions</i>	41
<i>Section 6.2 Town Roads</i>	41
<i>Section 6.3 Public Transportation</i>	42
<i>Section 6.4 Alternative Modes of Transportation</i>	43
Chapter 7: Housing	
<i>Section 7.1 Background</i>	44
<i>Section 7.2 Underhill's Existing Housing Inventory</i>	45
<i>Section 7.3 Housing Affordability</i>	46
<i>Section 7.4 Regional Housing Needs</i>	48
Chapter 8: Economic Development	
<i>Section 8.1 Background</i>	48
<i>Section 8.2 Economic Opportunity & Planning</i>	49
Chapter 9: Energy	
<i>Section 9.1 Background</i>	51
<i>Section 9.2 Energy Consumption Reduction</i>	51
<i>Section 9.3 Greenhouse Gas Emissions Data</i>	53
<i>Section 9.4 Land Use & Energy</i>	54
Chapter 10: Recreation	
<i>Section 10.1 Recreation Trails</i>	55
<i>Section 10.2 Town Pond/Tennis Courts/Casey's Hill</i>	57
<i>Section 10.3 Town Recreation Infrastructure</i>	57
Implementation	59

LIST OF MAPS

- Map 1:** Natural Resources
- Map 2:** Existing Land Use
- Map 3:** Potential Future Land Use
- Map 4:** Designated Village Center
- Map 5:** Utility, Facility & Education
- Map 6:** Transportation
- Map 7:** Renewable Energy Resources
- Map 8:** Hydrologic Features

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**Chittenden County Regional Planning Commission (CCRPC)
Resolution**

Underhill's Town Plan & Planning Process

WHEREAS, Title 24, V.S.A. § 4350 in part requires that CCRPC shall review the municipal planning process of our member municipalities including review of plans; that each review shall include a public hearing which is noticed as provided in 24 V.S.A. § 4350(b); and that before approving a plan the Commission shall find that it:

1. is consistent with the goals established in Section 4302 of this title;
2. is compatible with its Regional Plan;
3. is compatible with approved plans of other municipalities in the region;
4. contains all the elements included in § 4382(a)(1)-(12) of this Title.

WHEREAS, the CCRPC at its May 22, 2013 meeting approved the *CCRPC Guidelines and Standards for Confirmation of Municipal Planning Processes and Approval of Municipal Plans* dealing with local plans and CCRPC action; and

WHEREAS, The Town of Underhill, Vermont is a member municipality of this Commission; and

WHEREAS, The Town of Underhill formally requested CCRPC to approve its Town Plan and confirm its planning process; and

WHEREAS, The Planning Advisory Committee reviewed the Town Plan and planning process; and

WHEREAS, the Planning Advisory Committee held a warned public hearing at the CCRPC, located at 110 W. Canal Street, Suite 202, Winooski, Vermont on Wednesday, March 11, 2015, reviewed the records and recommended that, upon Selectboard adoption, the Commission approve Underhill's Town Plan as meeting the requirements of 24 V.S.A. § 4350 and the *Guidelines and Standards for Confirmation of Municipal Planning Processes and Approval of Municipal Plans* and confirms the community's planning process as consistent with Title 24, Chapter 117.

WHEREAS, The Town of Underhill's Selectboard approved the 2015 Underhill Town Plan at its June 23, 2015 meeting; and

NOW, THEREFORE, BE IT RESOLVED BY THE CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION, that, in compliance with 24 V.S.A. § 4350 and the *Guidelines and Standards for Confirmation of Municipal Planning Processes and Approval of Municipal Plans*, CCRPC approves Underhill's Town Plan amendment and the Commission finds that said Town Plan:

1. is consistent with the goals established in Section 4302 of Title 24;
2. is compatible with the 2013 *Chittenden County Regional Plan, entitled the ECOS Plan*, adopted June 19, 2013;
3. is compatible with the approved plans from other adjacent Chittenden County municipalities; and
4. contains all the elements included in § 4382(a)(1)-(12) and/or is making substantial progress toward attainment of the elements of this subsection;

NOW, THEREFORE, BE IT FURTHER RESOLVED BY THE CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION, that, in compliance with 24 V.S.A. § 4350 and the *Guidelines and Standards for Confirmation of Municipal Planning Processes and Approval of Municipal Plans*, CCRPC confirms the Town of Underhill's municipal planning process.

Dated at Winooski, this 15th day of July, 2015.

CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION



Michael O'Brien, Acting Chair

INTRODUCTION & PURPOSE



The Town Plan is the principal policy document for the Town of Underhill and represents the community's vision for the future. The Town Plan builds upon past planning efforts to manage growth, protect scenic, historic, and natural resources and maintain a vibrant community. The Underhill Planning Commission, appointed by the Selectboard, is responsible for preparing the Town Plan.

The authority to prepare and implement the Town Plan is granted under Title 24 V.S.A, Chapter 117, §4381. This Plan contains all of the elements required by Vermont Statute including land use, transportation, utilities and public facilities, natural resources, education, energy, housing, economic development, and flood resiliency. The Plan establishes goals, policies, and strategies intended to guide future growth, including the development of land, public facilities, and services, while maintaining the Town's unique sense of place. The goals, policies, and implementation strategies listed in the Plan are based on the desires and common goals of Underhill residents, local officials, community partners, and other stakeholders. The Planning Commission has solicited community input throughout the planning process and strives to provide on-going opportunities for residents to help plan the Town's future.

COMPATIBILITY WITH ADJACENT MUNICIPALITIES

The Town of Underhill shares a border with six towns, several of which are within Lamoille County. The Town has continually worked with adjacent communities and regional organizations to coordinate planning goals and strategies. The goals and visions expressed in the Town Plans of surrounding communities are similar to Underhill's Town Plan: focus development in traditional rural village centers, support and encourage the protection of natural resources, and maintain a high quality of life for all residents.

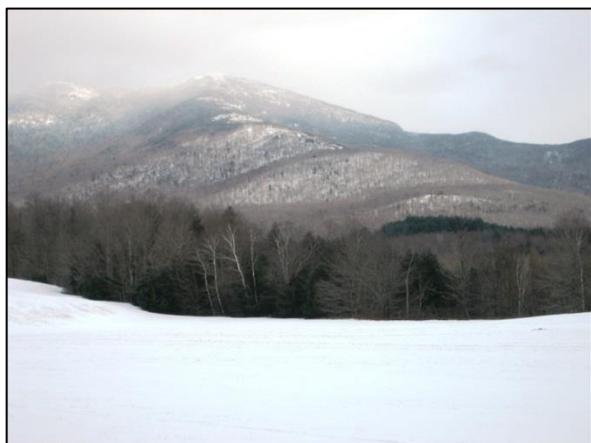
To ensure that local planning programs and policies are well coordinated with the region, the Town of Underhill is an active member of the Chittenden County Regional Planning Commission. Not only does the Town's involvement with the Regional Planning Commission provide a regional context for planning, it provides a forum for addressing issues of regional concern. In drafting the Town's goals and strategies, careful consideration was given to the Chittenden County ECOS Plan, as well as the municipal plans of the surrounding towns.

CHAPTER 1: NATURAL RESOURCES

Section 1.1 Overview

GOAL: *The Town should make a commitment to the responsible stewardship and sustainable use of Underhill's natural resources in a manner that protects and enhances the Town's environmental well-being for the benefit of future generations; the preservation of natural features that contribute to Underhill's ecological health and biological diversity; and the preservation of Underhill's rural character, scenic landscape, working farms, managed forestlands, and cultural heritage.*

The Town of Underhill (pop. 3,016) lies between the Champlain Valley to the west and the spine of the Green Mountains to the east. The physical features of Underhill's landscape have greatly influenced local patterns of human activity, settlement and commerce. Settlement in Underhill developed around the most reliable source of power at the time—the Browns River and its many tributaries. The Town's traditional agricultural base, which once extended into the surrounding hills, is today largely confined to its most productive soils, found along the river valley. Those areas least desirable for development—Underhill's remote and rocky uplands—form a scenic backdrop and include productive forest lands, headwaters, and important wildlife habitat. The quality of life Underhill residents enjoy and have stated they want to protect is closely tied to the quality of the Town's rural character and natural resources.



The location and approximate boundaries of a variety of natural resources have been mapped by local, regional and state sources. With most of these mapped resources available as data layers in the Vermont Geographic Information System (GIS), they can be viewed collectively for any parcel or area within Underhill. These data layers offer opportunities for cohesive open space planning and provide Underhill officials the ability to protect significant natural resources both in the preparation of zoning regulations and during review of development proposals. However, since maps may contain errors, the ultimate authority must always be the actual evidence gathered in the field.

Section 1.2 Open Space Planning

“Open space” refers to all types of lands that are valued for being undeveloped including those areas that provide for natural processes and wildlife, agriculture and sylvan production, scenic qualities, active and passive recreation, and/or for providing other public benefits. The Town's low density ten and fifteen acre zoning districts are an example of an existing open space planning tool. While such low density zoning may be viewed as less than ideal from certain perspectives, it represents one reasonable compromise between the rights of private ownership and other interests.

Open space planning is one way for communities to identify what resources are important to protect, weigh their relative value, and develop strategies for protecting or managing them, such as natural resource overlays, conservation land acquisition, and management of public lands. The Town should consider open space planning initiatives that take a more comprehensive look at the entire town, and adjoining towns, to identify important land and natural resources and connectivity that allows for continued ecological function and value. Open space planning in Underhill can be through private ownership, conservation land acquisitions, purchase of development rights, the Town Land Contract, the State of Vermont Current Use program, or other

voluntary agreements a landowner might enter into in order to protect, preserve, restrict or limit development beyond what the Underhill zoning bylaw does.

Policy: Continue open space planning in Town.

Strategies:

1. Identify the location of significant agricultural and natural resources, high priority scenic areas, potential greenways, environmentally sensitive lands and water resources, compiling information from previous studies and incorporating new data as it is developed. The Regional Connectivity and Priority Large Habitat Blocks project may provide a foundation for such information. The purpose of open space planning should not be to exclude all development from these lands but to serve as a framework for prioritizing and developing a network of interconnected open space.
2. Develop a program for the protection of identified significant features. This program should include means of protecting priority areas and may include conservation easements, purchase of development rights, acquisition of priority sites, or any other voluntary agreements or contracts with property owners.
3. Identify areas that are most vulnerable and that are not adequately protected through other regulatory or voluntary means. Conservation efforts and funds should be focused where need is greatest.
4. Consider developing a method to assess the relative value of lands for agricultural, forestry, and natural resource preservation purposes. This method will be built upon local knowledge, local values, and GIS data.
5. Consider proposing regulations that would address open space issues in development review applications.

Section 1.3 **Agriculture & Forestry**

Agriculture

The Town of Underhill contains approximately 4,509 acres of prime agricultural soils, some of which are devoted to farming operations. These farming operations contribute to the economic, social, environment, and aesthetic values of town. Farmers are unfortunately often under constant pressure to sell or develop their land due to the discrepancy between income from production and what he or she could expect from real estate development. Once the land has been developed for nonagricultural purposes, it is forever lost to agricultural production. Preserving agricultural land, while maintaining the landowner's equity, is one of the planning challenges facing the Town.

Agricultural operations have also been identified as a contributor to surface and ground water pollution in Vermont. While significant strides have been made to reduce agricultural non-point sources of pollution, it still remains a leading source of pollution in Vermont. Farmers should be encouraged to follow best management practices and the accepted agricultural



practices developed by the VT Agency of Agriculture, Food & Markets. Opportunities to reduce non-point sources of pollution should be continually developed.



Forestry

Underhill, a town of 32,828 acres, has an abundant forest cover. The Town contains over 7,961 acres of productive forestland which produces lumber to meet local and regional needs. Additional forested acres include the Mount Mansfield State Forest (6,035 acres), the Ethan Allen Firing Range (3,292 acres), and UVM properties (Proctor Research and the Chin, 332 acres). 5,213 acres are also enrolled in Town Land Contracts, although it is not clear how this acreage is being used other than being protected from subdivision while under contract.

Much of the Town's forest resources are managed by private landowners. However, the Mount Mansfield State Forest is logged under management of the State Department of Forests and Parks. Some private lands in Underhill are logged commercially; many are in either the Town Land Contract or State Current Use Program, or another conservation easement programs (about 2,000 acres). Over 70% of the total acreage in Underhill is included in the data mentioned above.

Continued management of these forest lands is an important community goal. Forest land and its traditional uses (timber extraction, wildlife habitat, recreation, scenic resources, etc.) help define the rural character of the Town. The viability of our working forests is tied inextricably to adequate access and overall land base. Subdivision and development have the potential to fragment large blocks of forest land into smaller ownerships (parcelization) making long-term timber management more difficult. More importantly, even if large forest parcels are maintained, development along Town roads must be carefully planned to avoid isolating interior forest lands. Given low profit margins and site-specific constraints, working forests require suitable access for equipment and timber harvesting.

The impacts of fragmentation on wildlife and recreation that rely on "Core Forests" are also a concern. Core Forests are forests that provide at least 100 yards free from human disturbance. Core forests have declined in Underhill from 25,544 acres in 1978 to 18,721 acres in 2015. This is a 27% decline over the last 37 years and is likely a regional trend.

Another important component of managing our forests is taking responsibility for the trees that belong to the Town by virtue of their location in the Town rights-of-way. There are specific reasons why the Town should pay attention to these strips of forest along our Town roads. Not only do they add an aesthetic quality to the Town but healthy trees also provide a benefit of stability. A sick or dying tree can create a danger if it becomes subject to wind or heavy snow and falls on the roadway. The Town would likely be liable for damage that results from such a hazard. Another benefit of management is an awareness of the variety of trees that inhabit the Town's roadsides. It is important to understand which trees may be desired hosts for invasive tree pests so the Town can develop both preventive and/or rehabilitative responses.

Planning for all of Underhill's forest resources could be improved through a more thorough evaluation of site-specific potential and value to the community.

Policy: Identify valuable forestland and agricultural land in Underhill to ensure that growth and development do not negatively impact the viability of forest and agricultural uses.

Strategies:

1. Conduct an assessment to identify working lands in Underhill and rank the importance and viability of agricultural, forestry, and natural resource lands.
2. Work with existing agricultural and forest property owners to help with future planning of their land. Ensure that Underhill landowners have every opportunity to obtain information about sustainable land management practices, as well as funding and technical assistance opportunities.



3. Preserve the Town's valuable agricultural, forest and natural resources by directing growth to locations that do not impact these resources. Provisions should be made through voluntary preservation means, to preserve agricultural and forestry resources.
4. Consider adopting policies such as "Right to Farm" to address conflicts between residential, agricultural and forestry uses. Generally a "Right to Farm" policy protects farmers from nuisance suits as long as the farm was established before surrounding suburban activities were put in place, and as long as the farm's activities do not "jeopardize public health and safety."
5. Regulations should be drafted so that access to forest land and proper right-of-ways are considered during the development review process.

Policy: Support the working forest and agricultural landscape and provide incentives for uses that keep lands open and viable.

Strategies:

1. Promote local agricultural and forest products as a means of fostering the economic vitality of local farms and woodlands.
2. Encourage the Town to continue to offer an open land contract as an alternative to State of Vermont Current Use contracts.
3. Consider establishing a fund to preserve priority resource land by promoting the use of a Land Conservation Fund.
4. Work with the Jericho-Underhill and Vermont Land Trusts, and other appropriate nonprofit organizations, to encourage the voluntary protection of productive agricultural and forest lands. Techniques such as conservation easements or donation of land with retained timber rights should be explored as possible options.

Section 1.4 Water Quality

Surface Waters

The main watercourse in Underhill is the Browns River, a major tributary of the Lamoille River. The Browns River begins on Mount Mansfield and is joined in Underhill Center by Stevensville Brook and Clay Brook,

which also begin their journey high on the mountain. Harvey Brook, Crane Brook and Mill Brook, which drain the lower hillsides, also join the Browns River in the village of Underhill Center, creating special problems, due to a high ground water level and vulnerability to flooding. It then flows parallel to South Hill and is joined in Jericho by the Creek, a slow flowing stream and important wetland paralleling VT 15. Roaring Brook, a significant tributary to the Creek, joins the Creek right before it crosses into Jericho.

The Browns River meanders through a broad floodplain along River Road, often changing its course during spring floods. The small farming area along River Road is the major beneficiary of post glacial flooding in Underhill, as well as a concentrated area of prime agricultural soils.

Other surface waters outside of the Browns River watershed are the Seymour River and Beaver Brook. The Seymour River, which flows directly into the Lamoille River on its journey from Underhill through Cambridge, is responsible for the rich agricultural soil along Pleasant Valley. In North Underhill, Beaver Brook drains Metcalfe Hill and flows across Westford into the Lamoille River.

In addition to these named streams there are numerous unnamed streams. Although these streams are low volume or intermittent in nature, they serve important functions as seasonal drainage ways.

The rivers, streams and ponds in Underhill have great value as wildlife habitat and corridors, and for recreation. All of these waterways eventually drain to Lake Champlain, which is an important natural, cultural, and economic resource for Underhill residents and Vermont at large. Access to these waterways is an important part of the enjoyment of Underhill's rural setting. The use or misuse of surface waters has an impact on all communities within a drainage basin.



Water Quality & Stormwater

Surface waters are subject to many sources of pollution. These are generally divided into point and non-point designations. Point sources are those for which there is a clearly defined source, such as a malfunctioning septic system. Non-point sources are those for which there is no clearly recognizable source. Non-point sources, such as stormwater runoff from roads, driveways (paved and unpaved) or parking lots, are far more difficult to locate and control although their potential for damage is great. Agricultural practices can have a significant impact on the quality of surface water.

Surface waters are also subject to damage from erosion of stream banks and siltation. Current Town regulations attempt to mitigate these potential damages by requiring a 100' setback of all structures and impervious surfaces from named streams and bodies of water. Riparian forests and vegetation can contribute to the stabilization of stream banks, but riparian forest areas are lacking in parts of river and stream corridors in Underhill. When planning for the continued protection of surface waters, the Planning Commission should review the current zoning regulations and ensure that erosion and pollution controls are adequately addressed.

Depending on soil characteristics and the type of ground cover, the earth has a varying capacity to absorb water. When precipitation accumulates on the ground surface faster than it can be absorbed into the earth, the excess water becomes stormwater runoff. Particularly during major storms, the intensity and duration of

2015 Underhill Town Plan-Approved 6/23/2015

rainfall can exceed the earth's capacity to absorb water. Impervious and hardened surfaces (such as rooftops, roadways, and parking lots) prevent or greatly hinder water from percolating into the ground.

Stormwater runoff flowing across the earth's surface absorbs chemicals and physically propels un-dissolved particles and other suspended material. Increased volumes of runoff tend to transport more absorbed chemicals and suspended material. Steep slopes, which Underhill has in abundance, and hardened surfaces with less friction, increase the velocity of the runoff and the speed that it accumulates into greater volumes. Increased stormwater volume and velocity enable runoff to scour larger particles and to transport them downstream. Vegetative groundcover and reduced slopes slow runoff, diminishing its ability to transport materials. Increased runoff from impervious surfaces also increases the volumes of stormwater running into streams, increasing the severity of flooding and subsequent potential to damage roads and property.

Policy: Protect, enhance, and restore Underhill's surface water resources.

Strategies:

1. Require adequate vegetative buffers and erosion control along rivers, streams, and lakes to protect water quality, allow natural channel modification, and protect buildings. Consider differentiating buffers based on land use.
2. Review and propose regulatory revisions, as necessary, to protect, enhance, and restore surface waters.
3. Encourage reforestation of native plants where appropriate along the riverbanks. For tributaries and creeks, maintain setbacks, and encourage preservation of existing vegetative buffers and reforestation of riparian buffers.
4. Actively participate on watershed protection associations.

Policy: Control impacts from stormwater runoff.

Strategies:

1. Study and address the contribution of town roads to storm water runoff. Both the Lamoille River Watershed Basin and the Browns River Corridor Management Plans identify culverts and bridges in Underhill in need of improvement. Blend the recommendations of these plans with the assessment of the Town's road crew on needed improvements of the Town's infrastructure in the development of capital budgets.
2. Continue to require through road and land use regulations that all new roads and driveways are properly constructed to minimize erosion and scouring. Road improvements should follow the 2013 VTrans Road and Bridge standards as adopted by the Selectboard.
3. Assure that all new construction employs effective erosion control measures as required in the associated permit.
4. Consider adding low impact development regulations for stormwater control.

Wetlands and Vernal Pools

Wetlands are areas that are inundated by surface or ground water with a frequency sufficient to support vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands perform several important ecological functions: they contribute to protection of surface and ground water quality, recharge ground water aquifers, and control erosion by binding and

stabilizing soil. In addition, wetlands provide necessary fish and wildlife habitat; may contain rare and endangered flora and/or fauna; may represent a rare or outstanding wetland community type; and provide opportunities for recreation, education, research, and aesthetic enjoyment.

Vernal pools are small, open-water wetlands that are filled by rain and snowmelt in spring or fall and are typically dry during the summer months. Vernal pools are usually contained within a small forested basin with no permanent inlet or outlet, and supporting no fish that prey on other species. Years of filling and drying result in a unique set of conditions that support a variety of wildlife specialized to take advantage of these conditions. Vernal pools are known as important breeding habitats for amphibians such as several salamander species and wood frogs. In Vermont, information regarding the distribution of vernal pools is limited and further study is needed to better understand this natural resource.

The Vermont Water Resources Panel uses a three-tier system to classify wetlands for protection. Class 1 and Class 2 wetlands are considered “significant” as determined by the degree to which they carry out the above described functions, and are protected by the Vermont Wetlands Rules. The locations of Class 1 and Class 2 wetlands are roughly identified on the National Wetlands Inventory (NWI) maps. The wetlands along Route 15 and Crane Brook are great examples of Class 2 wetlands in Underhill. The location of wetlands on a particular parcel can be initially identified on the State Wetland Inventory Maps and confirmed through site investigation.

Class 3 wetlands are those wetlands that have not yet been evaluated or those not considered significant under the Vermont Wetland Rules. Class 3 wetlands are currently regulated in Underhill. Although the most comprehensive source of information currently available for the locations of wetlands in Underhill is the NWI, this information should be used with caution. The maps were prepared using aerial photography rather than field inventory, so wetlands that are hard to see on aerial photos may not be mapped. Many forested wetlands, for example, are not on NWI maps. Understanding the functions and values of each wetland requires field inventory and assessment by a natural resource professional.

Policy: Preserve wetlands within Underhill.

Strategies:

1. Consider proposing new regulations to protect wetlands that are essential for treating stormwater runoff, protecting surface water quality and providing habitat.
2. Work to clarify the location of wetlands (Class I, II, and III) in Underhill. Utilize the NWI wetland locations or more detailed site specific studies if available, for planning and development review with appropriate field delineation as needed.
3. Consider conducting field studies to identify and better understand priority wetlands.
4. Continue to strive to insure that wetlands are not adversely impacted by development or alteration to lands around them.
5. Consider acquiring easements to, or purchasing, priority wetlands that are particularly vulnerable.
6. Restore wetlands in a public/private partnership to improve water quality, habitat, and facilitate stormwater management.
7. Educate landowners about the value and fragility of vernal pools, how to identify them, and how to protect them.

8. Create partnerships with State and Federal Agencies for planning and funding (implementation) support.

Groundwater

Clean and plentiful groundwater is a critical resource for the health and well-being of Underhill residents. Statewide, 66% of Vermonters depend on groundwater for their primary water supply (Becker, 2006). In Underhill, nearly all residents obtain their water from wells and springs. The most significant quantities of groundwater are found in aquifers, which are geologic formations that have the capability to store, transmit and yield useful quantities of water to a well or spring. Land through which water percolates to become groundwater is referred to as a recharge area.

The metamorphic schist which forms the bedrock of Underhill is an important groundwater recharge aquifer, holding water in the cracks and providing storage which can be tapped for wells. The aquifer is extremely vulnerable to pollution because of the many interconnecting cracks in the rocks. Unlike porous materials, such as sand and gravels, in which bacterial pollution can be filtered over relatively short distances, polluted water can travel for miles through the cracks in the schist, contaminating wells far from the source of the problem.

Recharge areas and the groundwater they supply can become contaminated by many sources, including failing septic systems, animal waste, leaking underground storage tanks, improper disposal of household and industrial waste, inappropriate use of pesticides and fertilizers, and excessive road salting. Groundwater can also be contaminated by naturally occurring substances including radioactivity in deep layers of bedrock and decaying plant and animal matter in areas closer to or on the surface. Similarly, over-development can deplete groundwater resources by increasing the amount of impervious cover and preventing infiltration of water underground. Understanding the potential sources of contamination and the location of Underhill's aquifers will be essential if future growth is to occur in locations and ways that do not harm groundwater sources.

In Underhill, the importance of groundwater to the health of town residents, present and future, makes protection of groundwater resources a top priority. Higher quality water is also less expensive to treat. Both the quality and quantity of water is of concern for the future.

The VT Agency of Natural Resources has mapped all Source Protection Areas, which are the recharge areas for public community water supplies (those serving 25 or more full-time users). There are a number of public and private water systems active in Underhill at this time e.g. Jericho-Underhill Water District, Roaring Brook, Beartown Road, Timber Ridge, Underhill Central School, and Maple Leaf Farm.

Identifying water yields and groundwater resources for planning areas is an important issue for the Planning Commission to consider when updating the zoning regulations.

Policy: Protect Underhill's groundwater resources.

Strategies:

1. Create a groundwater conservation overlay district that includes source water protection areas. Development in these areas should receive a higher level of scrutiny. Review the data already collected and supplement with field studies, if needed.
2. Decide how best to provide well-yield data to the Development Review Board.
3. Consider conducting a groundwater analysis of each planning area. This could be done with public funds, grant funds, or could be required as part of a development review application.
4. Encourage water conservation.

Section 1.5 Flood Resiliency

Floodplains

The Special Flood Hazard Area (SFHA), or floodplain, is the area bordering a lake, stream, or river that is subject to the impacts of flooding. Special Flood Hazard Area boundaries are typically determined by the 100- or 500-year flood levels. A 100-year flood has a 1 in 100 chance of occurring in any given year. The boundaries are determined and mapped by the Federal Emergency Management Agency (FEMA) and are based on topography and estimated flood flows. Special Flood Hazard Areas and Fluvial Erosion Hazards (FEH) areas are depicted on Map 8.

Flooding is common in Underhill and is usually experienced after spring rains, heavy thunderstorms, and/or winter snow thaws. Since many Underhill residents live in the lower lying areas, flooding can create severe disruption due to property damage and hazardous road conditions. Severe flooding can also have long term effects on stream banks. Erosion, often as a result of flooding can also damage roads and infrastructure. The Town identified portions of waterways susceptible to erosion through a Geomorphic Assessment (Phase 1 and II) of the Browns River. Efforts to further evaluate these areas will continue.

Floodplains not only serve to protect property and life by reducing the severity of flooding but also provide wildlife habitat and serve as corridors for animal movement. They also represent some of the richest and most viable agricultural land because of a concentration of alluvial deposits left by past floods. Since floodplains serve as an integral part of the overall natural resource pattern of the Town it is important to maintain them in accord with floodplain regulations and strengthen the regulations when appropriate.

Flood Resiliency

Previous efforts to become a more hazard resilient community, including identified flood protection measures, were included within the Town of Underhill All Hazards Mitigation Plan. Developed in conjunction with the Chittenden County Regional Planning Commission, the purpose of the plan is to assist the Town in identifying all hazards (including flooding) facing the community and to develop mitigation strategies to reduce the impacts of the identified hazards. The Town's All Hazards Mitigation Plan identified both severe winter storms and floods as the highest risk rating for natural hazards. The plan also identified a significant number of existing homes, culverts, bridges, utility poles, as well as critical facilities, located within the Special Flood Hazard Area. Strategies to reduce hazard risks were identified and those associated with flood protection have been incorporated within this Town Plan.

As of July 1, 2014, municipal plans are required to include a flood resiliency goal and element to encourage flood resilient communities. The requirements include identifying flood hazard and fluvial erosion hazard areas, and designating those sensitive areas for protection, including floodplains, river corridors, lands adjacent to streams, wetlands, and upland forests. Identifying and protecting these areas will reduce the risk of flood damage to infrastructure and improved property. If development is built within these sensitive areas, it should not exacerbate flooding and fluvial erosion. As part of the update to the Town Plan, policies and strategies to protect these areas and mitigate risks have been developed and incorporated within this Plan. Current Town Flood Hazard Area Regulations allow development in the Special Flood Hazards Area, subject to conditional use review, if there is no impact that would divert flood waters or increase flood hazards. The regulations have been developed based on recommended language for communities enrolled in the National Flood Insurance Program. The Planning Commission should evaluate the current regulations and determine if they need to be strengthened in order to protect public safety, natural habitat, public infrastructure, and private property and for State funding purposes as described in Section 3.8 of the Land Use Chapter.

Policy: Protect floodplains, fluvial erosion hazard areas, and lands adjacent to streams, wetlands, and upland forests; encourage restoration of these areas as needed; and plan for flood emergency preparedness and response.

Strategies:

1. Inventory the number of existing structures within mapped floodplains.
2. Review the current Flood Hazard Area Regulations and determine whether or not they need to be strengthened to prohibit new structures within the Special Flood Hazard Area.
3. Complete a fluvial geomorphology assessment for streams and waterways and develop strategies in response to identified risk. Develop a River Corridor Management Plan.
4. Evaluate capabilities of existing road and stormwater management infrastructure. Continue and improve highway culvert and bridge maintenance programs.
5. Plan culvert replacements for any undersized culverts in conjunction with roadway improvement projects.
6. Review the All Hazards Mitigation Plan on a regular basis and follow-up on identified strategies.
7. Continue emergency preparedness and coordinated response planning efforts.

Fluvial Erosion Hazard Overlay District- (*For detailed discussion see §3.9-Land Use Chapter*)

Section 1.6 Wildlife Habitat

Wildlife habitat contributes to the rural character of Underhill and reflects the diversity of the Town's natural landscape. All wildlife species require three elements for viable habitat - food, water and cover. Even with these elements, viable habitat for many species is dependent on contiguous tracts of undisturbed land to serve as reservoirs for diverse species. Smaller tracts can serve as habitat if corridors connecting smaller and larger areas are preserved. Fragmenting habitat areas and the connecting corridors limits the availability and diversity of life supporting elements. As areas become isolated, species diversity diminishes or disappears.

The status of viable and varied wildlife habitat is an important barometer of the Town's ability to maintain its rural landscape while accommodating growth. Given the vast array of wildlife species, from butterflies to salamanders to black bears, nearly every parcel of land in Underhill provides habitat to one or more wildlife species. As noted above, overall species or habitat diversity is one important component of Underhill's rural landscape.

Critical wildlife habitat is another important piece of this equation. For the purposes of this Plan, "critical wildlife habitat" refers to those areas that provide habitat to species or suites of species of special importance. These areas include: 1) large tracts of forest with few, if any, roads or house sites – i.e., forest interior habitat; 2) large tracts of open fields; 3) early succession or transition shrub/forest areas; 4) wetlands and riparian areas (i.e., stream areas); 5) unique habitat related to rare, threatened, or endangered species.

As Underhill experiences increased development pressures, providing for the integration of continued growth and open space areas for habitat will be necessary if the Town is to maintain its wildlife diversity. Minimizing forest fragmentation by road building and development will be important if the rich diversity of these areas is to be maintained. Surface waters, wetlands and floodplains provide some of the richest habitat opportunities in Underhill. Some, such as the Creek wetlands (Route 15) have been identified as regionally significant natural areas. Wetland and riparian areas throughout Underhill are important both locally and for adjoining towns as corridors for wildlife movement.

2015 Underhill Town Plan-Approved 6/23/2015

These areas also merit protection for other reasons such as open space, water quality protection and recreation. A thorough look at the patterns of development, the potential impacts and the possibilities for preserving the multiple values of these areas will benefit wildlife habitat as well.

In 2011 the Underhill Conservation Commission completed work on a collaborative project with the towns of Jericho and Richmond, to identify and analyze regional connectivity and priority large habitat blocks in the Jericho, Underhill, and Richmond areas. A GIS database and annotated map of “priority large habitat blocks” and “connectivity areas” were produced as a result of the project. The “priority large habitat blocks” and “connectivity areas” should be continuously reviewed to further the objectives of the project.

Policy: Protect important natural areas; rare, threatened and endangered species; critical wildlife habitat; and overall biodiversity.

Strategies:

1. Widely distribute the results of the Regional Connectivity and Priority Large Habitat Blocks project completed in 2011 and encourage community members to continue to collect data that would enrich the current analysis.
2. Develop a “Significant Wildlife Habitat” map. This map would bring together known natural resources into a single product.
3. Develop a town-wide Natural Communities Map for a finer level view of the Town’s natural resources.
4. Encourage protection of areas to support continued preservation of critical wildlife habitat and hunting through mechanisms like landowner covenants, conservation easements, etc.
5. When reviewing new development, encourage the preservation of blocks of forest.
6. The Vermont Fish and Wildlife “Heritage Database” contains information about rare, threatened and endangered plant and animal species in Vermont. The Town’s development regulations should reference the “Heritage Database” and should be referenced in any development request.

Policy: Provide connectivity among natural areas and critical wildlife habitat.

Strategies:

1. Identify connections through the completion of Regional Connectivity and Priority Large Habitat Blocks project and the development of “Significant Wildlife Habitat” and “Natural Communities” maps.
2. When reviewing new development, encourage preserving areas separate from housing sites to provide connectivity between forest blocks, riparian corridors, and wetlands.

Section 1.7 Sensitive Natural Areas

Natural Areas

Natural areas are areas of land or water that retain their natural character and contain unusual or significant flora, fauna, geological or similar features. These areas are the best examples of the various biological communities that presently or historically existed in town. The Vermont Natural Heritage Program identifies natural areas that are of statewide or regional significance. Underhill contains portions of the Mount Mansfield Natural area which encompasses the largest alpine tundra in Vermont as well as sub-alpine areas and alpine bogs. It contains some of the rarest and most fragile plants in Vermont.

Natural areas contain some of the most significant and irreplaceable natural resources of a town. These areas are particularly vulnerable to the impacts of development or misuse. Ideally, these areas should be large enough to act as biological refuges where human disturbance is kept to a minimum and should represent the diversity of the Town's natural features. Planning for natural area protection, while accommodating landowners' needs, will be one of the main issues in planning for the protection of the Town's natural resources. At a minimum, the Conservation Commission should review development proposals that may impact areas known for rare, threatened, or endangered species and provide recommended measures to reduce impacts.

Aesthetic Considerations

Scenic Areas



The scenic resources of Underhill are numerous and varied - including dramatic mountain vistas, steep wooded hillsides, streams and rivers, open fields, large expanses of wetlands, and beautiful valleys. Together these elements form a pattern that we see every day and have come to associate with Underhill's character. These areas also form the impression others have of Underhill and affect the way the Town is seen as a place to visit, work and live.

Generally, changes to the scenic character of a town happen incrementally. Although each change is small in itself, the cumulative impact over time is large. An essential first step in protecting Underhill's scenic qualities is to identify those areas that are integral to the scenic landscape. Views from points along roads and highways, from public recreation areas and trails, from watercourses, and from other areas where public access is available are important considerations when developing a plan to preserve scenic resources in Underhill. An inventory should consider topographic variety, diversity of the landscape features and the length of the view as criteria in assessing priority scenic areas. At minimum the Town should seek to maintain the town roads and roadsides in a manner that is aesthetically pleasing.

Hills and Ridgelines

A ridgeline is defined as a line marking or following a ridge, top of a hill or ledged area, behind which is open space or horizon. Ridgeline development creates highly visible structures that become prominent features on the landscape, detracting from the natural beauty and nature of Vermont and rural Underhill. If the development is visible from a large area, it intrudes upon the rural contours and disrupts the natural environment. Current Town policy protects all land in Underhill above the 1500 feet elevation mark from new development.

The eastern portion of town, with its higher elevations, contains the most visible of Underhill's ridgelines. Although topography is not as dramatic on the western side of Underhill, the hillsides are visually important because of their contrast to the surrounding landscape. Improperly planned development could threaten the environment of hills and ridgelines. Wind energy and telecommunication towers, while supported elsewhere in this Plan, require special attention if they impinge on hillsides and ridgelines.

Policy: Protect ridgelines and hillsides from improperly planned development.

Strategies:

1. Develop strategies, including proposed development review standards in zoning and subdivision regulations, to protect ridgelines and hillsides where necessary.
2. Continue to support the current regulation prohibiting development above 1500’.
3. Hold public forums to gather feedback regarding whether the community desires alternative energy structures on hillsides and ridgelines, including those above the 1500’ elevation level.

Section 1.8 Geological Resources

Geological resources consist of raw materials such as gravel, sand and stone. These materials are essential for our roads, schools, and other town infrastructure, so it is important that local sources be identified and made available for extraction when appropriate. However, extraction can pose challenges due to pollution and environmental impact issues, so all the goals of this Plan must be considered before extraction is permitted. Nonetheless an owner’s right to develop the land, all other permit requirements satisfied, must not be denied for an unreasonable length of time.

Policy: Ensure that known areas of quality sand, gravel and stone are clearly identified.

Strategies:

1. Inventory sand, gravel and stone deposits, and to the extent readily possible, evaluate quantity and quality.
2. Assure that relevant property owners are aware of these resources and encourage them to work with Town officials to determine the best use of the property in accordance with the Town Plan and regulations.
3. Review zoning regulations to ensure appropriate and well planned extraction of these resources is possible in appropriate areas.

Section 1.9 Invasive Species

People have been moving plants, intentionally or accidentally, from one habitat to another over the course of human history. In most cases, introduced or exotic species are not a threat to new habitats. If the new plants have natural predators in the new habitat they do not significantly change the balance of the ecosystem. On the other hand invasive species are plants or animals that lack predators in their new habitat and have an aggressive growth pattern. When the ecosystem cannot keep a plant’s population within a manageable range, the balance of that ecosystem is tipped, causing the rest of the native species to suffer, decline or become extinct.

Non-native invasive species can significantly disrupt and alter long established habitats. Without predators or plant competition the non-native invasive species reproduce at aggressive rates, out-competing native plants for sunlight, nutrients and space and out-competing native animals or fish for food. As the native populations decrease or become extinct the genetic pool within the ecosystem is reduced. Wildlife populations within the ecosystem can find themselves without an adequate food source. Smaller animals that depend on plants for food will decline in numbers. The larger animals that depend on the smaller animals for food are then without an adequate food supply and so on up the food chain. Additionally, a diverse selection of native plants and

animals keep an ecosystem more resistant to weather disasters and climate change as there is a wider genetic pool of plants and animals to adapt to changing conditions.

The Conservation Commission should take the lead in educating residents about invasive species and eradication methods. This should also include educating the Town road crew on ways to reduce the spread of roadside invasive plants and best management practices for road-side mowing.

Section 1.10 Air Quality

Air pollution can cause a number of serious illnesses such as chronic bronchitis, asthma, emphysema, cancer or damage to the kidneys, liver and central nervous system. There are a number of significant sources of air pollution in Vermont, the largest being the automobile. Each year motor vehicles in Vermont emit toxic and carcinogenic compounds into the air. Various steps have been taken over the last several decades to lower the emissions from automobiles nationwide.

Another source of air pollution once common in Vermont is trash burning. As air pollution has become better understood, fewer and fewer people are burning trash. Unfortunately, some still believe burning trash is a viable alternative to paying for land filling. Household burn barrels produce low temperature fires which release many toxic chemicals close to the ground.

The US Environmental Protection Agency has required each state to measure its ambient air for six “criteria” pollutants since 1970. Ambient air refers to air that is not directly at the source of pollution, but the air we breathe in neighborhoods, on farms and in the marketplace. These six pollutants are particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone and lead. These pollutants are by no means the only harmful ones. In fact the Vermont Air Pollution Control Division monitors the ambient air for several hundred pollutants, but the six “criteria” pollutants are considered the most common.

With energy costs increasing, many people are returning to heating their homes with wood. While wood is a cost effective, renewable resource, older wood stoves may actually emit more pollutants, particularly particulate matter, than the sources they replace. Since 1988, the US Environmental Protection Agency has required all new stoves to be equipped with catalytic converters or other technologies which reduce air pollution emissions by 50% to 60%. Newer woodstoves are also more efficient, requiring a third less wood to produce the same amount of heat.

Outdoor wood fired boilers have also been a controversial heating technology. In response to complaints about outdoor wood boilers in the early 1990s, the Vermont Agency of Natural Resources adopted regulations (Section 5-204) that apply to outdoor wood fired boilers installed after October 1, 1997. These regulations established set-back and stack height requirements for outdoor wood fired boiler installations but did not set an emission standard that would reduce the air pollution emissions from these units. Since complaints continued and outdoor wood fired boilers have become increasingly popular, causing greater impacts on Vermont's air quality, the Agency of Natural Resources adopted amendments to the original regulation that established first a "Phase I" and then a "Phase II" particulate emissions standard for outdoor wood fired boilers sold in Vermont. The current regulations also apply to outdoor pellet-fired boilers. The Phase II particulate standard, effective on March, 31, 2010, promotes the sale and installation of much more efficient and cleaner wood burning technologies in Vermont.

The Energy Committee should take the lead in investigating ways that the Town and citizens can work together to reduce air quality impacts while reducing energy consumption and switching to cleaner, more efficient technologies. *See* Energy Chapter.

Policy: Reduce air pollution.

Strategies:

1. Educate the community on air quality issues and ways they can reduce air pollution with brochures, links on Town website, and educational forums.
2. Consider proposing regulations on outdoor wood burning stoves in certain zoning districts.

Section 1.11 Climate Change

Climate is the average, characteristic weather conditions of an area over time. Weather patterns are an important planning and design consideration because of their effect on such things as soil erosion, plant growth, air quality, storm water runoff and flooding, groundwater supplies, road maintenance, energy demand for cooling and heating, access to alternative energy sources and the viability of weather-dependent recreation. Climate change may also have profound impacts on wildlife corridors creating a need to anticipate the shift in these corridors and how that might impact conservation and development.

Vermont's northern climate is dominated in winter months by cold, dry Canadian air and in summer by warm moist air from the Gulf of Mexico. Weather patterns vary locally with topography and relief.

Much attention has recently been given to global climate change. The vast majority of scientists studying the earth's evolving climate agree that average temperatures are rising, which raises a host of considerations regarding the fate of the planet and humankind. Underhill should anticipate that a changing climate may bring dramatic social, economic, and environmental change to the area.

Some climate models predict that average temperatures in Vermont could significantly increase over the next several decades. Minor increases in average temperatures could lead to significant environmental and economic impacts such as increased storm events and stormwater runoff, loss of hardwood forests and sugar maples, decreased water quality, shorter ski and fall foliage seasons, among many others.

By taking measures to protect natural resources in Underhill, and reducing our impacts on air, water, soil and plant resources, and reducing our carbon footprint, the Town and its residents can help avoid drastic climate change. See Section 9.3 for detailed discussion on greenhouse emissions.

CHAPTER 2: HISTORIC AND CULTURAL RESOURCES

Section 2.1: Overview

Underhill has an abundance of historically and culturally significant buildings and sites. These resources provide a physical link to Underhill's past. The preservation of the Town's historic and cultural resources promotes a sense of identity and is an important part of keeping Underhill a desirable place to live and visit. The Underhill Historical Society, a 501(C)(3), serves as the Town's central source of information for those who are interested in local history.

Section 2.2: Historic Villages



Underhill Flats and Underhill Center have long been the centers of commerce, culture and community for the town. The Riverside/Underhill Flats Village was listed as a designated historic Village Center in 2010. The Village Center program recognizes and encourages efforts to revitalize and preserve Vermont's traditional historic villages. The program also provides financial incentives for commercial rehabilitation projects, as well as gives the Town a higher priority consideration for state grants and other resources. The preservation and revitalization of the Town's village centers aligns with a variety of

community goals including the preservation of a sense of place, providing a high quality of life for town residents, and ensuring that future growth is centered in areas that have existing services and infrastructure. See Map 4- Designated Village Center.

GOAL: *Ensure the protection of the Town's historic and cultural resources, villages, and scenic rural landscapes.*

Policy: **Protect and preserve the important historic and cultural resources in Underhill.**

Strategies:

1. Encourage and promote the preservation and rehabilitation of historic public and private buildings.
2. Work with the Vermont Division of Historic Preservation to update the Town's inventory of historic resources and raise awareness of Underhill's historic structures.
3. Support efforts to document the historic and cultural history of Underhill.
4. Support the efforts of the Underhill Historical Society.
5. Continue to explore opportunities to adaptively reuse the historic District 5 School House and other historic buildings.

2015 Underhill Town Plan-Approved 6/23/2015

6. Continue the rehabilitation of the Town Hall.
7. Establish a review process for projects that would result in significant alteration to or removal of historic structures.
8. Place eligible historic buildings and sites owned by the Town on the State and National Register of Historic Places.

Policy: Promote the importance of the Town's heritage and historic villages.

Strategies:

1. Maintain the historic character of Underhill Flats and Underhill Center.
2. Continue to work with local and state organizations to promote the importance of maintaining the historic nature of Underhill and preserving and protecting its traditional village centers.
3. Promote the financial incentives available to property owners within the designated Riverside/Underhill Flats Village.
4. With community support, apply for designation renewal of the Riverside/Underhill Flats village center and village center designation for Underhill Center.
5. Consider the effect of land use and development on historic resources and historic village centers.

CHAPTER 3: LAND USE



The goal of land use planning in Underhill is to create a unified development plan for the Town that preserves its rural character by encouraging denser, compact development and economic opportunities in traditional village center areas, while discouraging strip development along highways, and preserving larger tracts of land outside the village centers for

agricultural, forest, recreational, wildlife habitat, and appropriate commercial and clustered residential uses. Encouraging this type of development will avoid sprawl, maintain our rural heritage and quality of life, and make Underhill a more sustainable community.

Section 3.1 Land Use

In Underhill, there are three general categories of land use: traditional village centers, residential lands, and open/agricultural lands.

2015 Underhill Town Plan-Approved 6/23/2015

1. **Traditional Village Centers:** Underhill has two traditional village centers, Underhill Center and the Underhill Flats area. These areas are characterized by relatively dense, mixed use development.
2. **Residential Lands:** These areas are characterized by private housing, primarily single-family homes, some with an accessory dwelling. Current zoning regulations permit single family and two family dwellings in all zoning districts. Multifamily dwellings are allowed as a conditional use in all zoning districts except Soil & Water Conservation. Commercial operations exist in all zoning districts because of allowed conditional uses.
3. **Open/Agricultural Lands:** Mount Mansfield, Vermont's highest peak, lies within the boundaries of the Town of Underhill, and the Town's open space includes state forest lands. In addition, new structures above the 1500' elevation level are prohibited, leaving open ridge lines in all areas of town.

Underhill contains several areas known for agricultural operations. These agricultural operations serve to preserve open space, most notably along the Browns River corridor, which has a substantial floodplain. Other areas of Town are used for maple sugaring, logging, and animal husbandry. Casey's Hill, a popular winter sledding hill in Underhill Center, is conserved land, as is Mills Riverside Park.

- a. **Town Land Contracts:** 5,213 acres¹ in Underhill are enrolled in a program that offers landowners tax reductions when they agree not to subdivide their land. Presently, under the Town contract, the landowner must have a minimum of 10 acres and agree not to subdivide the land for 10 years. In return, the town taxes the landowner at 50% of the regular rate on land above the 10-acre required minimum. Underhill taxpayers pay the difference between this lower tax and the tax at full listed value. When withdrawing from the program before the 10-year term, the landowner must pay the taxes saved over the preceding five years plus a penalty.
- b. **State Current Use Contracts:** 7,961 acres² in Underhill are under a state current use contract. Under this program, the state taxes farm and forestry land according to its "actual use value" rather than its potential development value. The value is determined by the State Advisory Board. Farm buildings are valued at 30% of fair market value. State contracts require a minimum of 25 acres and a land management program. Unlike the Town contract which has a term of 10 years, the state current use contract does not have a term; the land is enrolled indefinitely. Landowners who wish to withdraw a parcel must file a Notice of Development or Discontinuance form and pay the land use change tax. The landowner pays municipal taxes on the actual use value, and the state reimburses the Town for the difference between this lower tax and the tax at full listed value.

Section 3.2 Land Use Planning in Underhill

Since 1973 Underhill has had the following zoning districts:

1. **Underhill Flats Village Center District:** 1 acre minimum lot size;
2. **Rural Residential:** 3 acre minimum lot size;
3. **Water Conservation District:** 5 acre minimum lot size;
4. **Mt. Mansfield Scenic Preservation District:** 10 acre minimum lot size;
5. **Soil and Water Conservation District:** 15 acre minimum lot size.

¹ Total number of acres enrolled in Underhill Town Land Contracts as of 2014.

² Total number of acres in Underhill enrolled in State Current Use Contracts as of 2014.

2015 Underhill Town Plan-Approved 6/23/2015

The zoning districts were originally established based on soil types, geologic considerations (such as gravel aquifers and recharge areas), and land use. As a result, three acre zoning exists throughout the town, with 15 acre zoning (Soil and Water Conservation District) located in pockets along the west side of town, all down the spine of the geographic center of town, and on the east side of town, which encompasses Mount Mansfield and portions of the Mount Mansfield State Forest. Ten acre zoning extends along Pleasant Valley Road on the eastern side of town and is the one district that is not based on soils, but on aesthetic considerations. The Underhill Flats Village Center District encompasses the Underhill Flats area of town and is one acre zoning; however the traditional village center in Underhill Center is within a five acre district.

Though the zoning districts are well established, the boundaries between districts are frequently unclear. One of the goals of the Planning Commission should be to work towards aligning district boundaries with property lines, and where appropriate follow natural features. The Planning Commission should also consider:

- Clarifying the objectives of the different zoning districts;
- Reexamining and redefining permitted and conditional uses that are allowed in each zoning district so that uses comply with the purpose of each district; and
- Where appropriate, propose amendments to the current zoning district map so that traditional and future development is accommodated in accord with allowed uses and reflects updated information about soil characteristics.

A benefit of taking this approach is that the Town's regulations should become more enforceable with clear objectives and uses, thus giving residents better notice of what they may do within any given zoning district.

Although the Town has well established zoning districts, the Unified Land Use and Development Regulations also allow Planned Residential Developments (PRDs) and Planned Unit Developments (PUDs) in order to encourage creative and flexible site design that is sensitive to natural features and topography. The purpose of PUDs and PRDs is to promote efficient and economic use of land, resources, facilities, utilities, and services, as well as to encourage cluster development that avoids fragmentation of natural resources.

GOAL: Underhill's land use regulations should be user-friendly, enforceable, compliant with state law, and consistent with other town ordinances and regulations.

Policy: Continue to develop the Unified By-law so that it supports the policies of this Plan.

Strategies:

1. Work to revise the Unified By-law as necessary.
2. When revisions are needed, hold a series of public forums and hearings and publish articles in the local newspaper explaining the proposed changes.
3. Develop village center regulations for Underhill Flats and Underhill Center.
4. Host community visioning sessions and other outreach strategies to determine if revisions are necessary.
5. Pursue all available grant opportunities to achieve the goals of the Town Plan and Unified By-law.

GOAL: Continue to use the open space land/farmland/forest land contracts to preserve undeveloped, productive space.

Policy: Town open space land/farmland/forest land contracts should be compliant with state law.

Strategies:

1. Make recommendations to the Selectboard as to any changes to the contract so that the goals of this Plan are implemented.
2. Working with legal counsel, the Town will amend the current town contract, if deemed necessary, to assure compliance with state law.

Section 3.3 Underhill Flats Village Center Zoning District

The purpose of the Underhill Flats Village Center zoning district (formerly Residential District) is to allow for the continuation of existing small scale commercial, residential, and public uses, and to encourage development that is compatible with and promotes a compact, historic village settlement pattern. The purpose of this district was redefined in 2011 in accordance with the 2010 Town Plan. This district encompasses the traditional village center of Underhill Flats.

The minimum lot size in this district is one acre. However, this is not necessarily reflective of the current lot size. Many lots are smaller than one acre, as their creation preceded local zoning. Since the district was last defined, the service area of the Jericho-Underhill Water District has expanded beyond the mapped boundaries, extending into the Rural Residential zoning district.

The Underhill Flats area of town was officially designated a village center in 2010 by the VT Department of Housing and Community Affairs (now the Agency of Commerce & Community Development). This historic village serves as the location for community interaction and brings a strong sense of place to Underhill residents. Underhill Flats is also home to the annual community Harvest Market festival, held each September to celebrate the town's heritage. The designated village center reinforces the Town's commitment to preserving quality of life and community character, and supports the Town's goals of concentrating growth in established village centers, maintaining historic settlement patterns, and community revitalization. The primary purpose of the designated village program is to provide support for historic downtowns and villages by providing funding, training, and resources to communities. The Town recognizes the benefit of continued participation in the program and with community support will continue to renew the designation.

The designated village center straddles the Jericho/Underhill town line and is recognized as an important village center by each town. The designated village contains a core of buildings and properties located on Route 15, Park Street, and River Road, including the Underhill Post Office, Deborah Rawson Memorial Library, Underhill I.D. Elementary School and Browns River Middle School, several churches, Jacobs Family Market, numerous other small businesses, rental properties, and private residences. Properties within the designated village center are eligible for a variety of financial incentives including tax credits for historic rehabilitation projects and façade improvements, as well as code improvement projects.



Available Services:

The Jericho-Underhill Water District, a private entity, provides drinking water to most of the district. Vermont Gas Systems, Inc. supplies natural gas to the district by a network of underground transmission and distribution lines. Fairpoint Communications has a central office on Park Street. Comcast, Fairpoint, Direct TV and Dish Network are available in this district for internet services. Cellular telephone coverage can be patchy. There is currently no community wastewater system in the Underhill Flats area.

Abutting Community:

The Jericho town border lies on the southern side of Park Street. There have long been discussions about the potential of a joint development project, with the two towns working together to create a unified development plan for this area, a concept the Planning Commission supports.

GOAL: *The Underhill Flats Village Center Zoning District regulations should reflect traditional development patterns, uses, and lot sizes that maintain the historic settlement pattern of the compact village center and encourage future development within the village center.*

Policy: Amend the zoning district regulations so they accurately reflect the traditional development pattern and lot sizes and encourage denser development should the community so desire.

Strategies:

1. Coordinate with Jericho Planning Commission to develop a mixed-use village center that reflects the policies and goals of both towns and village residents.
2. Hold public forums to determine if the community is in favor of expanding the boundaries of the UFVCD.
3. Hold public forums to determine if the community is in favor of changing lot size requirements to encourage mixed use development, in-fill, greater densities and reduced dimensional requirements.
4. Hold public forums to re-examine the types of permitted and conditional uses in this zoning district to determine if these uses should change.



5. After public forums, the Planning Commission should, if deemed necessary, amend the land use and development regulations to allow for the new requirements of the district and recommend adoption of the amendments to the Selectboard.

2015 Underhill Town Plan-Approved 6/23/2015

6. Consider the application of form-based coding to the Underhill Flats Village Center District.
7. Consider public investments, including the construction or expansion of infrastructure to reinforce the general character and planned growth patterns of the area.

Section 3.4 Rural Residential Zoning District

The purpose of the Rural Residential District is to accommodate medium density development. The objectives of this district were redefined in 2011 in accordance with the 2010 Town Plan. The zoning district includes two of Underhill's longest stretches of road: Poker Hill Road on the Underhill Flats side of town, and Irish Settlement Road, on the Underhill Center side of town. Over time, these roads which traditionally served the farm community have developed into residential areas.

The Rural Residential District allows for the continuation of existing commercial, residential, and public uses, particularly along Route 15, Poker Hill Road and Irish Settlement Road, that are compatible with these historic uses. The minimum lot size for this zoning district is three acres. Permitted residential development in this area is limited to single-family and two-family dwellings, an accessory dwelling, and camps. Multifamily dwellings (3+ units) are allowed in this district as a conditional use.

Additional conditional uses in this area include: agribusiness, campground, cemetery, community center, contractor's yard, cultural facility, daycare facility, extraction and quarrying, funeral home, garden center, health clinic, inn, kennel, mobile home park, nature center, office, outdoor market, personal service, public facility, recreation-indoor, recreation-outdoor, residential care facility, restaurants, retail store, public and private schools, snack bars, telecommunication facility, transit facility, and veterinary clinic. Many of these categories of use can be interpreted to cover a wide variety of activities.

Since there has never been a defined commercial area within town, there is a broad range of commercial uses allowed in this residential zoning district. As a result, the range of conditional uses has resulted in some conflict. The community should take a close look at the purpose definition for this district, re-examine permitted and conditional uses, and consider whether or not to continue to allow this mix of commercial and residential use throughout the district. The Planning Commission should explore the use of overlay districts within the district, which would allow for certain commercial uses within the zoning district, while preserving the rest of the district for strictly residential use. Or, investigate creating new smaller districts altogether out of this large district to accommodate certain uses in designated areas.

Available Services: Depending on the provider, cellular telephone service is patchy within this zoning district. High speed internet coverage is available throughout the zoning district. Some residents located near Underhill Flats have had service from the Water District extended to them. VT Gas Systems also expanded service to some residents in the Underhill Flats area.

Abutting Community: This zoning district borders with Westford to the west and Cambridge to the north.

GOAL: Land uses allowed within a zoning district should conform to the defined purpose of the zoning district and be approved by the community.

Policy: Determine the type of land use that will be allowed in this district and where those uses shall be allowed.

Strategies:

1. Gather information from citizens regarding what kind of uses should be allowed in this zoning district. Part of that discussion may be a proposal to create either smaller districts or overlay districts within the current district to direct certain types of development to designated areas.
2. Examine and revise, if necessary, the current regulations, giving more precise definitions of permitted and conditional uses allowed in this district(s).
3. If deemed necessary by new information, the Planning Commission should propose changes to the zoning map to reflect new district configurations.
4. Examine and revise, if necessary, dimensional requirements to reflect different uses in the district(s). The Planning Commission should hold public forums and hearings to obtain community feedback on any proposed amendments.

Section 3.5 Water Conservation Zoning District



The purpose of the Water Conservation District is “to protect the important gravel aquifer recharge area in Underhill Center.” This district encompasses the traditional village of Underhill Center. The minimum lot size within this zoning district is five acres; however this is not reflective of the current lot size, particularly in the village center, as many of the lots were created prior to adopting local zoning. Landowners of small non-conforming lots within the village center are often forced into variance hearings when they cannot meet the required minimum setbacks. This can add permitting time and expense for property owners.

One remedy to this problem is to investigate creating a village center overlay district within the Water Conservation District that would allow for compact development, smaller lot sizes and setbacks. The requirements of the overlay district would encourage development in the traditional village center, while preserving the underlying goal of the zoning district, to protect the gravel aquifer recharge area. There also may be procedural remedies that could be established as an alternative to variance hearings.

Currently, there is mixed use development along River Road/Pleasant Valley Road in Underhill Center. Other development in this zoning district includes: markets, a post office, agricultural operations, a variety of home-based occupations, a place of worship, a municipal recreation area including tennis courts, volleyball areas, the town pond, a school, and municipal offices and facilities. The area has some development limitations due to the presence of floodplain areas, streams, and high water table.

Permitted residential development in this area is limited to single-family and two-family dwellings, an accessory dwelling, and camps. As in the Rural Residential District, no other forms of residential structures are allowed as a permitted use. Multi-family dwellings are allowed in this district as a conditional use.

2015 Underhill Town Plan-Approved 6/23/2015

Additional conditional uses in this area include: agribusiness, campground, cemetery, community center, contractor's yard, cultural facility, daycare facility, extraction and quarrying, funeral home, garden center, health clinic, inn, kennel, nature center, office, outdoor market, personal service, public facility, recreation-indoor, recreation-outdoor, residential care facility, restaurant, retail store, public and private school, snack bar, telecommunication facility, transit facility, and veterinary clinic. Many of these broad categories of use can be interpreted to cover a wide variety of activities.

As with the Rural Residential District, conflict has arisen when residential uses conflict with a proposed non-residential use. However, unlike the Rural Residential District, this is not a designated residential district. The community should take a close look at the uses, both permitted and allowed as conditional, and discuss what the plan for this zoning district should be: primarily a residential area or an area that encourages the continuation of the "working landscape". Working landscapes balance a community's economic, ecological, and social needs.



Available Services:

Depending on the provider, cellular telephone service is patchy in this zoning district. There are no large community septic systems available, although soils may support this in certain areas. There are public water sources located at the Underhill Town Hall, Underhill Central School, Maple Leaf Farm, Beartown Water System, and the Water District Station on River Road.

Abutting Community:

The Jericho town border lies on the western side of Park Street.

GOAL: Land uses allowed within a zoning district should conform to the purpose of the zoning district and be approved by the community.

Policy: Permitted and conditional uses, lot size and setbacks for the Water Conservation District should be reviewed by the Planning Commission and amended based on feedback from the community.

Strategies:

1. Gather information from citizens regarding what kind of uses should be allowed and whether they should be allowed as permitted or conditional.
2. Propose amendment of the current regulations, giving more precise definitions of permitted and conditional uses allowed in this district(s).

3. Examine and revise, if necessary, dimensional requirements to reflect different uses in the district(s). The Planning Commission should hold public forums and hearings to obtain community feedback on any proposed amendments.

GOAL: *The purpose definition of the Water Conservation Zoning District should reflect both the traditional use within the zoning district and provide guidance for future development within the zoning district.*

Policy: The Water Conservation zoning district purpose definition should reflect the geologic reason for creation of the district, the traditional uses within the zoning district, and also provide guidance for future development within the zoning district.

Strategy:

1. Once the Planning Commission has determined what types of uses shall be allowed in the district and how the district(s) shall be configured, they should propose a new definition for the district(s).

GOAL: *Consider creating a village center overlay district or separate district in Underhill Center that reflects the traditional development pattern; has permitted and conditional uses and lot sizes that maintain the historic settlement pattern of the compact village center; and encourages future development within the village center.*

Policy: Assure that the zoning district regulations accurately reflect the traditional development pattern and lot sizes in Underhill Center.

Strategies:

1. Examine whether to propose an overlay district or a separate zoning district for the Underhill Center Village district.
2. Hold public community forums to determine where the boundaries of the Underhill Center overlay or separate district should be.
3. Hold public forums on proposals for reduced lot size and setbacks in the Village Center district so that mixed use development, in-fill, and greater densities are encouraged.
4. Hold public community forums on proposed types of permitted and conditional uses in this area.
5. Propose the following purpose definition: "To allow for the continuation of existing small-scale commercial, residential, and public uses and to encourage development that is compatible with and promotes a compact, historic village settlement pattern. This may include compact development as supported by existing and planned infrastructure, while being mindful of the important aquifer recharge area."
6. Develop regulations that give guidance to landowners as to how to protect the aquifer recharge area while allowing for increased density of the Village Center.
7. Encourage, through regulations, the development of community septic systems and innovative septic designs, as allowed by the state.

2015 Underhill Town Plan-Approved 6/23/2015

8. After public forums on the boundaries, uses, and dimensional lot requirements of the district, amend the land use and development regulations to allow for the new requirements of the district and recommend adoption of the amendments to the Selectboard.
9. If deemed advisable by new information, propose changes to the zoning map to reflect new district configurations.
10. Apply for Village Center designation for the Underhill Center District from the Vermont Agency of Commerce and Community Development. This designation provides various funding opportunities for building improvements to landowners within the district.
11. Consider the application of form-based coding for the Underhill Center Village Center.
12. Investigate possible procedural remedies as an alternative to variance hearings for non-conforming lots within the Underhill Center District.

Section 3.6 Mount Mansfield Scenic Preservation Zoning District



The purpose of the Scenic Preservation District is to protect the scenic vistas along Pleasant Valley Road. This is achieved by allowing low density development, or clustered development, that maintains the rural character of Underhill while protecting the views along Pleasant Valley Road. The purpose of this district was redefined in 2011 in accordance with the 2010 Town Plan. The minimum lot size for this zoning district is 10 acres.

The Scenic Preservation District contains some upland areas that do not support density and make access difficult. When updating the Unified Land Use and Development Regulations

in 2011, front-lot setback requirements were reduced in this district to lessen the creation of impermeable surfaces, and to accommodate low-impact development policies for stormwater management. Low-impact development utilizes methods to mimic the predevelopment site hydrology by using design techniques that store, infiltrate and reduce off-site run-off. Low-impact development should be encouraged. Another benefit of the larger lot size is that the lower density may aid in preserving animal habitat and migration corridors from the west to the green mountain forest system- *See* Natural Resources Chapter.

Permitted residential development in this area is limited to single-family and two-family dwellings, an accessory dwelling, and camps. Conditional uses in this district include: agribusiness, agritourism, alpine ski facility, daycare facility, multi-family dwelling, home industry, mixed-use, outdoor recreation club, garden center, health clinic, inn, nature center, natural resource extraction, Nordic ski facility, campground, kennel, outdoor market, restaurant, telecommunication facility, veterinary clinic, and cemetery.

2015 Underhill Town Plan-Approved 6/23/2015

Available Services:

Depending on the provider, cellular telephone service is patchy in this zoning district. There are no large community septic systems available, although soils may support this in certain areas.

Abutting Community: This zoning district shares a border with Cambridge.

GOAL: Land uses allowed within a zoning district should conform to the purpose of the zoning district and be approved by the community.

Policy: Permitted and conditional uses, lot size, and setbacks for the Scenic Preservation District should be reviewed by the Planning Commission and if deemed advisable, recommendations for changes made to the community in the course of regulatory amendment.

Strategies:

1. Review and propose amendments for permitted and conditional uses, lot dimensional and setback requirements, if deemed necessary, to comply with the new definition and this Plan.
2. Hold public forums and hearings to get community feedback on any proposed amendments.

Policy: Protect animal migration routes and habitat.

Strategies:

1. Consult with the Conservation Commission to learn about wildlife corridors and habitat and develop proposed regulation changes to achieve this goal.
2. Hold public forums to educate the public about animal migration.
3. Propose amendments to the regulations to promote protection of wildlife habitat and migration corridors and hold public forums to seek community approval of this goal.

Section 3.7 Soil and Water Conservation Zoning District

The purpose of the Soil and Water Conservation District is to protect Underhill's more remote and inaccessible forested upland areas from fragmentation, development, and undue environmental disturbance, while allowing for the continuation of traditional uses such as forestry, outdoor recreation, and compatible development. The minimum lot size is 15 acres. This district includes the steepest land in town and the soils are notably thin. This district also includes the 1500' elevation overlay district. New structures or changes in use of existing structures above 1500' are prohibited.

The zoning district is located in pockets, or "outliers", on the west side of town, all down the spine of the geographic center of town, and on the east side of town, which encompasses portions of Mt. Mansfield and the Mt. Mansfield State Forest. The pockets of Soil and Water Conservation District on the western side of town should be reviewed and eliminated, where appropriate, if found to no longer meet the purpose of the Soil and Water Conservation District.

Permitted residential development in this area is limited to single-family and two-family dwellings, accessory dwellings, and camps. Conditional uses in this area include: agribusiness, agritourism, alpine ski facility, primitive campground, natural resource extraction, home industry, kennel, mixed use, nature center, Nordic ski facility, outdoor recreation, telecommunication facility, and veterinary clinic.

Available Services:

Depending on the provider, cellular telephone service and high speed internet connections are patchy in this zoning district. There are no community water or septic systems within the district.

Abutting Community: This zoning district borders the towns of Cambridge and Stowe.

GOAL: *Lands designated within a zoning district should meet the purpose definition of the district.*

Policy: Determine if the outlier areas in the Soil and Water Conservation District meet the protection needs as stated in the purpose definition for the district. If not, the Planning Commission should determine the correct district.

Strategies:

1. Using the 2011 zoning district definition, determine if the outlier 15-acre zones on the zoning map achieve the purpose of the district.
2. Hold public meetings for community input when making this determination.
3. If the Planning Commission finds that the outlier areas do not meet the zoning district requirements, they should assign the outlier areas to the appropriate zoning district.
4. The zoning map should be amended to reflect any changes made.

GOAL: *Land uses allowed within a zoning district should conform with the purpose of the zoning district and be approved by the community.*

Policy: Permitted and conditional uses, lot size, stormwater management practices, and setbacks for the Soil & Water Conservation District should be reviewed by the community in the course of regulatory amendment.

Strategies:

1. Review permitted and conditional land uses, lot size, and setbacks for the district and amend if deemed necessary.
2. Hold public forums and hearings to get community feedback on any proposed amendments.

Section 3.8 Special Flood Hazard District

The “Underhill Flood Hazard Area Regulations” are incorporated into the Unified Land Use Development Regulations to meet the requirements for community participation in the National Flood Insurance Program (NFIP). The NFIP is a federal program administered through the state floodplain coordinator that provides insurance for structures located in a floodplain. *See* Natural Resources Chapter for more information on floodplains.



The Town currently has an overlay district called the Flood Hazard Overlay District which is based on the federal floodplain maps. As part of the federal program the Town is required to meet federal minimum standards in regard to: allowed structures/development in a floodplain and floodway; storage of materials in a floodplain/floodway; and procedures that the Town and floodplain residents must follow should residents want to further develop in a floodplain. The Town should review and if necessary update the floodplain regulations to assure compliance with federal program requirements. While the Town's regulations meet the minimum NFIP standard, they do allow new structures in the floodplain as a conditional use and this will limit the Town's

financial assistance from the State following a natural disaster. The State is making changes to the financial assistance (Emergency Relief and Assistance Fund – ERAF) for damages resulting from a major flood or other natural disaster. The change is intended to encourage municipalities to improve their community's resilience to future flood impacts, which will save taxpayer money over time. The standards that they have set go above and beyond the NFIP standards. Communities that meet the standards will receive an additional 12.5% state contribution to cover the damage; while communities that do not meet the standards will only receive a state contribution rate of 7.5%.

GOAL: *The Town's floodplain regulations should be compliant with federal requirements so compliance with the NFIP is assured and the regulations are enforceable.*

Policy: *The Town's floodplain regulations should be compliant with federal flood insurance program requirements.*

Strategy:

1. Consider amending the regulations to strengthen floodplain protection to improve resilience to future flood impacts, and to ensure the greatest percentage of public financial assistance from the State for natural disaster recovery.

Section 3.9 Fluvial Erosion Hazard Areas ("FEH")

The State of Vermont has taken the initiative in recent years in mapping and addressing “fluvial erosion hazards” (FEH), those areas that are especially vulnerable to stream erosion. While a FEH area may coincide on a map with a special flood hazard district the purpose for each program is distinctly different. One, the NFIP, is an insurance program that serves to protect structures and prevent loss of property. The Fluvial Erosion Hazard area is, by contrast, an environmental protection for a sensitive natural area. It is important when proposing regulations for these two areas to keep the distinct purpose of each planning area in mind: one is to assure compliance with a federally-regulated insurance program and one is to provide enhanced environmental protection for a sensitive natural resource area.

The Chittenden County Regional Planning Commission has produced a FEH map for the Town, encompassing research through 2012. The map includes Phase 1 (computer based, remote assessment) and Phase 2 (field studies) data. The Phase 2 studies were chosen based on a risk analysis assessment of the Phase 1 data. The data shows that in general the Town's 100 ft. water quality municipal setbacks meet or exceed the

FEH corridor on most of the Town's smaller streams and a good portion of the Browns River. However, the analysis shows that the FEH corridor of the Browns River immediately to the south of River Road exceeds both the municipal setback and the FEMA 100-year floodplain.

Part of the consideration in the Town adopting a fluvial erosion overlay districts is to determine what kind of uses should be allowed as permitted, conditional or prohibited outright. These could include: filling; dredging; new structures; parking areas; infrastructure; utilities; public investments; forestry; agriculture; passive recreation; functionally dependent facilities; limited improvements to existing structures and facilities; and state-recommended channel management activities within these areas.

The purposes of the Fluvial Erosion Hazard (FEH) Overlay District would be to:

- a. Protect mapped river and stream corridors that are highly subject to erosion due to naturally occurring stream channel migration, modification and adjustment;
- b. Limit new development as necessary within fluvial erosion hazard zones to protect public safety and welfare, and to minimize property damage and loss due to bank erosion and failure; and
- c. Allow rivers and streams to maintain or re-establish their natural equilibrium and flow, thereby avoiding the need for costly, and environmentally degrading, stream channelization and bank stabilization measures.

In considering whether to add a fluvial erosion hazard district as a layer of regulation and another overlay district, the Planning Commission should review the FEH map and determine which portions of the FEH areas are already protected by existing regulations. Much public education and outreach would be needed before this potential new district is incorporated into regulations. *See* Natural Resources Chapter.

GOAL: *A fluvial erosion hazard area should be considered if it provides a higher level of environmental protection than currently afforded by zoning setbacks from streambanks and/or the FEMA 100-year floodplain.*

Policy: Investigate and draft a Fluvial Erosion Hazard Overlay District that conserves and restores riparian corridors vital to natural resource communities and species.

Strategies:

1. Review the fluvial erosion hazard area map from the Chittenden County Regional Planning Commission. This map will allow the Planning Commission to see the extent of the hazard area and the extent of additional environmental protection it shall afford.
2. Consult with the Conservation Commission on the FEH.
3. Based on the map and using models from other towns, state agencies, or planning organizations, propose regulations for a fluvial erosion hazard area.
4. Hold informational meetings with the public, in particular affected landowners, to get their feedback on the proposed regulation/zoning overlay district.
5. Based on community feedback and scientific information, the Planning Commission may decide to add a fluvial erosion hazard area to town regulations.

CHAPTER 4: SERVICES

The quality of life in a rural Vermont community depends to some extent on the services offered to residents. Underhill, at present, offers its residents a variety of services. These services are discussed in detail, presenting the specific service, the Town's goals and policies regarding some of those services, and the strategy for achieving each goal.

Given current population trends and estimates, the following services appear to be adequate for current needs and are likely to remain so for the next five years. However, since unplanned growth could impact the adequacy of services and public facilities, the needs of the Town and town residents should be continually evaluated. The Planning Commission will endeavor in the course of village center planning to accommodate the development or continuation of appropriate services by proposing regulations that make it attractive for providers of such services to work in Underhill.

Section 4.1 Police, Emergency Services, Fire Protection

Police services in Underhill are provided by the Vermont State Police. In addition, the Town currently contracts with the Chittenden County Sheriff, who provides 5-6 hours per week of additional traffic control coverage. Essex Junction and Cambridge support ambulance services which are readily accessed and respond to 911 calls. The volunteer Underhill-Jericho Fire Department provides fire protection. There are two fire stations; one on Route 15 in Underhill Flats and the other on Browns Trace Road in Jericho Center. Where hydrants are not available, water must be transported by tanker trucks or pumped from local ponds and streams. The Fire Department has mutual assistance agreements with other Chittenden County municipalities and the Vermont Air National Guard.

Section 4.2 Water and Septic Systems

The Jericho-Underhill Water District is a separate municipal entity that serves the Underhill Flats population and maintains a network of fire hydrants. Privately managed water systems exist on Beartown Road in Underhill Center and on Timber Ridge Road off of Poker Hill Road. The Roaring Brook community operates a common water and septic system, the operations of which are reported to the State of Vermont and the Town of Underhill, respectively. All other water and septic systems are private.

Section 4.3 Solid Waste Disposal

The Town of Underhill is a part of the Chittenden Solid Waste District (CSWD), with drop-off centers at Richmond, Essex, Hinesburg, Milton, South Burlington and Williston. All but Hinesburg accept bulky items and construction debris. Hazardous waste is accepted at the Environmental Depot.³ CSWD also sends the Rover to each town in the service area once a year to pick up hazardous household waste. The Town of Underhill has a contract with a private hauler for curbside trash and garbage collection although residents are free to choose another hauler. The contract program requires a sticker for each bag of trash put out curbside. Stickers are sold at the local stores. Recycling is picked up at no charge if it accompanies a bag with a sticker. Recycling is mandatory.

³ Environmental Depot is located at 1011 Airport Parkway So. Burlington, VT. The Depot is open W, Th, and Fri from 8:00-2:00 PM and Sat 8:00-3:30 PM.

Section 4.4 Electricity and Natural Gas

Electricity is provided to residents of Underhill by Green Mountain Power Company and Vermont Electric Cooperative. While most homes in Underhill rely on propane or fuel oil delivered to the site, Vermont Gas has expanded natural gas service to the area. Natural gas is now available along Route 15 to Poker Hill Road, along much of Park Street and on some parts of the roads feeding into those areas, as well as a short distance along River Road near the border with Jericho.

Section 4.5 Post Office

There are two Post Offices in Underhill. One is in Underhill Center and the other in Underhill Flats. Both provide counter service and post boxes; the office in Underhill Flats provides rural mail delivery for the entire town.



Section 4.6 Library

The Deborah Rawson Library serves the Underhill-Jericho Library District. The Library’s computer network allows Underhill residents to borrow books from other libraries throughout the State of Vermont and navigate the online catalog. A “home-card” system also allows members to borrow books at eleven nearby libraries. Library users can access the internet through high-speed wireless available in the building. Services for the visually impaired and the disabled are available through the Special Services Unit of the Vermont Department of Libraries.

Section 4.7 Education

Underhill is served by two elementary (pre-Kindergarten through 4th grade) schools: the Underhill Central School, located on Irish Settlement Road, and the Underhill Incorporated District (I.D.) School, located in Jericho and serving students from both Underhill and Jericho. Students in both towns attend Browns River Middle School on River Road in Jericho for grades 5 through 8, and Mt. Mansfield Union High School on Browns Trace Road in Jericho for grades 9-12. As of July 1, 2015, all three schools will be part of the Mount Mansfield Unified Union School District, formed on December 18, 2014.

Enrollment at the Underhill Central School is beginning to increase after several years of decline. At its peak in the 1993-94 school year, 236 students were enrolled; by the mid-2000s enrollment had dipped to between 130 and 140 K-4 students. The May, 2014 enrollment total was 148 K-4 students, plus 18 in the pre-kindergarten program. The pre-kindergarten program is funded through special education monies and accepts children from the Jericho Elementary and Underhill I.D. districts as well as from Underhill Central. Places are given first to children with special needs, with any remaining places offered on a lottery basis. VT Act 166 of 2014 has various provisions for establishing pre-kindergarten programs in all school districts; the details of its implementation remain to be determined.

2015 Underhill Town Plan-Approved 6/23/2015

The Underhill I.D. School enrollment has declined from a peak of 171 students in 1995-96 to 96 students as of May, 2014 (Underhill I.D. has no pre-Kindergarten program). The possibility of closing the Underhill I.D. school and its students being sent to the elementary schools in the towns Underhill I.D. now serves has been discussed from time to time.



Browns River Middle School has also experienced declines during the past years. In the year 2001-02 Browns River Middle School enrolled 505 students; as of May, 2014, the school serves 418

students. Similarly, Mount Mansfield Union High School's largest enrollment figure of 1090 occurred in 2004-05. Enrollment as of May, 2014 is 848.

Students in the Mount Mansfield Union School District # 17 also have access to Vo-Tech Centers in Burlington and Essex Junction although the number attending in any year is small.

All schools are funded through the base statewide homestead tax, adjusted by the district Education Spending per Equalized Pupil and the Common Level of Appraisal to reflect housing market values. Each school district establishes its own budget. In spite of rigorous efforts by the local school boards to restrict spending, because of formulas established at the state level, property taxes have risen significantly faster than increases in school budgets and may well continue to do so if the method of funding schools is not changed.

Section 4.8 Childcare

For children under 5 years old, child care is a necessary option. At the time of the 2010 Census, 145 children in Underhill were under the age of 5. As noted above, Underhill Central School offers a pre-Kindergarten program. Three registered year-round child care facilities are located in Underhill, two have a combined capacity for 13 children, the third has provided no data. Poker Hill School offers a preschool program during the school year for children between 3 and 5 years of age, and offers extended care in the early morning and late afternoon hours. The Live Y'ers after school program, which provides children with recreation and other activities for an extended period of time at the end of the school day, is offered at Underhill Central School and Underhill I.D. for elementary school-aged children and at Browns River Middle School for middle school-aged children up to age 12. Summer programs offered by the Y's Guys Summer Camp are available for children between 5 and 13 years old. Several other facilities are available in surrounding towns, providing additional child care services for the families in Underhill. New home-based businesses and local child care facilities are encouraged in the Underhill zoning regulations. Financing such operations and training for caregivers could be through public or private sources.

Section 4.9 Telephone Services

All landline telephone service to Underhill residents is provided by Fairpoint Communications or (via cable) by Comcast. Satellite-based phone service is also available through DirectTV and the Dish Network. Verizon and AT&T provide cell phone service for Underhill. Given the topography of the town and that cell

2015 Underhill Town Plan-Approved 6/23/2015

coverage is essentially “line of sight”, some areas of the town remain “dead zones”. There are no pending applications to establish cell towers in the town and none are foreseen.

GOAL: Telephone service in Underhill, with special emphasis on cellular telephone service, shall be comparable to that in urban centers in Vermont.

Policy: All areas in Underhill will have access to cellular telephone service.

Strategies:

1. Monitor the provision of cell phone service availability in Underhill.
2. Provide links on the Town web site to cell service providers so that residents can check on whether a provider serves their area.

Section 4.10 High-speed Internet Service

All of Underhill currently has fixed broadband internet access at a rate of at least 768kbps download and 200kbps upload and all but two very small pockets on the Underhill/Cambridge line have mobile wireless broadband access at the same speed or greater.

GOAL: High-speed internet access is a necessity that shall be provided in Underhill.

Policy: High-speed internet access should be available to all residents in Underhill.

Strategy:

1. Continue to monitor internet access to help ensure continued coverage.

Section 4.11 Emergency Operations Planning

Underhill has developed a Local Emergency Operations Plan with input from the Chittenden County Regional Planning Commission. The plan is designed to describe the Town’s emergency disaster response support and recovery process and serve as a guideline for comprehensive emergency management. The plan is a reference of emergency disaster information and includes the necessary data to handle the types of emergency situations that could confront the Town.

GOAL: Underhill shall have a Local Emergency Operations Plan (LEOP) for use in an emergency or incident in accord with state and federal regulations.

Policy: To update and maintain a functional plan that guides the Town’s response in an emergency.

Strategies:

1. Continue to meet with an EOP team consisting of the Selectboard members, Town Administrator, Town Clerk, Essex Rescue, UJFD, State Police, CCRPC representatives, and other stakeholders.
2. Maintain an EOP that best suits the Town’s capacity and needs in addition to updating the state-sponsored Basic Emergency Operations Plan (BEOP) and submitting to the RPC for inclusion in the state database.

3. Conduct one or more tabletop exercises to identify areas of improvement, additional hazards, and to outline response and mitigation strategies.
4. Develop an ICS 205 Form for radio communications.

Policy: To inform the community of local emergency response developments, strategies, and resources.

Strategy:

1. Utilize mailings, the Town website, and other resources to inform the community of meetings and/or documents available related to the Local Emergency Operations Plan.

Policy: To train local volunteers and officials in required emergency response roles and responsibilities.

Strategies:

1. Establish a volunteer Underhill Community Emergency Response Team that has gone through CERT training.
2. Have local officials and volunteers participate in trainings as provided/required by the federal and state government.
3. Participate in other training opportunities as offered by the UJFD and Essex Rescue.
4. Participate in monthly Local Emergency Planning Committee (LEPC) meetings.

Policy: Identify citizens in the community that may need assistance during an emergency event.

Strategies:

1. Encourage appropriate private and public organizations to perform outreach activities to help identify vulnerable populations. Vulnerable individuals should self-elect to participate and should identify the accommodations needed during an emergency, i.e. heat, transportation, special health concerns, etc.
2. Coordinate with appropriate organizations to develop a network of volunteers who will perform safety checks on those individuals identified as vulnerable during an emergency.

CHAPTER 5: INFRASTRUCTURE

Community buildings and services are an integral part of the fabric of a small town. The Town's buildings provide community space for town government, cultural opportunities, educational opportunities, and recreation. As used in this Plan, "public infrastructure" includes, but is not necessarily limited to, all land, buildings, roads, road equipment and supplies, water and septic capacity, energy networks, and communication networks owned by the Town.

In planning for the future, the Town should be aware of potential population growth, as well as changing needs and priorities of its residents, but should also think in terms of developing only the public infrastructure appropriate to the requirements and budget of a rural town. Future infrastructure projects should be directed to the village centers and in areas that have existing improvements. Given current town needs, focus has been on maintaining existing infrastructure rather than expansion.

Section 5.1 Public Assets



The town owns multiple public buildings including the Town Hall, Underhill Center Post Office, Town Garage and outbuildings, and Old Schoolhouse No. 5. All of the administrative functions of town government are housed in the Town Hall on Pleasant Valley Road. The Town Garage, located on New Road, is the primary transportation facility and houses the Highway Department vehicles and equipment.

The town owns a total of approximately 132 acres of land, including Casey's Hill, the recreation area on Stevensville Road, Moore Park, Underhill Center Park, Veterans' Park in Underhill Flats, land on New Road, old gravel pit on Beartown Road, and Sand Hill Cemetery.

GOAL: *Town buildings should be well maintained and provide a safe and efficient environment for town employees.*

Policy: *Implement the above policy without undue tax burden.*

Strategies:

1. Establish a regular maintenance program in accordance with Capital Improvement Program policy.
2. Carry out energy audits and follow recommendations made when economically feasible.

GOAL: *To maintain town-owned land and natural resources in a manner that is compliant with state and local environmental rules and regulations while maximizing the Town-approved uses of these areas.*

Policy: *Maintain town land in a manner that protects the health, safety, and public welfare of users. Town land should be utilized for approved town uses and the Town should encourage maximum use through its maintenance of the lands.*

Strategies:

1. Plan and budget for the rehabilitation of the former gravel pit on Beartown Road to reduce safety hazards and erosion. Once rehabilitated, the Selectboard should hold a public hearing on what the Town can and should do with this land.
2. Establish a Garden Committee to maintain all Town park gardens and develop new ones.
3. Seek donations of time and materials to make Town lands more attractive.

4. Investigate potential recreation opportunities for Town lands. *See* Recreation Chapter 9.

Roads

Providing and maintaining a transportation system that can accommodate residents and visitors is one of the Town’s most important public functions. There are over 76 miles of private and public roads in Underhill, of which the town provides year round maintenance for approximately 68%. See Map 6 for the location of town roads and highway infrastructure.

Approximately two thirds of Underhill’s public roads are gravel. Further road-related information is found in the table below.

Class of Road	Miles
State Highway	4.944
Class 2	8.75
Class 3	43.42
Class 4	6.41
Legal Trail	0.55

*E911 Road Data, 2013 and VT Agency of Transportation State Highway Map, 2013.

Highway Equipment



The Town owns 5 trucks, 1 pick-up truck, 1 excavator, 1 grader, 1 loader, 1 equipment trailer, 3 rear sanders, and 8 plows. The oldest vehicle model is from 1999 and the newest is from 2013.

In addition to upkeep on the above assets, the Town is also responsible for maintaining the sidewalks in the Underhill Flats area, and providing electricity for street lights located in Underhill Flats and in Underhill Center. The Town is currently working to expand the sidewalk network in Underhill Flats. Completion of this project will contribute to the Town’s desired land use pattern of compact walkable villages surrounded by rural countryside and working landscapes.

Other infrastructure components are addressed in the Services Chapter of the Plan, and include fire, police and emergency services, water, waste water, solid waste, electricity, and communication systems.

GOAL: *Strive to provide a safe, convenient and economic transportation system that respects the integrity of the natural environment.*

Policy: *Look for all possible efficiencies while maintaining town residents’ high level of satisfaction with current maintenance.*

Strategies:

1. Explore using possible local sources of sand and gravel, with considerations to include both cost effectiveness and environmental issues.
2. Protect roadways from floods and stormwater runoff by adopting and implementing low impact development strategies and land use practices through Unified Land Use & Development Bylaws.
3. Ensure private roads and driveways are adequately designed by revising the Town Road Standards.
4. Continue to require “shared maintenance agreements” for all new subdivisions to ensure private roads and driveways are properly maintained so as not to negatively impact town roads.
5. To reduce budget expenditures, consider whether to make homeowners responsible for the expense of driveway culvert maintenance.
6. Continue to pursue grants for road infrastructure improvements from entities such as the Agency of Transportation, the Northern Vermont RC&D Council, and Better Backroads Program.
7. Annually adopt current VTrans’ Road and Bridge Standards.

GOAL: Maintain and replace highway equipment and maintain other Town assets such as Casey's Hill, the Town Pond, and the tennis courts in accord with the Capital Improvement Program.

Policy: Town assets and equipment should be maintained and replaced on a schedule so that unexpected expenses are reduced and deterioration of assets are minimized.

Strategies:

1. Include all Town assets in the Capital Improvement Program.
2. Evaluate Town Highway equipment annually for operating status, anticipated repairs, and energy efficiency.
3. If equipment is inefficient, a cost/benefit analysis should be done to determine if an efficiency upgrade would be cost effective.
4. Casey's Hill, the Town Pond, and the tennis courts should be regularly maintained so they do not deteriorate and lose value.

Section 5.2 Capital Improvement Program and Capital Budget

It is essential that Underhill plan for and maintain infrastructure that is sufficient to meet the needs of a rural town in the 21st century. To do this effectively the Capital Improvement Program should be continually developed and adhered to. The Town of Underhill Selectboard adopted the Town’s first Capital Improvement Program in 2009 and has since continually developed the program to fund anticipated capital projects.

The Capital Improvement Program is a tool that can help guide the Town in where to locate and how to pay for major capital investments such as new parks, roads, or public buildings. The Capital Improvement Program is a six-year plan that identifies the Town’s highest priority capital expenditure needs and links the Town’s long-term development plan with the annual budgeting process. Recommended projects must

2015 Underhill Town Plan-Approved 6/23/2015

conform to the goals and policies of the Town Plan. The Town's Capital Improvement Program defines a capital improvement as any infrastructure asset purchased or acquired with an original cost of \$25,000 or more and an estimated useful life of at least 10 years, or capital assets purchased or acquired with an original cost of \$5,000 or more and an estimated useful life of at least three years. The purposes of adopting a Capital Improvement Program include:

- To stabilize the tax rate;
- To improve municipal management practices;
- To enable orderly growth and development consistent with the Town's fiscal ability;
- To provide facilities and services in accordance with the Town Plan;
- To inform and educate Town officials, staff, and the public about the Town's overall capital needs and realistic fiscal goals.

Capital planning and budgeting is only effective if the Town has a way to finance the plan consistently. In order to accomplish this, voters adopted two Australian Ballot Articles on March 6, 2012 to establish two reserve funds:

- A capital reserve fund, pursuant to 24 V.S.A. §2804, dedicated to funding only capital improvement projects; and
- A contingency fund to create a cushion for any non-recurring and unanticipated events that may occur in any given year. This fund was established in accordance with 24 V.S.A. §2804(a) and may also be used to fund non-capital projects.

These reserve funds reduce the need for the Town to borrow for capital improvements, minimize large fluctuations in the tax rate, and reduce the need for incurring additional debt.

The enabling language for the contingency fund allows it to be used in a variety of circumstances, for example:

- To defray an unanticipated budget deficit so the Town does not have to borrow;
- In case of a crisis, such as urgent road repairs after a flood, so the capital budget program for that year can still be accomplished;
- To help defray the cost of a major purchase, such as a plow truck, if such a purchase exceeds the capacity of the capital reserve fund.

The Planning Commission recommends that the Selectboard establish a policy for each account that defines how each will be funded, under what circumstances the fund can be drawn on, and the minimum and maximum fund balances. This information should be presented at a public hearing and annually reviewed.

There are two mechanisms that are typically used to fund such accounts. One is to use surplus funds; the other is to add a cent or two onto the tax rate and dedicate that income to the reserve funds. Initially, it is often advisable to use a combination of these two funding mechanisms to establish the accounts. For instance, because of the nature of the contingency fund, it might be funded only with available surplus funds. However, because of the ongoing nature of capital improvement projects that create continuing obligations each year, it might be preferable to fund the capital reserve fund with a dedicated tax to insure fund stability. Initially, if there are sufficient surplus funds, the Town may want to roll some of those surplus funds into both the contingency fund and the capital reserve fund so that the corpus of the capital reserve fund is more quickly established.

GOAL: Plan for, finance, provide and maintain infrastructure that is adequate to meet the needs of Underhill town residents and government.

Policy: Since Underhill’s infrastructure has grown over the years and will continue to evolve, a Capital Improvement Plan (CIP) should be continually developed and annually adopted by the Selectboard.

Strategies:

1. Consider the land use goals of the Town Plan when establishing the Capital Improvement Program. In particular, when establishing evaluation criteria and prioritization methods give high priority to projects within or in service of the Village Centers to help enable future development.
2. Formulate capital improvement policies, procedures, and evaluation criteria for the Capital Improvement Program.
3. In accord with CIP policy and the Government Accounting Standards Board 34 (GASB 34): Continue to annually update the capital assets inventory and assess the condition of all town properties, including but not limited to roads, buildings, land and recreational facilities.
4. Assure that the Selectboard establishes a capital budget for the each fiscal year.
5. Review the CIP annually and ensure that capital projects conform to the Town Plan. If amendments are needed, the Planning Commission should make recommendations to the Selectboard.

Section 5.3 Communications Systems

GOAL: *The Town should have high-speed internet and cellular telephone service throughout Town.*

See Services Chapter Section 4.9 & 4.10 for goals and strategies.

Section 5.4 Village Centers

GOAL: *As part of Village Center planning, assure that existing or potential infrastructure could meet the needs of more densely populated village centers.*

Policy: Enabling regulations should be enacted to allow for greater housing density and increased water and septic/sewage capacity in designated areas of town. *See Land Use Chapter.*

Strategies:

See Land Use Chapter for detailed strategies for this goal.

Section 5.5 Development of Recreational Trails

See Recreation Chapter for a detailed discussion of this topic.

CHAPTER 6: TRANSPORTATION

The transportation plan for the Town of Underhill is designed to meet the requirements of the state statute, conform to the Chittenden County Regional Plan, and serve the needs and interests of the residents of Underhill. The overall goal of transportation planning in Underhill is to continue to provide a safe, convenient, economic and energy-efficient transportation network that respects the integrity of the natural

environment, including public transit options and paths for pedestrians and bicyclists, as well as to promote development and revitalization in established village areas.

Section 6.1 Existing Conditions

Underhill's physical geography of parallel north-south mountains and valleys has had a limiting effect on the development of roads in town. Route 15, which generally runs north-south along the western side of town, is the major transportation artery for through traffic. The eastern part of town, Underhill Center, is connected to the west by River Road, which runs east from Route 15. River Road turns into Pleasant Valley Road in Underhill Center and connects to Cambridge, the abutting community to the north. Maintenance of Underhill's road network is carried out by the Town Highway Department which is headed by the Town Road Foreman and located at the Town Garage on New Road.



The existing transportation infrastructure in Underhill is comprised of over 76 miles of roads, 17 bridges and 760 culverts. There are nearly five miles of state highway, 8.75 miles of Class 2 town highways, 43.42 miles of Class 3 town highways, 6.4 miles of Class 4 town highways, and 0.55 miles of Trails. There are an additional 13.3 miles of private gravel roads. The location of all public and private roads is indicated on the Transportation Map (Map 6). The Town will continue to work with VTtrans and the Regional Planning Commission to maintain and annually update the road network data.

Section 6.2 Town Roads

GOAL: *Maintain a safe, convenient, and economic road system that respects the integrity of the natural environment.*

Policy: Maintain town residents' high level of satisfaction with road maintenance at a reasonable cost.

Strategies:

1. Protect roadways from floods and stormwater runoff by adopting and implementing low impact development strategies and land use practices through Unified Land Use and Development Bylaws.
2. Annually adopt the current VTtrans Road and Bridge Standards. Adopting the standards makes the town eligible for a lower cost share for projects funded under the Town Highway Structures program, as well as other financial incentives.

Policy: Ensure that private roads are properly maintained and provide safe access for residents and emergency vehicles.

Strategies:

1. Ensure private roads and driveways are adequately designed by revising the Town Road Standards and incorporating them into the Unified Land Use and Development Bylaws.
2. Continue to require “shared maintenance agreements” for all new subdivisions to ensure private roads and driveways are properly maintained so as not to negatively impact town roads.



GOAL: *Preserve and enhance the rural character of Underhill’s roads while promoting safety.*

Policy: Ensure safe operating conditions are maintained on public roads with minimal environmental disturbance.

Strategies:

1. Ensure the Town’s transportation infrastructure repair is appropriately planned in the Capital Improvement Program with a schedule of annual repairs to roads and culverts.
2. Research and implement traffic calming measures in order to reduce the speeds of motor vehicles.
3. Make roads and right-of-ways as compatible with the topography, landscape, and as free of litter and debris as possible.

Section 6.3: Public Transportation



Public transportation provides basic mobility service and enables people to travel conveniently and economically without use of a personal vehicle. Increased availability of public transportation may reduce residents’ dependence on personal automobiles, thus reducing greenhouse gas emissions, traffic congestion, and wear and tear on local roads. Public transportation services in Underhill are provided by Chittenden County Transit Authority (CCTA) and Special Services Transportation Agency (SSTA).

Underhill’s only current public transit service is the Rt. 15 Jeffersonville Commuter Bus offered by CCTA. The Jeffersonville Commuter, which began in October 2013, provides weekday service along the Route 15 corridor, serving Jeffersonville, Cambridge, Underhill, Jericho, and Essex Town as it heads into

2015 Underhill Town Plan-Approved 6/23/2015

Winooski and Burlington. The route offers two morning round trips and two afternoon/evening trips, arriving and departing from downtown Burlington. In conjunction with this service, a Park and Ride was established in the Jericho section of the Underhill Flats.

Special Services Transportation Agency (SSTA) is a not-for-profit corporation which operates out of Colchester. SSTA provides accessible transportation for individuals who have specialized mobility needs, and provides coordinated transportation services to many human service agencies.

Though Underhill has seen many recent improvements in public transit, more would be welcome. However, the relatively dispersed low population levels in Underhill, and throughout rural Vermont, pose challenges to the development of public transportation operations.

GOAL: *Explore available public transportation options to serve Underhill.*

Policy: Increase the availability of cost-effective, convenient, and accessible public transportation services.

Strategies:

1. Explore the requirements, costs, and benefits of joining the Chittenden County Transit Authority (“CCTA”) and promote the services provided by SSTA and United Way’s Neighbor Rides program.
2. Conduct public forums to determine the public transportation needs of the Town’s residents.
3. Join the CCTA if the need is warranted and the service is economically feasible.

Section 6.4 Alternative Modes of Transportation

While the predominant form of transportation in Underhill is the automobile, there are multi-modal alternatives. Multi-modal planning considers various transportation modes including walking, cycling, public transit, etc. and connections among modes. Multi-modal communities provide opportunities to walk or bicycle, improve network connectivity, and contribute to the quality of rural life.

Complete Streets are designed, maintained, and operated to enable safe and convenient access for all users regardless of their transportation mode. The Complete Streets Law (VT Act 34) which went into effect July 1, 2011, requires both the state and municipalities in Vermont to consider the needs of all users (e.g. bicyclists, pedestrians, transit users) in all transportation plans and projects. This new policy mandates that all new and renovated paved roads consider the needs of motorists, bicyclists and pedestrians of all ages and abilities. Examples of design elements encouraged through the Complete Streets program include:

- Adding and maintaining sidewalks that are connected to public services;
- Improving lighting, signage and pavement markings; and
- Installing curb ramps and sidewalk seating.

Complete Streets are safer for automobile drivers and provide greater mobility and accessibility to those without an automobile. Integrating the needs of all users is integral to developing a sustainable and efficient multi-modal transportation network.

The Town is currently working with regional partners to expand the sidewalk network along Route 15 from Park Street to Dumas Road in Underhill Flats. Funded by federal, state, and local funds, this project will

enhance bicycle and pedestrian access, connect adjacent residential areas to an existing sidewalk network, and promote safe connectivity to existing schools.

GOAL: Consider facilities for alternative modes of transportation such as bicycling, walking, and carpooling.

Policy: Investigate the development of a multi-modal network.

Strategies:

1. Coordinate efforts and expertise of the Selectboard, Planning Commission, and the recreation community to identify funding sources and continue a coordinated planning effort.
2. Identify areas where crosswalk markings and signage needs to be added or upgraded to improve pedestrian safety.
3. Continue to work with interested residents to improve pedestrian and bicycle facilities.
4. Continue to review the zoning regulations and recommend amendments, if needed, to ensure that the needs of all transportation users are considered during the development review process.

Policy: Encourage carpooling.

Strategies:

1. Advertise the availability of the existing Park and Ride facility located at the old school house at the corner of Stevensville Road and Pleasant Valley Road, and the new facility in the Jericho section of Underhill Flats.
2. Conduct a public forum(s) aimed at providing information to town residents about the benefits of carpooling and available programs.

CHAPTER 7: HOUSING

Section 7.1 Background

The Town of Underhill recognizes that safe, attractive, and affordable homes are a necessary foundation for the health and well-being of town residents. 24 V.S.A. § 4302 encourages safe and affordable housing for all Vermonters. In order to achieve this goal, housing must meet the needs of diverse social and income groups; new and rehabilitated housing should be safe and located conveniently to employment and village centers, and sites for multi-family and manufactured housing should be readily available. In order to ensure the availability of safe and affordable housing for all residents the Vermont Municipal & Regional Planning and Development Act (24 V.S.A. Chapter 117) requires that municipal plans address the housing needs of low and moderate income persons.

According to 24 V.S.A §4303, affordable housing is defined as housing that is owned or rented by its inhabitants, whose gross annual income does not exceed 80% of the county median income, or 80% of the standard metropolitan statistical area (MSA) as defined by the U.S. Department of Housing and Urban Development, and the total annual cost of housing is not more than 30% of the household's gross income.



The health of the local and regional economy is often linked to the availability and affordability of housing. The location and design of homes also influence the cost of providing infrastructure and services. Recent changes to VT Municipal & Regional Planning and Development Act (Title 24 V.S.A. Chapter 117) have greatly expanded the allowed use of accessory dwellings. Accessory dwellings are separate living areas with their own kitchen,

bathroom and sleeping areas and may be inside, attached, or detached from the principal dwelling. They are an important tool in expanding affordable housing stock and can provide multiple benefits to the property owner and community. The Town's zoning regulations allow accessory dwellings in all zoning districts, subject to conditional use review.

The 2011 update to the Unified Land Use & Development Regulations included duplexes (two-family dwellings) as a permitted use in all zoning districts, reduced restrictions on accessory dwellings, and included provisions for Planned Unit Developments, or PUDs, and Planned Residential Developments, or PRDs. The purpose of PUDs and PRDs are to provide for flexibility in the design and layout of lots, structures and infrastructure. The Town's PUD and PRD regulations also allow for a density bonus of up to 50% for projects that meet the definition of affordable housing development. The Planning Commission has also recently explored the possibility of increasing density within the village centers, where the availability of services and infrastructure already exist. These efforts have all been made with the overall goal of providing safe and affordable housing for all Underhill residents; efforts will continue in the future.

Section 7.2 Underhill's Existing Housing Inventory

Housing is an essential component of any community. The type, cost, distribution, and location of housing impact the physical appearance and social makeup of a community. Housing can also place demands on public services and, if built or placed inappropriately, can negatively impact natural and environmental resources. Planning for housing requires the consideration of many factors, including the type, cost and location of new development.

Underhill's existing housing stock consists primarily of detached, owner-occupied units. According to the 2010 U.S. Census, there are a total of 1,199 housing units in Underhill, 1,133 of which are occupied. Of the 1,133 occupied housing units, 1,031 (91%) are owner occupied and 102 (9%) units are occupied by renters. The Underhill Grand List also notes that approximately 91% of existing housing units are detached single family homes or mobile homes, while only 9% are in structures with multiple dwellings. It is likely that these housing unit trends will continue in the future since the majority of all permits issued for new dwellings are for single family dwellings.

Building Permit Activity Years 2009-2013					
	2013	2012	2011	2010	2009
Single Family Dwelling	7	4	4	6	8
Duplex	1	0	0	0	0
Residential Additional Living Space	8	8	9	6	5
Camp	0	0	0	0	1
Cottage	0	0	1	1	0
Other (deck, shed, garage, etc.)	26	31	45	53	58
Total	42	43	59	66	72

Section 7.3 Housing Affordability



Adequate and affordable housing is central to a sustainable and healthy community. Housing is considered affordable to a given household when no more than 30% of the household’s annual income is spent on housing expenses. Housing costs for renters include rent and utilities. Housing costs for home owners include mortgage payments, property taxes, insurance, and association fees (if applicable.) According to Vermont Housing Data, the median 2013 sale price for a home in Underhill was \$248,000 (\$256,000 in Chittenden County, and \$200,000 statewide). In 2013, the approximate number of home sales in Underhill was 33 (2,177 in Chittenden County, and 6,430 statewide).

Based on this information, a household would need an income of \$72,901 and \$20,170 cash at closing in order to afford a home costing \$248,000 (2013 median sale price of a home in Underhill) (VT Housing Data-Home Mortgage Calculator, 2013). These figures indicate a need for additional affordable housing in Underhill, where a significant number of households have income under \$72,901. Households paying more than 30% of the total household income for housing are at a much greater risk of foreclosure, eviction, and frequent moving, all of which are a detriment to the resident and the community as a whole.

There are a variety of constraints restricting affordable housing opportunities on both the local and regional level:

- Land prices in Underhill and Chittenden County are high;
- The undeveloped parcels are harder to develop;
- Underhill does not have a municipal sewer system so all new homes must be able to support a septic system;
- 55 % of Underhill's land is in 10 and 15 acre minimum lot size zoning districts;
- The Town’s zoning regulations prohibit development above 1500' elevation; and

2015 Underhill Town Plan-Approved 6/23/2015

- The Town has 13,174 acres in either Town Land Contracts or state current use contracts.

All of these factors constrain local and regional affordable housing opportunities. In order to improve opportunities for affordable housing, regulatory barriers should be identified and revised where appropriate, zoning restrictions on multi-family dwellings can be reviewed and relaxed where appropriate, zoning regulations regarding accessory dwellings can be amended and in the course of village center planning the town can discuss with the community creating greater density and mixed use development in areas planned for growth. Such efforts may lead to changes that encourage the development of additional affordable and fair housing units. Increasing density in areas planned for growth and where services and infrastructure already exist is a concept this Plan supports.

GOAL: Strive to make residence in the Town available to all income levels.

Policy: Increase the affordable housing stock for those of low and moderate incomes.

Strategies:

1. Provide for greater density in areas designated as village centers by encouraging duplexes and multi-family dwellings. *See* Land Use Chapter.
2. Evaluate the minimum lot size in village centers and determine if it should be reduced to increase density in areas where services and infrastructure already exist. *See* Land Use Chapter.
3. Encourage affordable housing by drafting regulations that remove some of the restrictions on accessory dwellings.
4. Support efforts to develop a county-wide Housing Needs Assessment study, to identify the regional housing needs. The results of the study can guide town policies, as well as private and public actions.
5. Apply for Municipal Planning Grants and other financial opportunities to study the housing needs of the community.
6. Consider applying for the Neighborhood Development Area program.

GOAL: Strive to make housing affordable for all residents.

Policy: To increase housing stock that allows for young families and individuals and older community members to remain in the community.

Strategies:

1. Host a housing forum to educate residents about affordable housing and the need for affordable housing.
2. Encourage multi-generational and multi-income residents by supporting planned residential and planned unit developments.
3. Allow for multi-unit structures where appropriate.
4. Encourage cottage housing.
5. Encourage multi-generational, multi-income and senior housing in the village centers.

6. Consider additional development bonuses for affordable housing projects.
7. Work with the Chittenden County Regional Planning Commission to implement the housing strategies identified in the ECOS Plan. Continue to provide assistance when needed.

Section 7.4 Regional Housing Needs

Both population growth and declining household size have led to a shortage of housing in Chittenden County. The shortage of housing makes it challenging for low to moderate income residents to find decent and affordable housing. In 2013, the Chittenden County Regional Planning Commission adopted the ECOS Plan as the Regional Plan and Metropolitan Transportation Plan. The plan is designed to manage sustainable growth while protecting resources and includes strategies to improve the community by increasing opportunities for safe, energy efficient, affordable, and fair housing for all types of households. The Town will continue to partner with the Regional Planning Commission to identify local housing needs and to implement the strategies identified in the ECOS Plan.

Since the 1970s the state has promoted development policies and programs that maintain and enhance Vermont's historic development pattern of compact centers surrounded by a rural landscape. In 2013, the VT legislature adopted the Neighborhood Development Area designation to encourage development around designated villages and downtowns. The Neighborhood Development Area program provides special permit and tax incentives for communities and developers that commit to building mixed-income housing within and adjacent to designated downtowns, village centers, new town centers, and growth centers. The intent of the program is to support and encourage redevelopment and development in areas planned for growth. The Planning Commission will review the program specifics and if found appropriate, will consider applying for the designation.

CHAPTER 8: ECONOMIC DEVELOPMENT

Section 8.1 Background



The Town of Underhill, home to 3,016 residents, is a residential community where the majority of residents commute to work, primarily in the greater Burlington area and surrounding Chittenden County. Underhill and surrounding outlier towns house much of the region's work force and the town's economic health is closely linked to that of the state and the region. The primary focus of these outlying rural areas is to preserve the rural character with respect to working and natural landscapes while allowing sustainable growth and economic opportunities. Underhill's primary commercial base is centered in the small-scale historic villages of Underhill Flats and Underhill Center and a diverse mix of home occupations where residents conduct business from their property. The

Town encourages economic opportunities including the accommodation of home occupations and small scale commercial uses that benefit residents, provide local employment opportunities, and are compatible with the rural character of town. It is the intent of this Plan to encourage small scale commercial development in the village centers and a variety of home-based employment opportunities, while maintaining the rural character of town.

The annual unemployment rate for the Town of Underhill was 3.2% in 2013- comparable to Chittenden County's rate of 3.5%, and lower than the State's rate of 4.4%.⁴ The chart below indicates Underhill's median household income in comparison with that of Chittenden County.

Financial Characteristics of Underhill, Years 2008-2012		
	Underhill	Chittenden County
Median Household Income	\$90,559*	\$63,900
Per Capita Income	\$43,503**	\$33,021

Source: U.S. Census, American Community Survey 2008-2012

* = margin of error is $\pm 4,012$

** = margin of error is $\pm 8,123$

There seems to be a growing interest in creating a more vibrant local economy that allows residents to work and meet their household and recreational needs without leaving Underhill. Home occupations are an important and traditional part of the Vermont economy and benefit the community by providing local job opportunities, reducing commuter traffic, and providing local services. Many home occupations have no visible impacts on adjacent properties and involve little, if any, increase in traffic. The Town's zoning regulations permit home-based employment opportunities in all zoning districts, while protecting neighbors and property abutters from negative impacts.

Underhill's beautiful natural landscape of mountains and hills provides business opportunities for local residents in terms of recreation and tourism. Recreational uses such as snowmobiling, snowshoeing, skiing, road and mountain biking, walking, hiking, running, wildlife watching and other activities are popular with local residents as well as visitors. These recreational uses are a means of bringing additional income into the Town and if the Town's rural character is maintained, it should encourage increasing ecotourism and recreational opportunities in the future.

Section 8.2: Economic Opportunity & Planning

With careful long-range planning and the preservation of agricultural and forestry resources it should be possible to maintain a balanced and diverse local economy that provides local employment opportunities, including a variety of home-based occupations, while maintaining Underhill's rural character and sense of place. Economic incentives including tax breaks, appropriate zoning regulations, etc. should be developed for accomplishing the goals established below.

GOAL: *Underhill should strive to be an affordable community for all of its residents, and encourage the development of small-scale local services and employment opportunities that maintain the Town's sense of place and rural character.*

Policy: Increase local economic activity (home-based employment, as well as local businesses).

Strategies:

1. Maintain and strengthen, where appropriate, relevant infrastructure.

⁴ Source: Annual Unemployment rate, Not Seasonally Adjusted from the Local Area Unemployment Statistics program produced by the VT Department of Labor, Economic & Labor Market Information.

2015 Underhill Town Plan-Approved 6/23/2015

2. Hold public forums to determine what residents consider the appropriate type of business, industries, and land uses for Underhill.
3. Consider land use regulations that provide incentives for appropriate commercial development in village centers.
4. Encourage the utilization of existing facilities for local production, sales, and services.
5. Explore the benefits of Village Center designation in Underhill Center.
6. Promote financial incentives available to property owners within the designated Underhill Flats Village Center.

Policy: Maintain and increase working landscapes.

Strategies:

1. Hold public forums to determine what challenges exist for working lands and maintaining and increasing local business opportunities.
2. Review zoning regulations to assess whether diversification of agricultural businesses is possible and not restricted by local regulations.
3. Continue to support local farmers markets and locally grown agricultural products.
4. Review zoning regulations to ensure access to working lands is protected during subdivision review process.
5. Continue to develop and support strategies to protect long-term viability of agricultural and forest lands.
6. Support and encourage property owner participation in the Land Contract program which preserves natural and working landscapes.
7. Hold public forums to discuss best management practices to protect the sustainability of working lands and agricultural and forest opportunities.

CHAPTER 9: ENERGY

Section 9.1: Background



In 2008, the Underhill Selectboard created an Energy Committee with a charge to research the energy issues for the Town and to make recommendations for changes and best practices to the Planning Commission and the Selectboard. The guiding principle of the Energy Committee's recommendations is for the Town and for town residents to reduce greenhouse gas emissions, reduce energy use, improve energy efficiency, and increase usage of renewable energy. These guiding principles will be accomplished through establishing Town policies that require energy efficiency in town infrastructure,

encouraging residents to reduce energy use and increase efficiency in their homes, and by utilizing renewable energy resources.

In the early 2000's the Town voted to become a part of the "10% Challenge", a voluntary program to raise public awareness about global climate change and to encourage households and businesses to reduce their greenhouse gas emissions by at least 10 percent. The Energy Committee has held informational sessions about how residents can lower their energy use, (thus lowering greenhouse gas emissions) and what resources are available to community members to help them become more energy efficient. The Energy Committee also organized Underhill's participation in the Vermont Home Energy Challenge (VHEC). Sponsored by Efficiency Vermont, the VHEC is a program designed to increase the number of comprehensive home energy efficiency improvement projects in the state. Under the challenge, town energy committees and other local partners compete with other towns to see which town can get the most homes weatherized within a one-year period. Underhill tied for 1st place (with Jericho) in its region with 27% of target realized. As a result, the Town won a \$10,000 grant which will be put to use in energy efficiency projects for the benefit of the Town.

In addition to the outreach accomplishments of the Energy Committee, the Town should also encourage measurable energy efficiencies and renewable energy production through regulations and fees structures.

Section 9.2 Energy Consumption Reduction

Underhill's energy use follows the conventional patterns of energy use; most sources are fossil fuel based for heating and transportation, except for the use of wood for supplemental heating. The Town Plan seeks to move Underhill toward energy sources that are secure, affordable, and have minimal environmental impact. Energy efficiency is our first, best, and least-cost option for reducing energy consumption from all sources of energy. Energy efficiency also improves our ability to replace non-renewable sources of energy with renewable sources by reducing the total amount of energy used. Residents and businesses of Underhill are

making continued efforts to minimize their energy use. Energy efficiency refers to activities that reduce the amount of energy consumed through improvements in building design; using high-efficiency appliances, vehicles, and engines; and easy steps such as replacing incandescent light bulbs with LED light bulbs. Energy efficiency, coupled with conservation practices, reduces energy use, lowers energy costs, and lowers impacts on the environment from energy production and use. The Town can provide leadership by considering energy efficiency in new construction projects and making energy efficiency retro-fits at municipal buildings. Recent efforts to improve energy efficiency at local municipal buildings include implementing the recommendations of the energy audit for the Town Hall and the Post Office, as well as performing an energy audit for the Town Garage and scheduling energy efficiency improvements in the Capital Improvement Plan. Residential electric customers in Underhill have also taken measures to reduce electricity consumption and become more energy efficient. Over the course of the last five years the number of households in Underhill has remained steady however electricity usage has slightly decreased which is an indication that efforts are being made to use energy efficient practices in homes in Underhill.

Resources are available to encourage energy efficiency of private homes and businesses. Efficiency Vermont, Vermont's energy efficiency utility, offers rebates and incentives for the purchase and installation of energy efficient products. Efficiency Vermont will also work with commercial and non-residential properties to plan and implement energy conservation measures.

GOAL: Reduce energy consumption of Town equipment and Town properties and encourage town residents to do the same.

Policy: The Town should have energy efficient infrastructure.

Strategies:

1. Continue to maintain and improve the energy efficiency of Town buildings through capital planning.
2. Assure that Town vehicles adhere to all emission standards as established by the state and federal government.
3. Use local natural resources whenever effective and compliant with other Town policies and goals to reduce Town energy expenditures.
4. Assure that energy performance values adhere to state energy standards for any new Town of Underhill infrastructure construction.

Policy: Encourage public and private entities to reduce energy use.

Strategies:

1. Enforce current state energy codes as a requirement for the issuance of a Certificate of Occupancy. At the same time, the Town should promote residential building practices which exceed these current state requirements.
2. Continue to educate residents in ways to reduce their energy consumption especially in the area of reducing thermal energy expenditures.
3. Continue to monitor the implementation of PACE (Property Assessed Clean Energy), a financing vehicle whereby the Town would loan money to residents for home energy improvements. If feasible, from a town management standpoint, the Energy Committee would ask the Selectboard to submit this to town voters for approval.

4. Review Town regulations and fee structures to consider ways to encourage energy efficient construction. One possibility is to offer building fee rebates based on the proven energy efficiency of new construction and existing structure improvements. A recommendation should be made by the Planning Commission to the Selectboard about fee rebates or other strategies to achieve energy savings in conjunction with regulatory amendments.
5. Make recommendations to the Selectboard regarding targeted emission standards for Town infrastructure, as well as suggested methods for achieving targeted standards.
6. Support the further development of public transportation systems and alternative transportation systems such as multi-modal paths in accord with the planning goals set forth in the Transportation Chapter of this Plan.
7. Promote the minimization of night lighting, commensurate with safety and utility, in both public and private properties.
8. Consider adopting the state “stretch code” that provides a construction efficiency standard that is higher than the baseline State Energy Code.
9. Consider updating the zoning bylaws to include language to clarify permitting requirements for new electric vehicle charging installations and to support the ongoing development of charging stations.

Policy: Promote the development of renewable energy sources in Underhill.

Strategies:

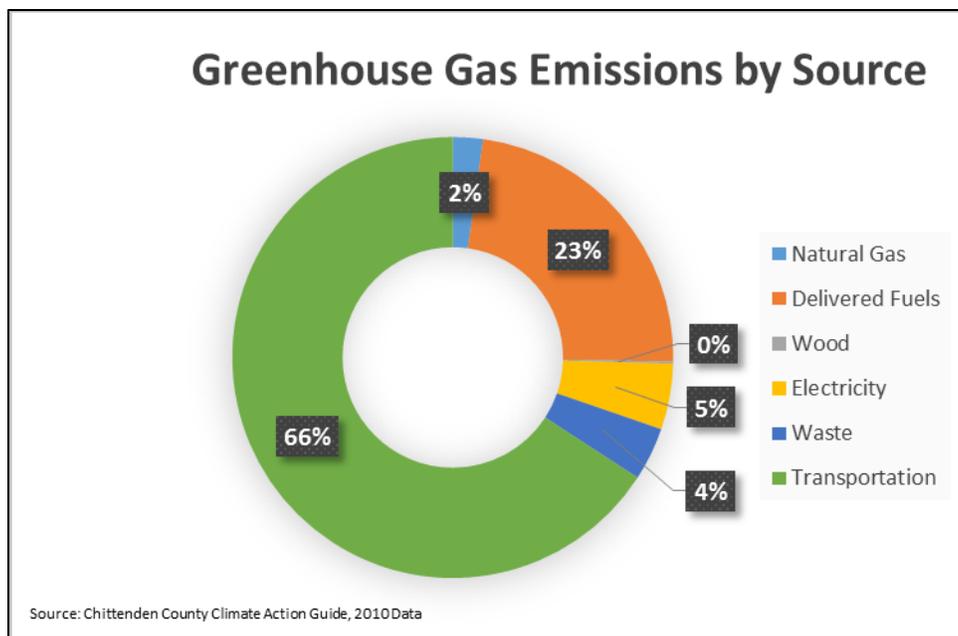
1. Review Town regulations to determine if they are flexible enough to accommodate development of renewable energy sources in identified use areas.
2. If desirable, propose amendments to the regulations and hold public forums on the proposed changes.
3. When drafting amendments to accommodate development of renewable energy sources, the Planning Commission should consult both the Conservation Commission and the Energy Committee.

Section 9.3 Greenhouse Gas Emissions Data

Chittenden County Regional Planning Commission (CCRPC) conducted a Greenhouse Gas (GHG) Emissions Inventory as a component of the Chittenden County Climate Action Guide. The purpose of the study was to establish an understanding of the regional issues associated with climate change and provide guidance for municipalities, employers, and individuals. Different types of energy use cause varying amounts of greenhouse gas emissions to be released into the earth’s atmosphere and are known to be a contributor to climate change. The purpose of the Greenhouse Gas Emissions Inventory is to develop energy and greenhouse gas emissions data at both the municipal and county level to support the CCRPC’s climate action planning process, as well as provide a resource for municipalities to understand the source and quantity of the emissions that occur within or relate to their jurisdictional area.

The inventory provides an accounting of the primary contributors of greenhouse gas emissions within Chittenden County and its municipalities for the base year of 2010. Certain data necessary to measure greenhouse gas emissions may deviate from this base year due to data availability. According to the

greenhouse gas inventory, the Town of Underhill emissions of greenhouse gases total 17,787 metric tons of carbon dioxide equivalent. Transportation emissions from on-road gas and diesel consumption are the largest source of greenhouse gas emissions in Underhill and emissions from delivered fuel consumption for residential and commercial uses account for the second greatest share. Delivered fuels in Underhill consist of fuel oil, kerosene, and propane. These two sources, transportation and heating fuels, were also reported to be the largest sources of emissions county-wide accounting for almost 90% of the greenhouse gas emitted in Chittenden County. For a more detailed data analysis of the greenhouse gas inventory and data collection methods- See the Chittenden County Regional Climate Action Guide (2014).



Since Underhill’s largest source of greenhouse gas emissions is transportation and gas and diesel consumption, reducing the total passenger vehicle miles traveled could yield a big reduction in energy consumption. The connection between transportation, land use, and energy consumption should be continuously explored and appropriate strategies to reduce greenhouse gas emissions should be developed and recommended to the Planning Commission and Selectboard.

Section 9.4: Land Use & Energy

Smart growth strategies and land use planning play a significant role in local government activities to mitigate and reduce a community’s greenhouse gas emissions. Energy plays an important role in the community and its connection and complex relationship with land use and transportation should be continually explored and evaluated.

The Planning Commission should continually work with the Energy Committee to promote an energy efficient and sustainable community while educating residents on energy efficiency. Reducing the number of vehicle trips and number of vehicle miles traveled by making alternatives to automobile transportation more attractive, and encouraging future growth in compact, mixed-use, walkable village centers are just a few land use planning measures that will aid in reducing the Town’s greenhouse gas emissions, some of which are already identified in other sections of this Plan including the Transportation Chapter.

CHAPTER 10: RECREATION

Section 10.1 Recreational Trails

Recreation and open space are important components of a community. Underhill is fortunate to have outstanding natural beauty and has traditionally been a community characterized as an active area for hiking, biking, horse-back riding, skiing, sledding, swimming, and other outdoor activities for both visitors and residents. Underhill is home to Vermont's highest peak, Mount Mansfield, and to Underhill State Park, encompassing the headwaters of the Browns River on the western slope of Mount Mansfield. Underhill State Park is a part of Vermont's 34,000-acre Mount Mansfield State Forest and offers camping and hiking trails to the summit ridge of Mount Mansfield.



At times, as population increased and the traditional trails in town became better known, tension has arisen between users and private landowners. When landowners feel that they have been ill-used, private land is posted and trails are lost to community use. While there has been a clear desire on the part of town residents to develop non-motorized trail networks in town, unless the land is owned by the Town, there is little control over trail development. In the past, the Town has required the preservation of existing trails in the course of subdivision review. The Town could also look at the open land contract as a mechanism to give a tax incentive for providing user access to a trail. However, these ideas would need to be thoroughly discussed and any policy developed along these lines must be cognizant of the inherent property rights of the private landowner.

In 2008 the Selectboard created a Trails Committee consisting of members of the public, the Planning Commission, Conservation Commission, and the Recreation Committee to develop a policy for use of trails on Town-owned land and to develop a trail use model that could be used by residents and user-groups in their private establishment of trails. The Trails Committee developed the Underhill Trails Handbook to guide trail development on both public and private lands. This non-regulatory handbook was the result of over a year's worth of investigation by the Committee into how a trail could be developed or maintained while being respectful of the natural environment and the private property rights of landowners. The Trails Handbook provides a compilation of best management practices for trail development and maintenance and emphasizes sustainable trail designs which minimize impacts on the natural environment. In 2011 the Trails Committee revised its mission statement to provide guidance on the development and use of trails with an emphasis on respecting property owners. In 2014, the Trails Committee dissolved and several members joined the Conservation Commission. The Conservation Commission will continue to carry out the shared goals.

Outdoor recreation provides great exercise in a natural setting. However, trail users and landowners should be cognizant of the effect of trail use on the natural environment: from the soils and tree roots underfoot to the fragile vegetation and special habitats that exist along the trail route to the wildlife that lives there. Users also need to recognize the importance of the landowner's wishes with regard to trail use on private property. A good trail conserves the total trail environment, actively respects a landowner's property rights, and provides fun and a healthy recreational opportunity for users.

The use of the Town shoulder rights-of-way to make more room for walkers, bikers and other recreational users of the Town roads should be investigated. In the past there has been discussion about connecting the Underhill Flats area with the Underhill Center area by a shared-use path, but when efforts have been made they have not been successful. It may be time to re-consider this as part of the proposed village center planning efforts. If an off-road shared-use path is not possible, one solution may be to widen the road shoulder along River Road to better accommodate bicycle and pedestrian users. The Town should work with the Regional Planning Commission to evaluate the feasibility of developing a shared use path to connect Underhill Center and Underhill Flats.

GOAL: *It is a benefit to Underhill residents to have access to traditional trail systems. Those trail systems should protect the flora and fauna of the trail area, respect the rights of private landowners and be maintained in an environmentally responsible manner.*

Policy: Facilitate recreational trail usage by promoting the Underhill Trails Handbook. The Handbook provides best practices for trail development and maintenance and encourages users to be respectful of all aspects of the environment and of private property owners wishes.

Strategies:

1. Continue to promote the Underhill Trails Handbook.
2. Consider applying to VT Agency of Natural Resources recreational trails program to implement town priorities.

GOAL: *Encourage recreational trail development throughout Town, particularly along the River Road corridor to connect Underhill Flats and Underhill Center.*

Policy: Provide incentives to private landowners to allow for community use of trails on their land.

Strategies:

1. Explore the use of density bonuses and other development incentives for subdivision proposals that either preserve existing or create new trails.
2. Explore the use of the Town Land Contract to aid in development of a trail network.
3. Ensure the Underhill Trails Handbook is widely available to private landowners and user groups and encourage its use when developing trail systems.

Policy: Provide a multi-modal connection between village centers.

Strategies:

1. Investigate the feasibility, cost, and potential funding sources for expanding road shoulders for recreational use and make a capital plan recommendation to the Selectboard.
2. Investigate connecting the two proposed village centers with a shared-use path as part of village center planning.

Section 10.2 Town Pond/Tennis Courts/Casey's Hill

The Town has several publicly owned recreation assets including the town pond, two tennis courts, a half-court basketball, and a sledding hill. These are all valuable Town assets that add to the quality of life for all Underhill residents. The Selectboard is continuously looking to improve recreational opportunities for town residents.

The Town should continue to work to identify short and long-term recreation improvements. Appropriate projects should be included and funded in the Capital Improvement Plan. *See* Infrastructure Chapter.

Section 10.3 Town Recreational Infrastructure

GOAL: *Maintain all publicly owned recreational infrastructure.*

Policy: Continue to include recreational infrastructure improvements as part of the capital improvement plan.

Strategies: *See* §5.2 Infrastructure Chapter of this Plan.

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IMPLEMENTATION

The purpose of this section is to provide an organized framework for accomplishing the implementation strategies listed in the prior chapters of this Plan. The matrix below organizes individual strategies and assigns a responsible party. Use of this section over the next five year planning cycle will help ensure that the strategies listed in the Plan are considered by the various groups, committees, and boards. The various town boards tasked with implementing the strategy will determine the timeline and priority of each strategy based on workload and funding. The various boards are encouraged to consult the matrix when developing their annual work plans and budget requests.

For the purpose of the Underhill Town Plan:

Goals express broad, long-range community aspirations. They should be considered aspirational statements for the community.

Policies are statements of the Town's intent with regard to specific issues or topics.

Strategies are specific actions that may be taken by identified groups or individuals to support one or more policies and achieve the community's goals. The implementation strategies are aspiration in nature and it is not anticipated that all of the suggested tasks will be undertaken during the five-year planning cycle.

The following is a brief summary of the town boards, staff, and regional and state organizations that are responsible for implementing the strategies listed in the Town Plan. Interested residents are encouraged to contact the individual boards and organizations for additional information.

Partners & Organizations

Selectboard (SB): The Selectboard provides general supervision of the affairs of the Town, enact ordinances, and authorize town expenditures.

Town Administrator (TA): The Town Administrator provides staff support to the Selectboard and assist the Selectboard in the general administration of the Town.

Finance Director (FD): The Town Finance Director is responsible for the administration of the Town's operating budget and the Town's accounting system.

Planning & Zoning Administrator (PZA): The Planning and Zoning Administrator oversees all aspects of town planning and zoning, and provides staff assistance to the Planning Commission and Development Review Board.

Road Foreman (RF): The Road Foreman is responsible for proper maintenance of all town highways and oversight of the Highway Department.

Planning Commission (PC): The Planning Commission is responsible for drafting the Town Plan and revisions to the Unified Land Use and Development Regulations, as well as other specialized planning studies.

Development Review Board (DRB): The Development Review Board is responsible for interpreting the Unified Land Use and Development Regulations and reviewing development applications for site plan review, conditional use, and subdivisions.

Conservation Commission (CC): The Conservation Commission is an advisory board to help the Town protect and enhance natural resources. The Conservation Commission performs a variety of projects like natural resource inventories, education outreach, and assists the Town with conservation and natural resource issues.

Energy Committee (EC): The Energy Committee provides technical assistance and recommends policies and projects to achieve energy conservation and sustainability for the Town, residents, and businesses.

Emergency Management Director (EMD): The Emergency Manager Director is appointed by the Selectboard and is responsible for the organization, administration, and coordination of the Town for emergency management. Currently, the Selectboard Chair serves as the Town's EMD.

Underhill Historical Society (UHS): The Underhill Historical Society is the town's primary resource for preserving and promoting local history.

Underhill-Jericho Fire Department (UJFD): The Underhill-Jericho Fire Department provides emergency and fire protection services to Underhill, Jericho, West Bolton, parts of Westford, and mutual aid coverage for surrounding towns. The UJFD reviews and provides comments on Development Review Board applications.

Chittenden County Regional Planning Commission (CCRPC): The Chittenden County Regional Planning Commission provides planning and technical assistance to the municipalities of Chittenden County in order to improve the region's quality of life and environment.

VT Agency of Natural Resources (ANR): The Agency of Natural Resources includes the Department of Environmental Conservation, Department of Fish & Wildlife, and Department of Forests Parks and Recreation. ANR provides technical assistance with environmental protection issues.

State Floodplain Coordinator (SFC): The State Floodplain Coordinator works within the State Department of Environmental Conservation and provides technical assistance for development proposals within the mapped Special Flood Hazard Area.

NATURAL RESOURCES IMPLEMENTATION

<p>GOAL: <i>The Town should make a commitment to the responsible stewardship and sustainable use of Underhill's natural resources in a manner that protects and enhances the Town's environmental well-being for the benefit of future generations; the preservation of natural features that contribute to Underhill's ecological health and biological diversity; and the preservation of Underhill's rural character, scenic landscape, working farms, managed forestlands, and cultural heritage.</i></p>	
<p>Section 1.2 Open Space Planning</p>	
<p>Policy: Continue open space planning in Town.</p>	
<p>1. Identify the location of significant agricultural and natural resources, high priority scenic areas, potential greenways, environmentally sensitive lands and water resources, compiling information from previous studies and incorporating new data as it is developed. The Regional Connectivity and Priority Large Habitat Blocks project may provide a foundation for such information. The purpose of open space planning should not be to exclude all development from these lands but to serve as a framework for prioritizing and developing a network of interconnected open space.</p>	CC & PC
<p>2. Develop a program for the protection of identified significant features. This program should include means of protecting priority areas and may include conservation easements, purchase of development rights, acquisition of priority sites, or any other voluntary agreements or contracts with property owners.</p>	CC & PC
<p>3. Identify areas that are most vulnerable and that are not adequately protected through other regulatory or voluntary means. Conservation efforts and funds should be focused where need is greatest.</p>	CC & PC
<p>4. Consider developing a method to assess the relative value of lands for agricultural, forestry, and natural resource preservation purposes. This method will be built upon local knowledge, local values, and GIS data.</p>	CC & PC
<p>5. Consider proposing regulations that would address open space issues in development review applications.</p>	CC & PC
<p>Section 1.3 Agriculture & Forestry</p>	
<p>Policy: Identify valuable forestland and agricultural land in Underhill to ensure that growth and development do not negatively impact the viability of forest and agricultural uses.</p>	
<p>1. Conduct an assessment to identify working lands in Underhill and rank the importance and viability of agricultural, forestry, and natural resource lands.</p>	PC & CC
<p>2. Work with existing agricultural and forest property owners to help with future planning of their land. Ensure that Underhill landowners have every opportunity to obtain information about sustainable land management practices, as well as funding and technical assistance opportunities.</p>	PC & CC
<p>3. Preserve the Town's valuable agricultural, forest and natural resources by directing growth to locations that do not impact these resources. Provisions should be made through voluntary preservation means, to preserve agricultural and forestry resources.</p>	PC & CC
<p>4. Consider adopting policies such as "Right to Farm" to address conflicts between residential, agricultural and forestry uses. Generally a "Right to Farm" policy protects farmers from nuisance suits as long as the farm was established before surrounding suburban activities were put in place, and as long as the farm's activities do not "jeopardize public health and safety."</p>	PC & SB
<p>5. Regulations should be drafted so that access to forest land and proper right-of-ways are considered during the development review process.</p>	PC & CC
<p>Policy: Support the working forest and agricultural landscape and provide incentives for uses that keep lands open and viable.</p>	
<p>1. Promote local agricultural and forest products as a means of fostering the economic vitality of local farms and woodlands.</p>	PC & CC
<p>2. Encourage the Town to continue to offer an open land contract as an alternative to State of Vermont Current Use contracts.</p>	PC & SB
<p>3. Consider establishing a fund to preserve priority resource land by promoting the use of a Land Conservation Fund.</p>	PC & CC
<p>4. Work with the Jericho-Underhill and Vermont Land Trusts, and other appropriate nonprofit organizations, to encourage the voluntary protection of productive agricultural and forest lands. Techniques such as conservation easements or donation of land with retained timber rights should be explored as possible options.</p>	PC & CC
<p>Section 1.4 Water Quality</p>	
<p>Policy: Protect, enhance, and restore Underhill's surface water resources.</p>	

2015 Underhill Town Plan-Approved 6/23/2015

1. Require adequate vegetative buffers and erosion control along rivers, streams, and lakes to protect water quality, allow natural channel modification, and protect buildings. Consider differentiating buffers based on land use.	PC
2. Review and propose regulatory revisions, as necessary, to protect, enhance, and restore surface waters.	PC
3. Encourage reforestation of native plants where appropriate along the riverbanks. For tributaries and creeks, maintain setbacks, and encourage preservation of existing vegetative buffers and reforestation of riparian buffers.	PC & CC
4. Actively participate on watershed protection associations.	PC & CC
Policy: Control impacts from stormwater runoff.	
1. Study and address the contribution of town roads to storm water runoff. Both the Lamoille River Watershed Basin and the Browns River Corridor Management Plans identify culverts and bridges in Underhill in need of improvement. Blend the recommendations of these plans with the assessment of the Town's road crew on needed improvements of the town's infrastructure in the development of capital budgets.	PC & CC
2. Continue to require through road and land use regulations that all new roads and driveways are properly constructed to minimize erosion and scouring. Road improvements should follow the 2013 VTrans Road and Bridge standards as adopted by the Selectboard.	PC & SB
3. Assure that all new construction employs effective erosion control measures as required in the associated permit.	PC & CC
4. Consider adding low impact development regulations for stormwater control.	PC & CC
Policy: Preserve wetlands within Underhill.	
1. Consider proposing new regulations to protect wetlands that are essential for treating stormwater runoff, protecting surface water quality and providing habitat.	PC
2. Work to clarify the location of wetlands (Class I, II, and III) in Underhill. Utilize the NWI wetland locations or more detailed site specific studies if available, for planning and development review with appropriate field delineation as needed.	PC & CC
3. Consider conducting field studies to identify and better understand priority wetlands.	PC & CC
4. Continue to strive to insure that wetlands are not adversely impacted by development or alteration to lands around them.	PC & CC
5. Consider acquiring easements to, or purchasing, priority wetlands that are particularly vulnerable.	PC & CC
6. Restore wetlands in a public/private partnership to improve water quality, habitat, and facilitate stormwater management.	PC & CC
7. Educate landowners about the value and fragility of vernal pools, how to identify them, and how to protect them.	PC & CC
8. Create partnerships with State and Federal Agencies for planning and funding (implementation) support.	PC & CC
Policy: Protect Underhill's groundwater resources.	
1. Create a groundwater conservation overlay district that includes source water protection areas. Development in these areas should receive a higher level of scrutiny. Review the data already collected and supplement with field studies, if needed.	PC
2. Decide how best to provide well-yield data to the Development Review Board.	PC
3. Consider conducting a groundwater analysis of each planning area. This could be done with public funds, grant funds, or could be required as part of a development review application.	PC & CC
4. Encourage water conservation.	PC & CC
Section 1.5 Flood Resiliency	
Policy: Protect floodplains, fluvial erosion hazard areas, and lands adjacent to streams, wetlands, and upland forests; encourage restoration of these areas as needed; and plan for flood emergency preparedness and response.	
1. Inventory the number of existing structures within mapped floodplains.	PC & SFC
2. Review the current Flood Hazard Area Regulations and determine whether or not they need to be strengthened to prohibit new structures within the Special Flood Hazard Area.	PC
3. Complete a fluvial geomorphology assessment for streams and waterways and develop strategies in response to identified risk. Develop a River Corridor Management Plan.	PC & CC
4. Evaluate capabilities of existing road and stormwater management infrastructure. Continue and improve highway culvert and bridge maintenance programs.	PC, RF & SB
5. Plan culvert replacements for any undersized culverts in conjunction with roadway improvement projects.	RF & SB
6. Review the All Hazards Mitigation Plan on a regular basis and follow-up on identified strategies.	PC & SB

7. Continue emergency preparedness and coordinated response planning efforts.	PC, RF, SB & UJFD
Section 1.6 Wildlife Habitat	
Policy: Protect important natural areas; rare, threatened and endangered species; critical wildlife habitat; and overall biodiversity.	
1. Widely distribute the results of the Regional Connectivity and Priority Large Habitat Blocks project completed in 2011 and encourage community members to continue to collect data that would enrich the current analysis.	PC & CC
2. Develop a “Significant Wildlife Habitat” map. This map would bring together known natural resources into a single product.	PC & CC
3. Develop a town-wide Natural Communities Map for a finer level view of the Town’s natural resources.	PC & CC
4. Encourage protection of areas to support continued preservation of critical wildlife habitat and hunting through mechanisms like landowner covenants, conservation easements, etc.	PC & CC
5. When reviewing new development, encourage the preservation of blocks of forest.	PZA & DRB
6. The Vermont Fish and Wildlife “Heritage Database” contains information about rare, threatened and endangered plant and animal species in Vermont. The Town’s development regulations should reference the “Heritage Database” and should be referenced in any development request.	PC & DRB
Policy: Provide connectivity among natural areas and critical wildlife habitat.	
1. Identify connections through the completion of Regional Connectivity and Priority Large Habitat Blocks project and the development of “Significant Wildlife Habitat” and “Natural Communities” maps.	PC & CC
2. When reviewing new development, encourage preserving areas separate from housing sites to provide connectivity between forest blocks, riparian corridors, and wetlands.	PZA & DRB
Section 1.7 Sensitive Natural Areas	
Policy: Protect ridgelines and hillsides from improperly planned development.	
1. Develop strategies, including proposed development review standards in zoning and subdivision regulations, to protect ridgelines and hillsides where necessary.	PC & CC
2. Continue to support the current regulation prohibiting development above 1500’.	PC & DRB
3. Hold public forums to gather feedback regarding whether the community desires alternative energy structures on hillsides and ridgelines, including those above the 1500’ elevation level.	PC
Section 1.8 Geological Resources	
Policy: Ensure that known areas of quality sand, gravel and stone are clearly identified.	
1. Inventory sand, gravel and stone deposits, and to the extent readily possible, evaluate quantity and quality.	PC
2. Assure that relevant property owners are aware of these resources and encourage them to work with Town officials to determine the best use of the property in accordance with the Town Plan and regulations.	PC
3. Review zoning regulations to ensure appropriate and well planned extraction of these resources is possible in appropriate areas.	PC
Section 1.9 Invasive Species	
Section 1.10 Air Quality	
Policy: Reduce air pollution	
1. Educate the community on air quality issues and ways they can reduce air pollution with brochures, links on Town website, and educational forums.	PC & CC
2. Consider proposing regulations on outdoor wood burning stoves in certain zoning districts.	PC
Section 1.11 Climate Change	

HISTORIC & CULTURAL RESOURCES IMPLEMENTATION

Section 2.2 Historic Villages	
GOAL: <i>Ensure the protection of the Town’s historic and cultural resources, villages, and scenic rural landscapes.</i>	
Policy: Protect and preserve the important historic and cultural resources in Underhill.	
1. Encourage and promote the preservation and rehabilitation of historic public and private buildings.	PC & UHS

2015 Underhill Town Plan-Approved 6/23/2015

2. Work with the Vermont Division of Historic Preservation to update the Town's inventory of historic resources and raise awareness of Underhill's historic structures.	UHS
3. Support efforts to document the historic and cultural history of Underhill.	PC & UHS
4. Support the efforts of the Underhill Historical Society.	PC
5. Continue to explore opportunities to adaptively reuse the historic District 5 School House and other historic buildings.	SB
6. Continue the rehabilitation of the Town Hall.	SB
7. Establish a review process for projects that would result in significant alteration to or removal of historic structures.	PC
8. Place eligible historic buildings and sites owned by the Town on the State and National Register of Historic Places.	PC & UHS
Policy: Promote the importance of the town's heritage and historic villages.	
1. Maintain the historic character of Underhill Flats and Underhill Center.	PC
2. Continue to work with local and state organizations to promote the importance of maintaining the historic nature of Underhill and preserving and protecting its traditional village centers.	PC & UHS
3. Promote the financial incentives available to property owners within the designated Riverside/Underhill Flats Village.	PC
4. With community support, apply for the designation renewal of the Riverside/Underhill Flats village center and village center designation for Underhill Center.	PC
5. Consider the effect of land use and development on historic resources and historic village centers.	PC

LAND USE IMPLEMENTATION

Section 3.1 Land Use	
GOAL: Underhill's land use regulations should be user-friendly, enforceable, compliant with state law, and consistent with other town ordinances and regulations.	
Policy: Continue to develop the Unified By-law so that it supports the policies of this Plan.	
1. Work to revise the Unified By-law as necessary.	PC
2. When revisions are needed, hold a series of public forums and hearings and publish articles in the local newspaper explaining the proposed changes.	PC & PZA
3. Develop village center regulations for Underhill Flats and Underhill Center.	PC
4. Host community visioning sessions and other outreach strategies to determine if revisions are necessary.	PC & PZA
5. Pursue all available grant opportunities to achieve the goals of the Town Plan and Unified By-law.	PC & PZA
GOAL: Continue to use the open space land/farmland/forest land contracts to preserve undeveloped, productive space.	
Policy: Town open space land/farmland/forest land contracts should be compliant with state law.	
1. Make recommendations to the Selectboard as to any changes to the contract so that the goals of this Plan are implemented.	PC & SB
2. Working with legal counsel, the Town will amend the current town contract, if deemed necessary, to assure compliance with state law.	PC & SB
Section 3.3 Underhill Flats Village Center Zoning District	
GOAL: The Underhill Flats Village Center Zoning District regulations should reflect traditional development patterns, uses, and lot sizes that maintain the historic settlement pattern of the compact village center and encourage future development within the village center.	
Policy: Amend the zoning district regulations so they accurately reflect the traditional development pattern and lot sizes and encourage denser development should the community so desire.	
1. Coordinate with Jericho Planning Commission to develop a mixed-use village center that reflects the policies and goals of both towns and village residents.	PC & PZA
2. Hold public forums to determine if the community is in favor of expanding the boundaries of the UFVCD.	PC & PZA
3. Hold public forums to determine if the community is in favor of changing lot size requirements to encourage mixed use development, in-fill, greater densities and reduced dimensional requirements.	PC & PZA
4. Hold public forums to re-examine the types of permitted and conditional uses in this zoning district to determine if these uses should change.	PC & PZA

2015 Underhill Town Plan-Approved 6/23/2015

5. After public forums, the Planning Commission should, if deemed necessary, amend the land use and development regulations to allow for the new requirements of the district and recommend adoption of the amendments to the Selectboard.	PC & PZA
6. Consider the application of form-based coding to the Underhill Flats Village Center District.	PC
7. Consider public investments, including the construction or expansion of infrastructure to reinforce the general character and planned growth patterns of the area.	PC & SB
Section 3.4 Rural Residential Zoning District	
<i>GOAL: Land uses allowed within a zoning district should conform to the defined purpose of the zoning district and be approved by the community.</i>	
<i>Policy:</i> Determine the type of land use that will be allowed in this district and where those uses shall be allowed.	
1. Gather information from citizens regarding what kind of uses should be allowed in this zoning district. Part of that discussion may be a proposal to create either smaller districts or overlay districts within the current district to direct certain types of development to designated areas.	PC & PZA
2. Examine and revise, if necessary, the current regulations, giving more precise definitions of permitted and conditional uses allowed in this district(s).	PC
3. If deemed necessary by new information, the Planning Commission should propose changes to the zoning map to reflect new district configurations.	PC
4. Examine and revise, if necessary, dimensional requirements to reflect different uses in the district(s). The Planning Commission should hold public forums and hearings to obtain community feedback on any proposed amendments.	PC
Section 3.5 Water Conservation Zoning District	
<i>GOAL: Land uses allowed within a zoning district should conform to the purpose of the zoning district and be approved by the community.</i>	
<i>Policy:</i> Permitted and conditional uses, lot size and setbacks for the Water Conservation District should be reviewed by the Planning Commission and amended based on feedback from the community.	
1. Gather information from citizens regarding what kind of uses should be allowed and whether they should be allowed as permitted or conditional.	PC & PZA
2. Propose amendment of the current regulations, giving more precise definitions of permitted and conditional uses allowed in this district(s).	PC & PZA
3. Examine and revise, if necessary, dimensional requirements to reflect different uses in the district(s). The Planning Commission should hold public forums and hearings to obtain community feedback on any proposed amendments.	PC
<i>GOAL: The purpose definition of the Water Conservation Zoning District should reflect both the traditional use within the zoning district and provide guidance for future development within the zoning district.</i>	
<i>Policy:</i> The Water Conservation zoning district purpose definition should reflect the geologic reason for creation of the District, the traditional uses within the zoning district, and also provide guidance for future development within the zoning district.	
1. Once the Planning Commission has determined what types of uses shall be allowed in the district and how the district(s) shall be configured, they should propose a new definition for the district(s).	PC
<i>GOAL: Consider creating a village center overlay district or separate district in Underhill Center that reflects the traditional development pattern; has permitted and conditional uses and lot sizes that maintain the historic settlement pattern of the compact village center; and encourages future development within the village center.</i>	
<i>Policy:</i> Assure that the zoning district regulations accurately reflect the traditional development pattern and lot sizes in Underhill Center.	
1. Examine whether to propose an overlay district or a separate zoning district for the Underhill Center Village district.	PC
2. Hold public community forums to determine where the boundaries of the Underhill Center overlay or separate district should be.	PC & PZA
3. Hold public forums on proposals for reduced lot size and setbacks in the Village Center district so that mixed use development, in-fill, and greater densities are encouraged.	PC & PZA
4. Hold public community forums on proposed types of permitted and conditional uses in this area.	PC
5. Propose the following purpose definition: "To allow for the continuation of existing small-scale commercial, residential, and public uses and to encourage development that is compatible with and promotes a compact, historic village settlement pattern. This may include compact development as supported by existing and planned infrastructure, while being mindful of the important aquifer recharge area."	PC

2015 Underhill Town Plan-Approved 6/23/2015

6. Develop regulations that give guidance to landowners as to how to protect the aquifer recharge area while allowing for increased density of the Village Center.	PC & CC
7. Encourage, through regulations, the development of community septic systems and innovative septic designs, as allowed by the state.	PC & CC
8. After public forums on the boundaries, uses, and dimensional lot requirements of the district, amend the land use and development regulations to allow for the new requirements of the district and recommend adoption of the amendments to the Selectboard.	PC
9. If deemed advisable by new information, propose changes to the zoning map to reflect new district configurations.	PC
10. Apply for Village Center designation for the Underhill Center District from the Vermont Agency of Commerce and Community Development. This designation provides various funding opportunities for building improvements to landowners within the district.	PC & PZA
11. Consider the application of form-based coding for the Underhill Center Village Center.	PC
12. Investigate possible procedural remedies as an alternative to variance hearings for non-conforming lots within the Underhill Center District.	PC & DRB
Section 3.6 Mount Mansfield Scenic Preservation Zoning District	
<i>GOAL: Land uses allowed within a zoning district should conform to the purpose of the zoning district and be approved by the community.</i>	
<i>Policy:</i> Permitted and conditional uses, lot size, and setbacks for the Scenic Preservation District should be reviewed by the Planning Commission and if deemed advisable, recommendations for changes made to the community in the course of regulatory amendment.	
1. Review and propose amendments for permitted and conditional uses, lot dimensional and setback requirements, if deemed necessary, to comply with the new definition and this Plan.	PC
2. Hold public forums and hearings to get community feedback on any proposed amendments.	PC & PZA
<i>Policy: Protect animal migration routes and habitat.</i>	
1. Consult with the Conservation Commission to learn about wildlife corridors and habitat and develop proposed regulation changes to achieve this goal.	PC & CC
2. Hold public forums to educate the public about animal migration.	PC & CC
3. Propose amendments to the regulations to promote protection of wildlife habitat and migration corridors and hold public forums to seek community approval of this goal.	PC
Section 3.7 Soil & Water Conservation Zoning District	
<i>GOAL: Lands designated within a zoning district should meet the purpose definition of the district.</i>	
<i>Policy:</i> Determine if the outlier areas in the Soil and Water Conservation District meet the protection needs as stated in the purpose definition for the district. If not, the Planning Commission should determine the correct district.	
1. Using the 2011 zoning district definition, determine if the outlier 15-acre zones on the zoning map achieve the purpose of the district.	PC
2. Hold public meetings for community input when making this determination.	PC & PZA
3. If the Planning Commission finds that the outlier areas do not meet the zoning district requirements, they should assign the outlier areas to the appropriate zoning district.	PC
4. The zoning map should be amended to reflect any changes made.	PC
<i>GOAL: Land uses allowed within a zoning district should conform with the purpose of the zoning district and be approved by the community.</i>	
<i>Policy:</i> Permitted and conditional uses, lot size, stormwater management practices, and setbacks for the Soil & Water Conservation District should be reviewed by the community in the course of regulatory amendment.	
1. Review permitted and conditional land uses, lot size, and setbacks for the district and amend if deemed necessary.	PC
2. Hold public forums and hearings to get community feedback on any proposed amendments.	PC & PZA
Section 3.8 Special Flood Hazard District	
<i>GOAL: The Town's floodplain regulations should be compliant with federal requirements so compliance with the NFIP is assured and the regulations are enforceable.</i>	
<i>Policy:</i> The Town's floodplain regulations should be compliant with federal flood insurance program requirements.	
1. Consider amending the regulations to strengthen floodplain protection to improve resilience to future flood impacts, and to ensure the greatest percentage of public financial assistance from the State for natural disaster recovery.	PC & SFC
Section 3.9 Fluvial Erosion Hazard Areas ("FEH")	

GOAL: <i>A fluvial erosion hazard area should be considered if it provides a higher level of environmental protection than currently afforded by zoning setbacks from streambanks and/or the FEMA 100-year floodplain.</i>	
Policy: Investigate and make a decision about adding fluvial erosion hazard areas as an additional overlay district to the zoning map and what regulations would be appropriate for this area.	
1. Review the fluvial erosion hazard area map from the Chittenden County Regional Planning Commission. This map will allow the Planning Commission to see the extent of the hazard area and the extent of additional environmental protection it shall afford.	PC
2. Consult with the Conservation Commission on the FEH.	PC & CC
3. Based on the map and using models from other towns, state agencies, or planning organizations, propose regulations for a fluvial erosion hazard area.	PC, ANR & CCRPC
4. Hold informational meetings with the public, in particular affected landowners, to get their feedback on the proposed regulation/zoning overlay district.	PC & PZA
5. Based on community feedback and scientific information, the Planning Commission may decide to add a fluvial erosion hazard area to town regulations.	PC

SERVICES IMPLEMENTATION

Section 4.9 Telephone Services	
GOAL: <i>Telephone service in Underhill, with special emphasis on cellular telephone service, shall be comparable to that in urban centers in Vermont.</i>	
Policy: All areas in Underhill will have access to cellular telephone service.	
1. Monitor the provision of cell phone service availability in Underhill.	PC
2. Provide links on the Town web site to cell service providers so that residents can check on whether a provider serves their area.	PC & TA
Section 4.10 High-speed Internet Service	
GOAL: <i>High-speed internet access is a necessity that shall be provided in Underhill.</i>	
Policy: High-speed internet access should be available to all residents in Underhill.	
1. Continue to monitor internet access to help ensure continued coverage.	PC
Section 4.11 Emergency Operations Planning	
GOAL: <i>Underhill shall have a Local Emergency Operations Plan (LEOP) for use in an emergency or incident in accord with state and federal regulations.</i>	
Policy: To update and maintain a functional plan that guides the Town's response in an emergency.	
1. Continue to meet with an EOP team consisting of the Selectboard members, Town Administrator, Town Clerk, Essex Rescue, UJFD, State Police, CCRPC representatives, and other stakeholders.	SB, EMD, TA, PC, UJFD & others
2. Maintain an EOP that best suits the Town's capacity and needs in addition to updating the state-sponsored Basic Emergency Operations Plan (BEOP) and submitting to the RPC for inclusion in the state database.	SB, EMD, UJFD
3. Conduct one or more tabletop exercises to identify areas of improvement, additional hazards, and to outline response and mitigation strategies.	SB, TA, RF, PC, EMD & PZA
4. Develop an ICS 205 Form for radio communications.	EMD, SB & UJFD
Policy: To inform the community of local emergency response developments, strategies, and resources.	
1. Utilize mailings, the Town website, and other resources to inform the community of meetings and/or documents available related to the Local Emergency Operations Plan.	SB & TA
Policy: To train local volunteers and officials in required emergency response roles and responsibilities.	
1. Establish a volunteer Underhill Community Emergency Response Team that has gone through CERT training.	SB

2. Have local officials and volunteers participate in trainings as provided/required by the federal and state government.	SB, EMD & RF
3. Participate in other training opportunities as offered by the UJFD and Essex Rescue.	EMD, SB, TA, RF & UJFD
4. Participate in monthly Local Emergency Planning Committee (LEPC) meetings.	EMD, SB, TA, RF & UJFD
Policy: Identify citizens in the community that may need assistance during an emergency event.	
1. Encourage appropriate private and public organizations to perform outreach activities to help identify vulnerable populations. Vulnerable individuals should self-elect to participate and should identify the accommodations needed during an emergency, i.e. heat, transportation, special health concerns, etc.	EMD, PC & UJFD
2. Coordinate with appropriate organizations to develop a network of volunteers who will perform safety checks on those individuals identified as vulnerable during an emergency.	EMD & UJFD

INFRASTRUCTURE IMPLEMENTATION

Section 5.1 Public Assets	
GOAL: <i>Town buildings should be well maintained and provide a safe and efficient environment for town employees.</i>	
Policy: Implement the above policy without undue tax burden.	
1. Establish a regular maintenance program in accordance with Capital Improvement Program policy.	SB
2. Carry out energy audits and follow recommendations made when economically feasible.	EC & SB
GOAL: <i>To maintain town-owned land and natural resources in a manner that is compliant with state and local environmental rules and regulations while maximizing the Town-approved uses of these areas.</i>	
Policy: Maintain town land in a manner that protects the health, safety, and public welfare of users. Town land should be utilized for approved town uses and the Town should encourage maximum use through its maintenance of the lands.	
1. Plan and budget for the rehabilitation of the former gravel pit on Beartown Road to reduce safety hazards and erosion. Once rehabilitated, the Selectboard should hold a public hearing on what the Town can and should do with this land.	SB & TA
2. Establish a Garden Committee to maintain all Town park gardens and develop new ones.	SB
3. Seek donations of time and materials to make Town lands more attractive.	SB & TA
4. Investigate potential recreation opportunities for Town lands. See Recreation Chapter 9.	SB
Roads and Highway Equipment	
GOAL: <i>Strive to provide a safe, convenient and economic transportation system that respects the integrity of the natural environment.</i>	
Policy: Look for all possible efficiencies while maintaining town residents' high level of satisfaction with current maintenance.	
1. Explore using possible local sources of sand and gravel, with considerations to include both cost effectiveness and environmental issues.	SB & RF
2. Protect roadways from floods and stormwater runoff by adopting and implementing low impact development strategies and land use practices through Unified Land Use & Development Bylaws.	PC, SB & DRB
3. Ensure private roads and driveways are adequately designed by revising the Town Road Standards.	SB
4. Continue to require "shared maintenance agreements" for all new subdivisions to ensure private roads and driveways are properly maintained so as not to negatively impact town roads.	DRB
5. To reduce budget expenditures, consider whether to make homeowners responsible for the expense of driveway culvert maintenance.	SB & RF
6. Continue to pursue grants for road infrastructure improvements from entities such as the Agency of Transportation, the Northern Vermont RC&D Council, and Better Backroads Program.	TA, RF & SB
7. Annually adopt the current VTrans' Road and Bridge Standards.	SB

GOAL: <i>Maintain and replace highway equipment and maintain other Town assets such as Casey's Hill, the Town Pond, and the tennis courts in accord with the Capital Improvement Program.</i>	
Policy: Town assets and equipment should be maintained and replaced on a schedule so that unexpected expenses are reduced and deterioration of assets are minimized.	
1. Include all Town assets in the Capital Improvement Program.	SB
2. Evaluate Town Highway equipment annually for operating status, anticipated repairs, and energy efficiency.	RF
3. If equipment is inefficient, a cost/benefit analysis should be done to determine if an efficiency upgrade would be cost effective.	RF
4. Casey's Hill, the Town Pond, and the tennis courts should be regularly maintained so they do not deteriorate and lose value.	SB
Section 5.2 Capital Improvement Program and Capital Budget	
GOAL: <i>Plan for, finance, provide and maintain infrastructure that is adequate to meet the needs of Underhill town residents and government.</i>	
Policy: Since Underhill's infrastructure has grown over the years and will continue to evolve, a Capital Improvement Plan (CIP) should be continually developed and annually adopted by the Selectboard.	
1. Consider the land use goals of the Town Plan when establishing the Capital Improvement Program. In particular, when establishing evaluation criteria and prioritization methods give high priority to projects within or in service of the Village Centers to help enable future development.	PC
2. Formulate capital improvement policies, procedures, and evaluation criteria for the Capital Improvement Program.	PC & SB
3. In accord with CIP policy and the Government Accounting Standards Board 34 (GASB 34): Continue to annually update the capital assets inventory and assess the condition of all town properties, including but not limited to roads, buildings, land and recreational facilities	SB, FD, RF, TA
4. Assure that the Selectboard establishes a capital budget for the each fiscal year.	SB
5. Review the CIP annually and ensure that capital projects conform to the Town Plan. If amendments are needed, the Planning Commission should make recommendations to the Selectboard.	PC & PZA
Section 5.3 Communications Systems	
GOAL: <i>The Town should have high-speed internet and cellular telephone service throughout Town.</i>	
<i>See Services Chapter Section 4.9 & 4.10 for detailed strategies for this policy.</i>	
Section 5.4 Village Centers	
GOAL: <i>As part of Village Center planning, assure that existing or potential infrastructure could meet the needs of more densely populated village centers.</i>	
Policy: Enabling regulations should be enacted to allow for greater housing density and increased water and septic/sewage capacity in designated areas of town. <i>See Land Use Chapter.</i>	
<i>See Land Use Chapter for detailed strategies for this goal.</i>	
Section 5.5 Development of Recreational Trails	
<i>See Recreation Chapter for a detailed discussion of this topic.</i>	

TRANSPORTATION IMPLEMENTATION

Section 6.2 Town Roads	
GOAL: <i>Maintain a safe, convenient, and economic road system that respects the integrity of the natural environment.</i>	
Policy: Maintain town residents' high level of satisfaction with road maintenance at a reasonable cost.	
1. Protect roadways from floods and stormwater runoff by adopting and implementing low impact development strategies and land use practices through Unified Land Use and Development Bylaws.	SB, PC & DRB
2. Annually adopt the current VTrans Road and Bridge Standards. Adopting the standards makes the town eligible for a lower cost share for projects funded under the Town Highway Structures program, as well as other financial incentives.	SB

Policy: Ensure that private roads are properly maintained and provide safe access for residents and emergency vehicles.	
1. Ensure private roads and driveways are adequately designed by revising the Town Road Standards and incorporating them into the Unified Land Use and Development Bylaws.	SB & RF
2. Continue to require “shared maintenance agreements” for all new subdivisions to ensure private roads and driveways are properly maintained so as not to negatively impact town roads.	DRB & SB
GOAL: Preserve and enhance the rural character of Underhill’s roads while promoting safety.	
Policy: Ensure safe operating conditions are maintained on public roads with minimal environmental disturbance.	
1. Ensure the Town’s transportation infrastructure repair is appropriately planned in the Capital Improvement Program with a schedule of annual repairs to roads and culverts.	RF & TA
2. Research and implement traffic calming measures in order to reduce the speeds of motor vehicles.	PZA, PC & RF
3. Make roads and right-of-ways as compatible with the topography, landscape, and as free of litter and debris as possible.	RF
Section 6.3 Public Transportation	
GOAL: Explore available public transportation options to serve Underhill.	
Policy: Increase the availability of cost-effective, convenient, and accessible public transportation services.	
1. Explore the requirements, costs, and benefits of joining the Chittenden County Transit Authority (“CCTA”) and promote the services provided by SSTA and United Way’s Neighbor Rides program.	TA & PC
2. Conduct public forums to determine the public transportation needs of the Town’s residents.	PC
3. Join the CCTA if the need is warranted and the service is economically feasible.	SB
Section 6.4 Alternative Modes of Transportation	
GOAL: Consider facilities for alternative modes of transportation such as bicycling, walking, and carpooling.	
Policy: Investigate the development of a multi-modal network.	
1. Coordinate efforts and expertise of the Selectboard, Planning Commission, and the recreation community to identify funding sources and continue a coordinated planning effort.	TA, PZA, SB, & PC
2. Identify areas where crosswalk markings and signage needs to be added or upgraded to improve pedestrian safety.	PZA, RF & TA
3. Continue to work with interested residents to improve pedestrian and bicycle facilities.	PZA, RF & TA
4. Continue to review the zoning regulations and recommend amendments, if needed, to ensure that the needs of all transportation users are considered during the development review process.	PC
Policy: Encourage carpooling.	
1. Advertise the availability of the existing Park and Ride facility located at the old school house at the corner of Stevensville Road and Pleasant Valley Road, and the new facility in the Jericho section of Underhill Flats.	PC, EC & PZA
2. Conduct a public forum(s) aimed at providing information to town residents about the benefits of carpooling and available programs.	PC & PZA

HOUSING IMPLEMENTATION

Section 7.3 Housing Affordability	
GOAL: Strive to make residence in the Town available to all income levels.	
Policy: Increase the affordable housing stock for those of low and moderate incomes.	
1. Provide for greater density in areas designated as village centers by encouraging duplexes and multi-family dwellings. <i>See Land Use, Chapter 2.</i>	PC
2. Evaluate the minimum lot size in village centers and determine if it should be reduced to increase density in areas where services and infrastructure already exist. <i>See Land Use, Chapter 2.</i>	PC
3. Encourage affordable housing by drafting regulations that remove some of the restrictions on accessory dwellings.	PC

4. Support efforts to develop a county-wide Housing Needs Assessment study, to identify the regional housing needs. The results of the study can guide town policies, as well as private and public actions.	PC & CCRPC
5. Apply for Municipal Planning Grants and other financial opportunities to study the housing needs of the community.	PZA
6. Consider applying for the Neighborhood Development Area program.	PC & PZA
<i>GOAL: Strive to make housing affordable for all residents.</i>	
<i>Policy:</i> To increase housing stock that allows for young families and individuals and older community members to remain in the community.	
1. Host a housing forum to educate residents about affordable housing and the need for affordable housing.	PC & CCRPC
2. Encourage multi-generational and multi-income residents by supporting planned residential and planned unit developments.	PC
3. Allow for multi-unit structures where appropriate.	PC
4. Encourage cottage housing.	PC
5. Encourage multi-generational, multi-income and senior housing in the village centers.	PC
6. Consider additional development bonuses for affordable housing projects.	PC
7. Work with the Chittenden County Regional Planning Commission to implement the housing strategies identified in the ECOS Plan. Continue to provide assistance when needed.	PC, PZA, CCRPC

ECONOMIC DEVELOPMENT IMPLEMENTATION

Section 8.2 Economic Opportunity & Planning	
<i>GOAL: Underhill should strive to be an affordable community for all of its residents, and encourage the development of small-scale local services and employment opportunities that maintain the Town's sense of place and rural character.</i>	
<i>Policy:</i> Increase local economic activity (home-based employment, as well as local businesses).	
1. Maintain and strengthen, where appropriate, relevant infrastructure.	SB
2. Hold public forums to determine what residents consider the appropriate type of business, industries, and land uses for Underhill.	PC
3. Consider land use regulations that provide incentives for appropriate commercial development in village centers.	PC
4. Encourage the utilization of existing facilities for local production, sales, and services.	PC
5. Explore the benefits of Village Center designation in Underhill Center.	PC
6. Promote financial incentives available to property owners within the designated Underhill Flats Village Center.	PC & PZA
<i>Policy:</i> Maintain and increase working landscapes.	
1. Hold public forums to determine what challenges exist for working lands and maintaining and increasing local business opportunities.	PC
2. Review zoning regulations to assess whether diversification of agricultural businesses is possible and not restricted by local regulations.	PC
3. Continue to support local farmers markets and locally grown agricultural products.	PC & SB
4. Review zoning regulations to ensure access to working lands is protected during subdivision review process.	PC
5. Continue to develop and support strategies to protect long-term viability of agricultural and forest lands.	PC
6. Support and encourage property owner participation in the Land Contract program which preserves natural and working landscapes.	PC
7. Hold public forums to discuss best management practices to protect the sustainability of working lands and agricultural and forest opportunities.	PC

ENERGY IMPLEMENTATION

Section 9.2 Energy Consumption Reduction	
<i>GOAL: Reduce energy consumption of Town equipment and Town properties and encourage town residents to do the same.</i>	
<u>Policy:</u> The Town should have energy efficient infrastructure.	
1. Continue to maintain and improve the energy efficiency of Town buildings through capital planning.	SB, EC
2. Assure that Town vehicles should adhere to all emission standards as established by the state and federal government.	RF
3. Use local natural resources whenever effective and compliant with other Town policies and goals to reduce Town energy expenditures.	SB
4. Assure that energy performance values adhere to state energy standards for any new Town of Underhill infrastructure construction.	SB
<u>Policy:</u> Encourage public and private entities to reduce energy use.	
1. Enforce current state energy codes as a requirement for the issuance of a Certificate of Occupancy. At the same time, the town should promote residential building practices which exceed these current state requirements.	PZA
2. Continue to educate residents in ways to reduce their energy consumption especially in the area of reducing thermal energy expenditures.	EC
3. Continue to monitor the implementation of PACE (Property Assessed Clean Energy), a financing vehicle whereby the Town would loan money to residents for home energy improvements. If feasible, from a town management standpoint, the Energy Committee would ask the Selectboard to submit this to town voters for approval.	EC
4. Review Town regulations and fee structures to consider ways to encourage energy efficient construction. One possibility is to offer building fee rebates based on the proven energy efficiency of new construction and existing structure improvements. A recommendation should be made by the Planning Commission to the Selectboard about fee rebates or other strategies to achieve energy savings in conjunction with regulatory amendments.	EC & PC
5. Make recommendations to the Selectboard regarding targeted emission standards for Town infrastructure, as well as suggested methods for achieving targeted standards.	EC
6. Support the further development of public transportation systems and alternative transportation systems such as multi-modal paths in accord with the planning goals set forth in the Transportation Chapter of this Plan.	SB & PC
7. Promote the minimization of night lighting, commensurate with safety and utility, in both public and private properties.	PC & EC
8. Consider adopting the state “stretch code” that provides construction efficiency standard that is higher than the baseline State Energy Code.	PC & EC
9. Consider updating the zoning bylaws to include language to clarify permitting requirements for new electric vehicle charging installations and to support the ongoing development of charging stations.	PC
Section 9.3: Development of Renewable Energy Resources	
<u>Policy:</u> Promote the development of renewable energy sources in Underhill.	
1. Review Town regulations to determine if they are flexible enough to accommodate development of renewable energy sources in identified use areas.	PC
2. If desirable, the Planning Commission should propose amendments to the regulations and hold public forums on the proposed changes.	PC
3. When drafting amendments to accommodate development of renewable energy sources, the Planning Commission should consult both the Conservation Commission and the Energy Committee.	PC, EC & CC

RECREATION IMPLEMENTATION

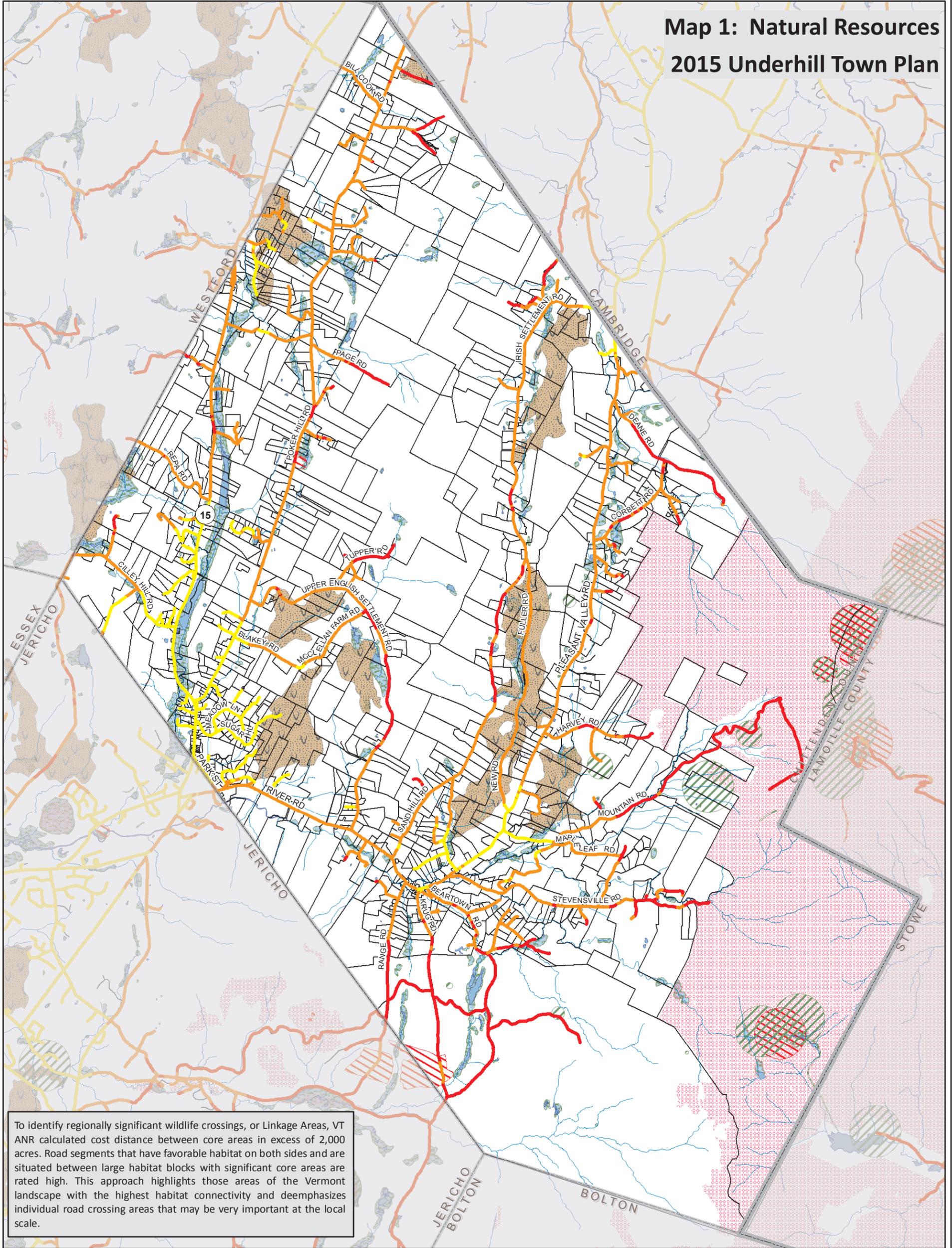
Section 10.1 Recreational Trails	
<i>GOAL:</i> It is a benefit to Underhill residents to have access to traditional trail systems. Those trail systems should protect the flora and fauna of the trail area, respect the rights of private landowners and be maintained in an environmentally responsible manner.	
<u>Policy:</u> Facilitate recreational trail usage by promoting the Underhill Trails Handbook. The Handbook provides best practices for trail development and maintenance and encourages users to be respectful of all aspects of the environment and of private property owners wishes.	
1. Continue to promote the Underhill Trails Handbook.	CC
2. Consider applying to VT Agency of Natural Resources recreational trails program to implement town priorities.	CC & SB
<i>GOAL:</i> Encourage recreational trail development throughout Town, particularly along the River Road corridor to connect Underhill Flats and Underhill Center.	
<u>Policy:</u> Provide incentives to private landowners to allow for community use of trails on their land.	
1. Explore the use of density bonuses and other development incentives for subdivision proposals that either preserve existing or to create new trails.	PC
2. Explore the use of the Town Land Contract to aid in development of a trail network.	CC
3. Ensure the Underhill Trails Handbook is widely available to private landowners and user groups and encourage its use when developing trail systems.	CC
<u>Policy:</u> Provide a multi-modal connection between village centers.	
1. Investigate the feasibility, cost, and identify potential funding sources for expanding road shoulders for recreational use and make a capital plan recommendation to the Selectboard.	RF, & CC
2. Investigate connecting the two proposed village centers with a shared-use path as part of village center planning.	PC, PZA & CCRPC
Section 10.3 Town Recreational Infrastructure	
<i>GOAL:</i> Maintain all publicly owned recreational infrastructure.	
<u>Policy:</u> Continue to include recreational infrastructure improvements a part of the capital improvement plan.	
<u>Strategies:</u> See §5.2 Infrastructure Chapter of this Plan.	

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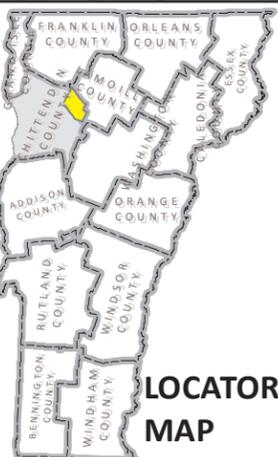
MAPS

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Map 1: Natural Resources 2015 Underhill Town Plan

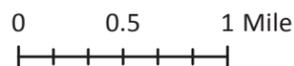


To identify regionally significant wildlife crossings, or Linkage Areas, VT ANR calculated cost distance between core areas in excess of 2,000 acres. Road segments that have favorable habitat on both sides and are situated between large habitat blocks with significant core areas are rated high. This approach highlights those areas of the Vermont landscape with the highest habitat connectivity and deemphasizes individual road crossing areas that may be very important at the local scale.



- Wildlife Linkage Rating**
- 1 (less important)
 - 2
 - 3
 - 4
 - 5 (more important)

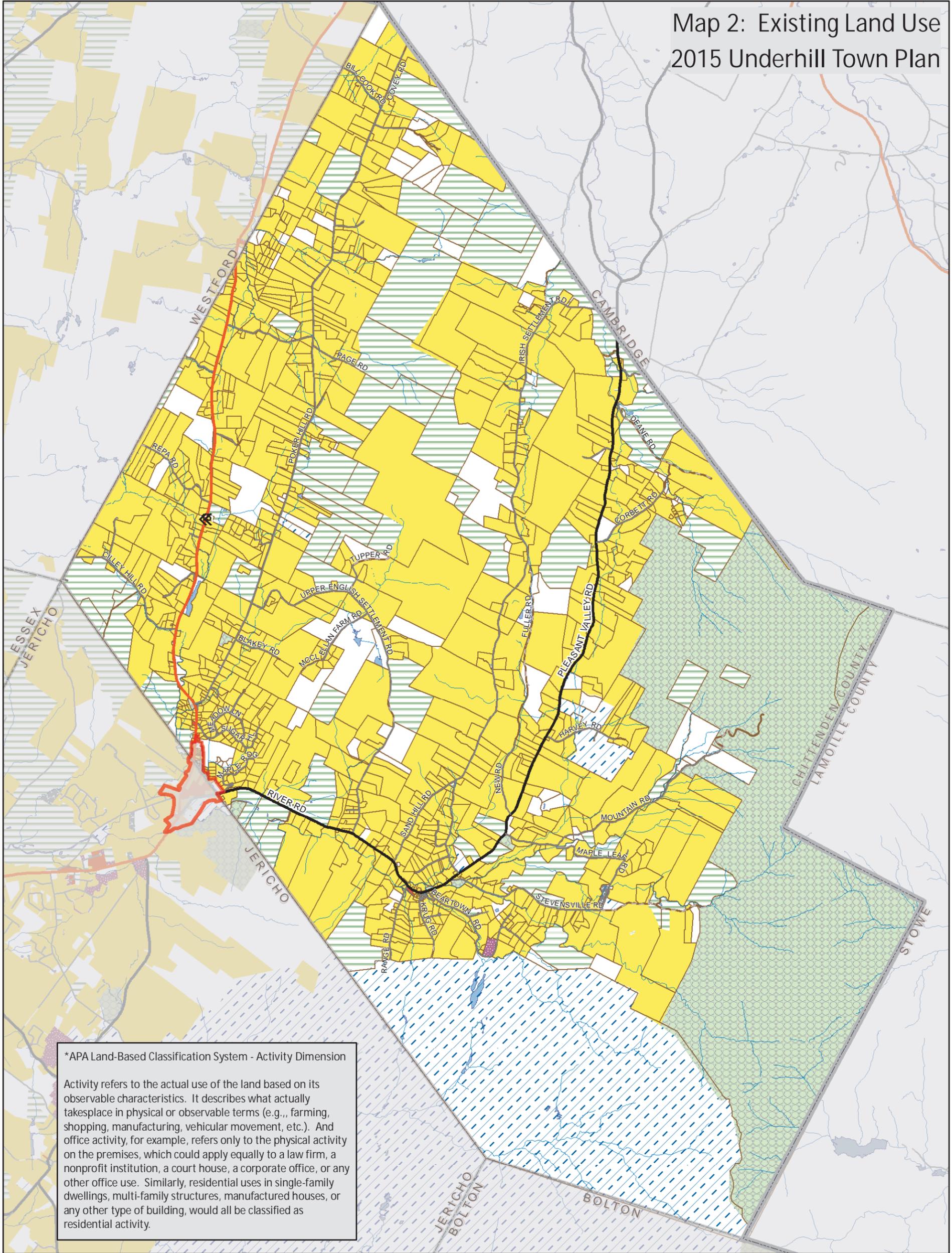
- Deer Wintering Area
- Class 2 Wetland
- Rare Threatened Endangered Species**
 - Rare
 - Threatened or Endangered
 - Significant Natural Community



Source:
Road Centerline - e911, 6/2014; Surface Water - VHD, 2008 (VCGI);
All Natural Resource data - ANR; Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

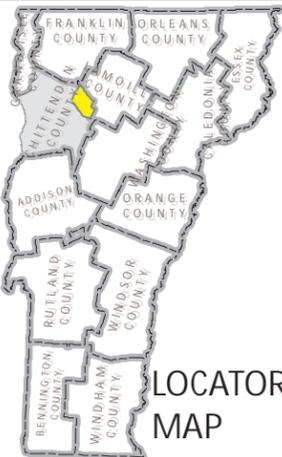
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Map 2: Existing Land Use 2015 Underhill Town Plan

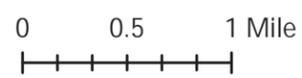


***APA Land-Based Classification System - Activity Dimension**

Activity refers to the actual use of the land based on its observable characteristics. It describes what actually takesplace in physical or observable terms (e.g., farming, shopping, manufacturing, vehicular movement, etc.). And office activity, for example, refers only to the physical activity on the premises, which could apply equally to a law firm, a nonprofit institution, a court house, a corporate office, or any other office use. Similarly, residential uses in single-family dwellings, multi-family structures, manufactured houses, or any other type of building, would all be classified as residential activity.



- Designated Village
- 2012 Tax Parcel Boundary
- Primary Land Use**
- Residential
- Shopping, Business or Trade
- Social, Institutional, or
- Mass Assembly of
- Leisure
- Natural Resource-related
- White or blank indicates No Human Activity(or Unclassified)

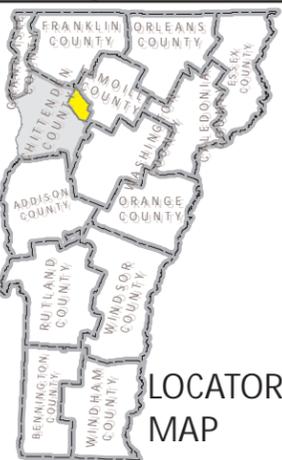
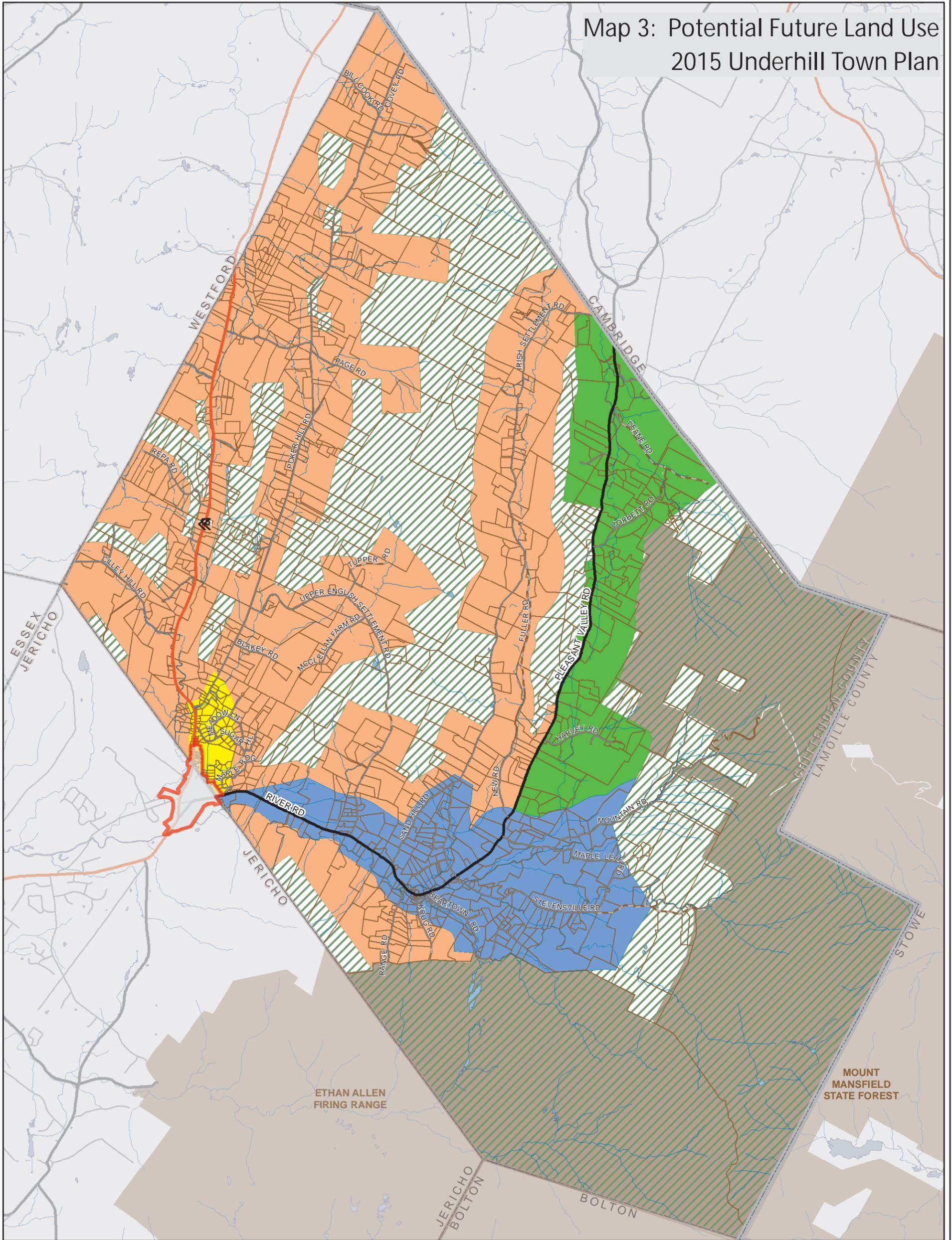


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Source: Road Centerline -VTrans, 6/2014; Surface Water - VHD, 2008 (VCGI); LBCS - updated 2008, CCRPC; Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

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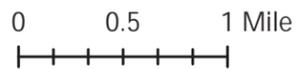
Map 3: Potential Future Land Use 2015 Underhill Town Plan



LOCATOR MAP

Legend

- Designated Village Center
- Zoning District**
- Mt. Mansfield Scenic Preservation
- Underhill Flats Village Center
- Rural Residential
- Soil and Water Conservation
- Water Conservation
- Road Centerline**
- State Highway
- Town Highway Class 2
- Town Highway Class 3
- Town Highway Class 4
- 2012 Tax Parcel Boundary

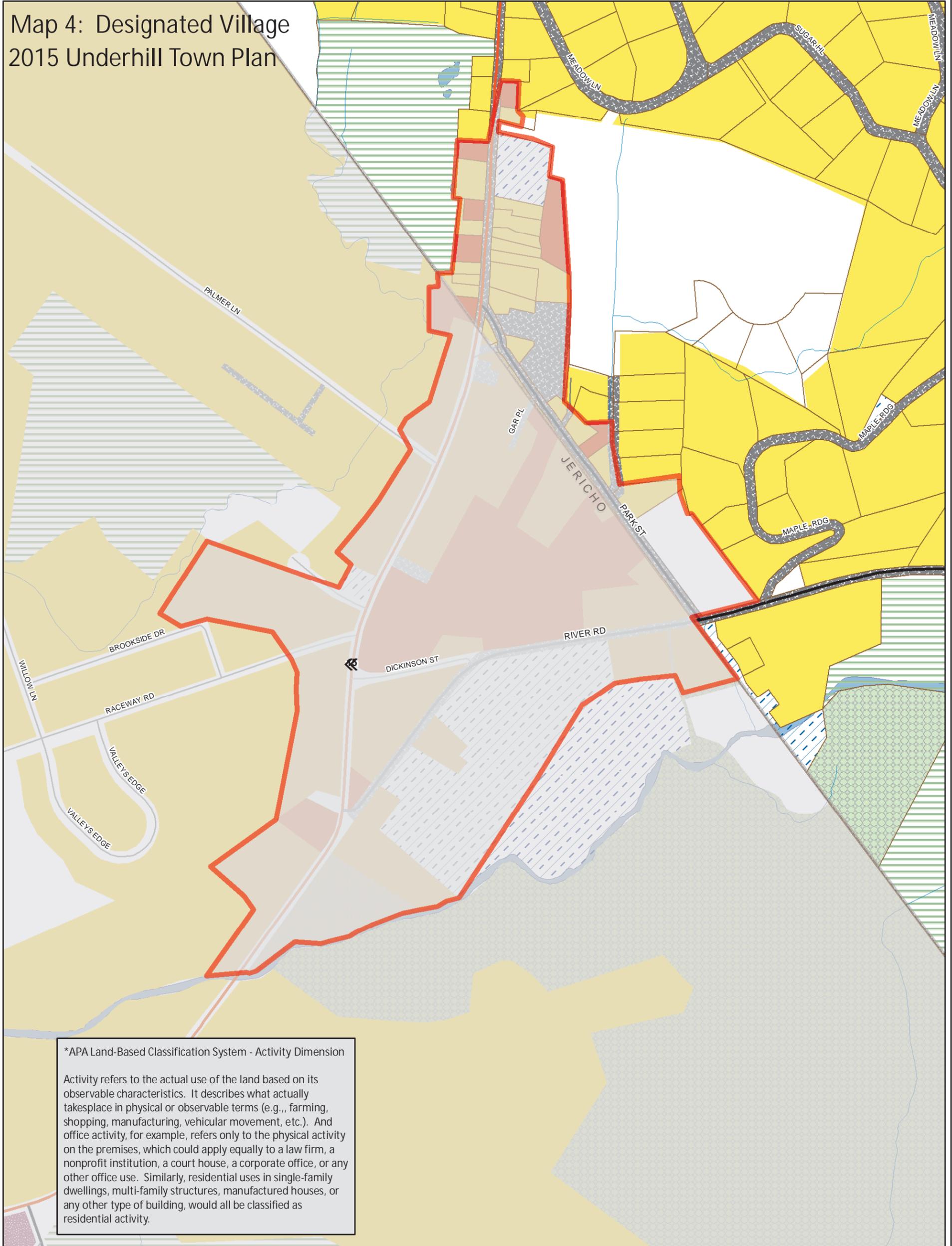


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Source: Road Centerline - VTrans, 6/2014; Surface Water - VHD, 2008 (VCGI); zoning - 1991; Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

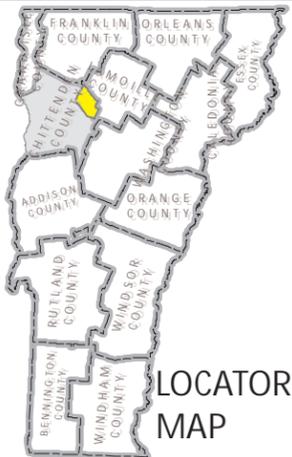
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Map 4: Designated Village 2015 Underhill Town Plan



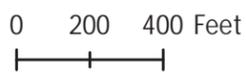
***APA Land-Based Classification System - Activity Dimension**

Activity refers to the actual use of the land based on its observable characteristics. It describes what actually takesplace in physical or observable terms (e.g., farming, shopping, manufacturing, vehicular movement, etc.). And office activity, for example, refers only to the physical activity on the premises, which could apply equally to a law firm, a nonprofit institution, a court house, a corporate office, or any other office use. Similarly, residential uses in single-family dwellings, multi-family structures, manufactured houses, or any other type of building, would all be classified as residential activity.



- 2012 Tax Parcel Boundary
- Designated Village Center
- Primary Land Use Activity***
- Residential Activities
- Shopping, Business or Trade Activities
- White or blank indicates No Human Activity(or Unclassified)

- Legend**
- Industrial, Manufacturing, and Waste-related Activities
 - Social, Institutional, or Infrastructure-related Activities
 - Mass Assembly of People
 - Leisure Activities
 - Natural Resource-related Activities

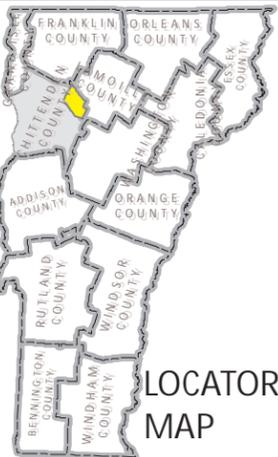
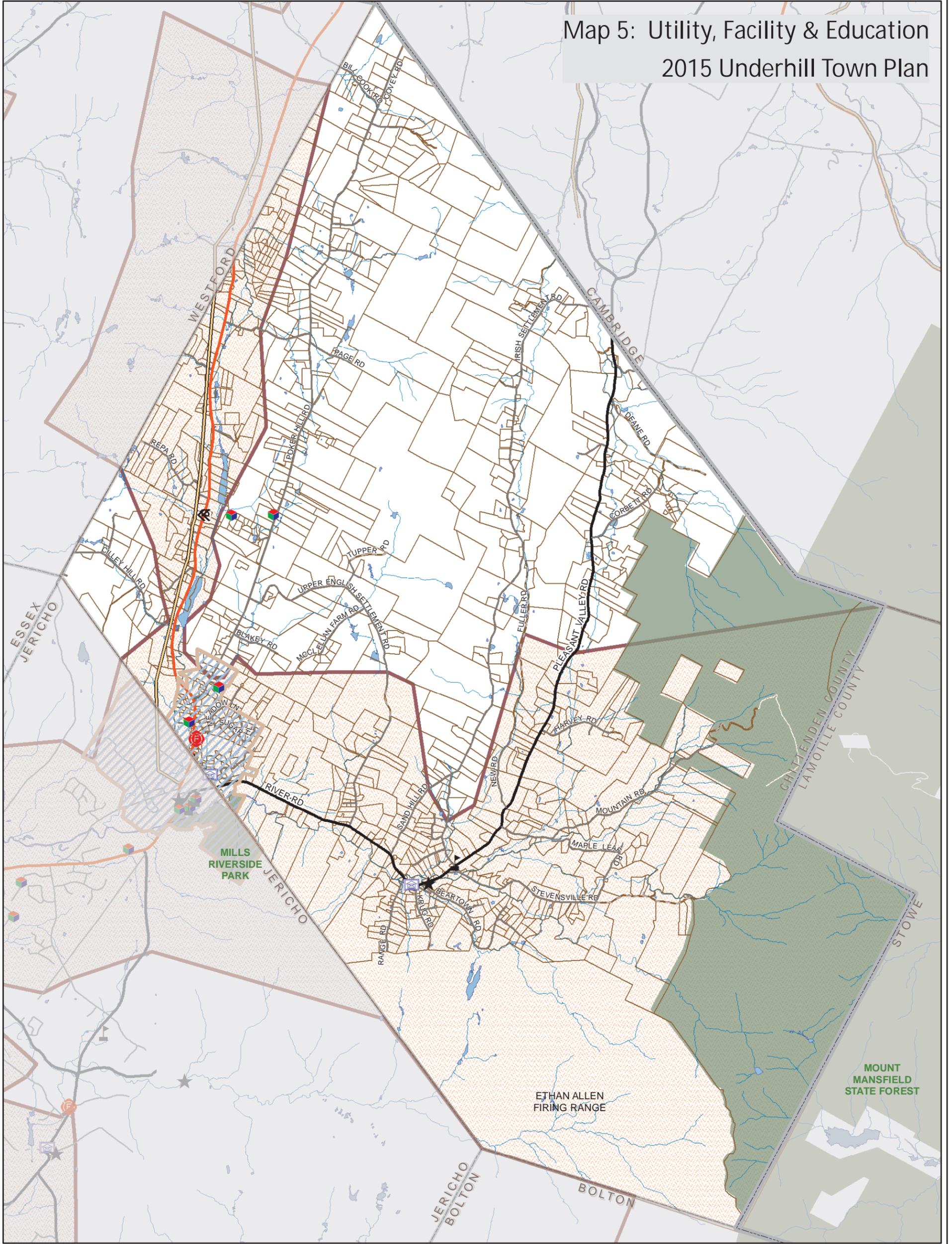


1

Source: Road Centerline - VTrans, 6/2014; Surface Water - VHD, 2008 (VCGI)- LBCS - updated 2008, CCRPC; Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

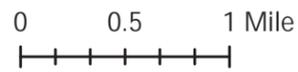
Disclaimer:
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Map 5: Utility, Facility & Education 2015 Underhill Town Plan



Legend

- School
- Fire Station
- Town Hall and/or Library
- Post Office
- Childcare
- Park
- Jericho-Underhill Water District
- Electric Utility**
- Green Mountain Power
- Vermont Electric Co-Op
- Electric Transmission Line

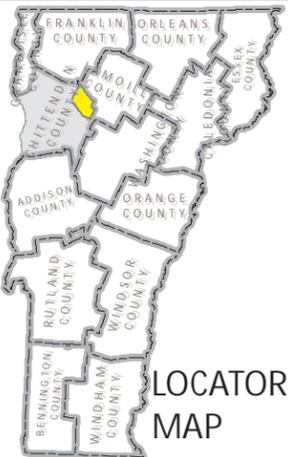
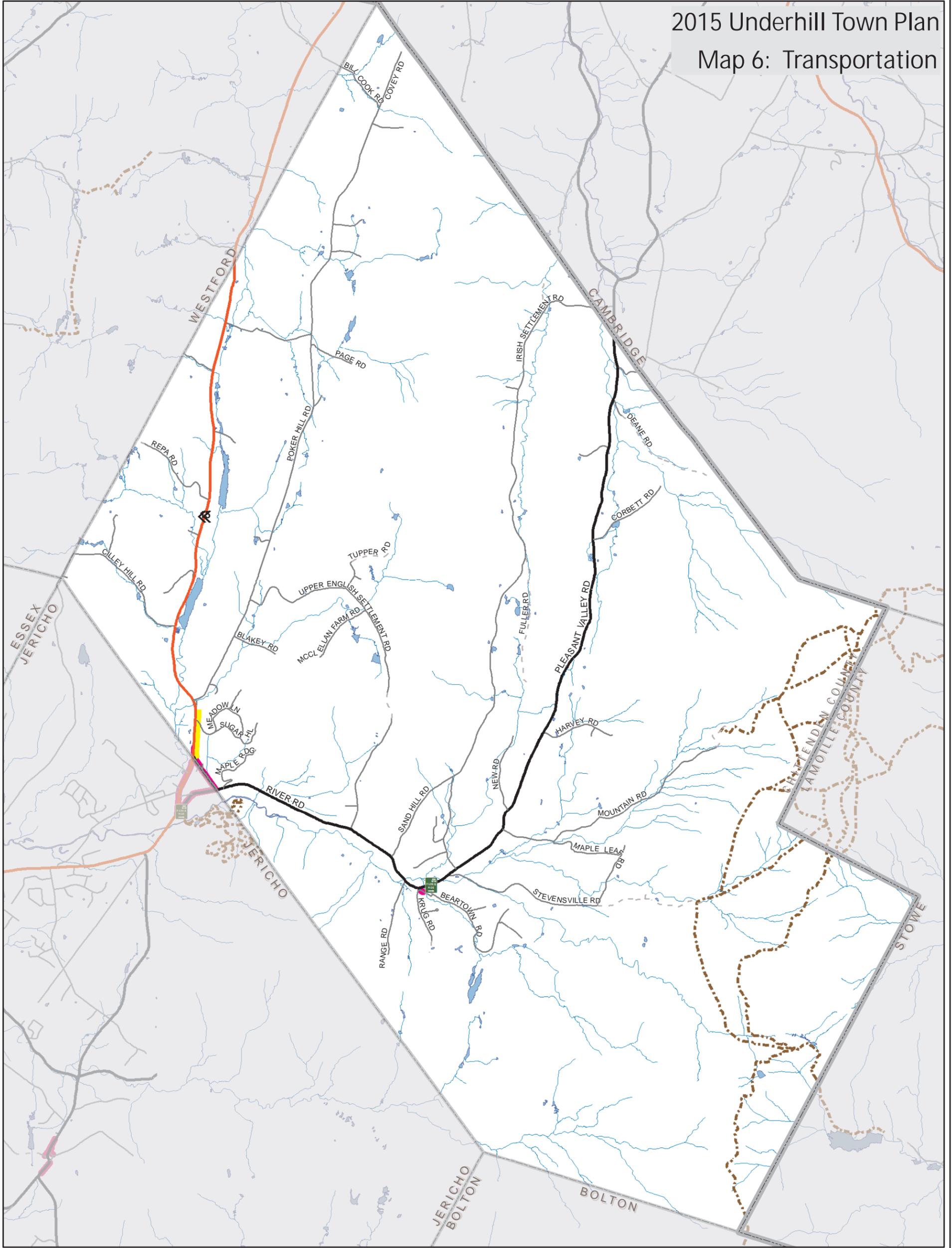


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Source: Road Centerline - VTrans, 6/2014; Surface Water - VHD, 2008 (VCGI); Facilities - CCRPC; Water District - CCRPC; Electric Utilities - VCGI; Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

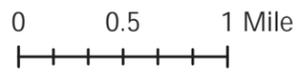
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2015 Underhill Town Plan Map 6: Transportation



Legend

- Park & Ride
- Existing Sidewalk
- Proposed Sidewalk
- Trail
- Road Centerline**
- State Highway
- Town Highway Class 2
- Town Highway Class 3
- Town Highway Class 4

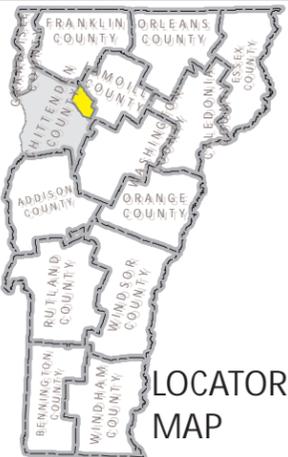
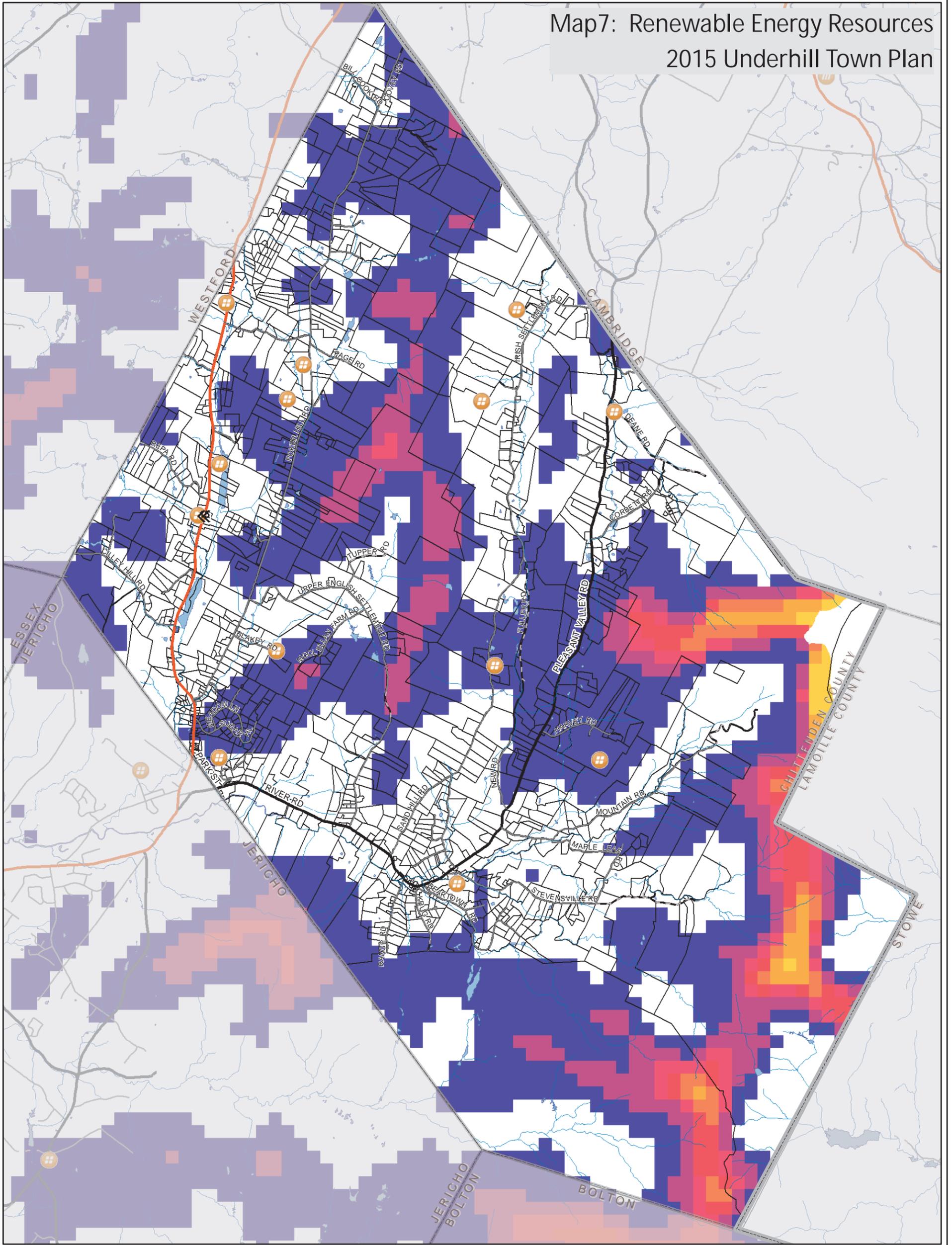


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Source:
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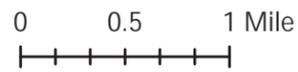
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Map7: Renewable Energy Resources 2015 Underhill Town Plan



Legend

- | | | | |
|--|--|--|---------------------|
| | Solar PV Site | | Class 3 (13-14 mph) |
| | Solar PV & Thermal Site | | Class 4 (15-16 mph) |
| | Residential Wind Potential Class 1 (10-11 mph) | | Class 5 (16-17 mph) |
| | Class 2 (12-13 mph) | | Class 6 (17-18 mph) |
| | | | Class 7 (19-25 mph) |

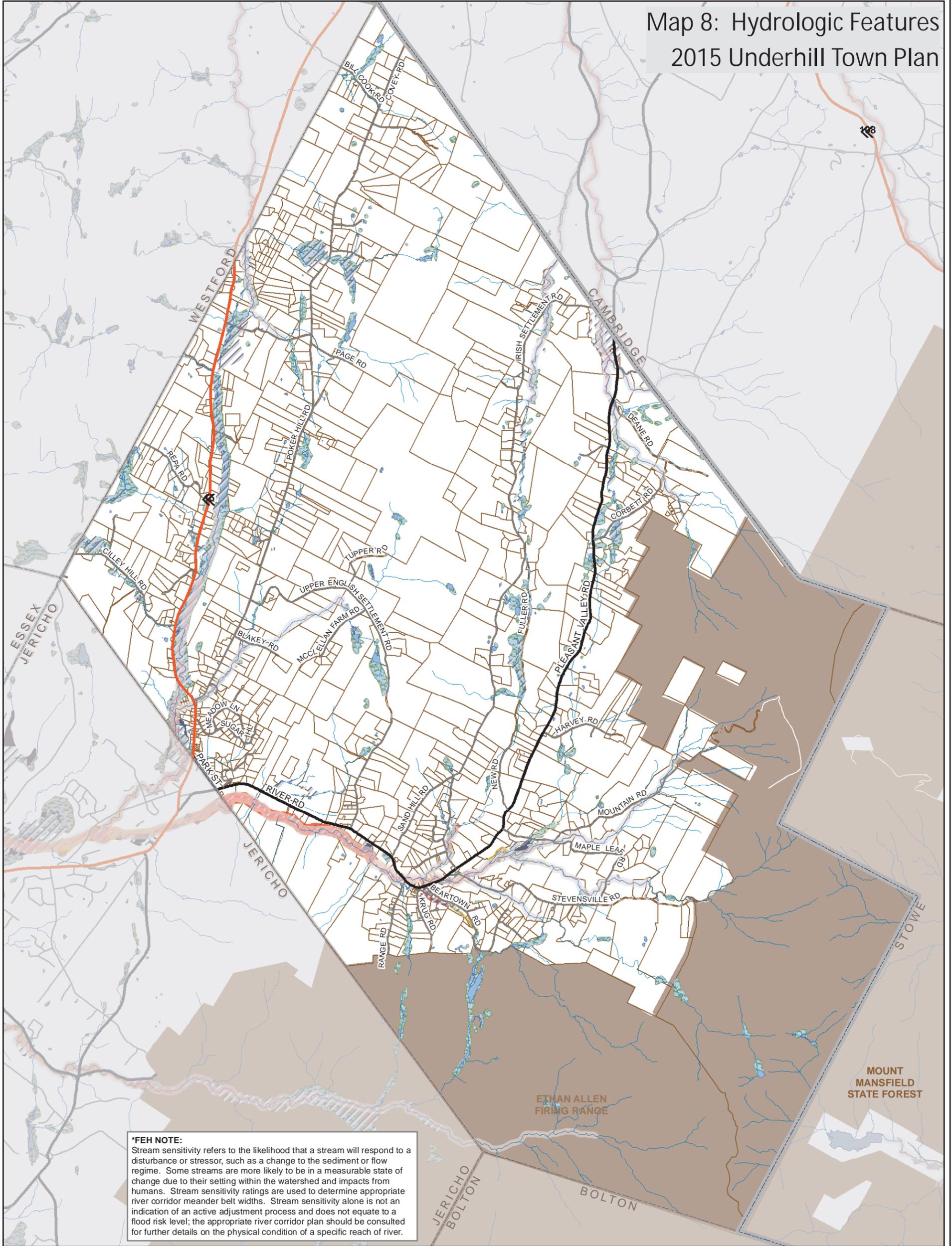


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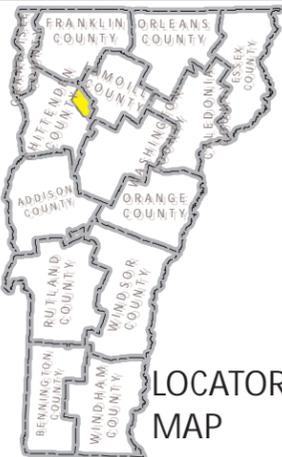
Source: Road Centerline - VTrans, 6/2014; Surface Water - VHD, 2008 (VCGI); Renewable Energy data from VT Energy Atlas - 2014 www.vtenergyatlas.com. Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

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Map 8: Hydrologic Features 2015 Underhill Town Plan



***FEH NOTE:**
Stream sensitivity refers to the likelihood that a stream will respond to a disturbance or stressor, such as a change to the sediment or flow regime. Some streams are more likely to be in a measurable state of change due to their setting within the watershed and impacts from humans. Stream sensitivity ratings are used to determine appropriate river corridor meander belt widths. Stream sensitivity alone is not an indication of an active adjustment process and does not equate to a flood risk level; the appropriate river corridor plan should be consulted for further details on the physical condition of a specific reach of river.



- Stream Centerline
- Water Body
- Class 2 Wetland
- FEMA DFIRM - Floodplain**
- Special Flood Hazard Area (100 yr. flood)
- .2% Annual Chance Flood Hazard (500 yr. flood)
- ANR River Corridor - 1/2015

- Fluvial Erosion Hazard (FEH)** 0 0.5 1 Mile
- Sensitivity Rating***
- Very Low
 - Moderate
 - High
 - Very High
 - Extreme
 - No Phase 2 FEH Zone

Source: Surface Water - VHD, 2008 (VCGI); Wetland - Vermont Significant Wetland Inventory; FEH - ANR; Floodplain - FEMA (official July 2011); Map created by P. Brangan using ArcGIS. All data is in State Plane Coordinate System, NAD 1983.

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