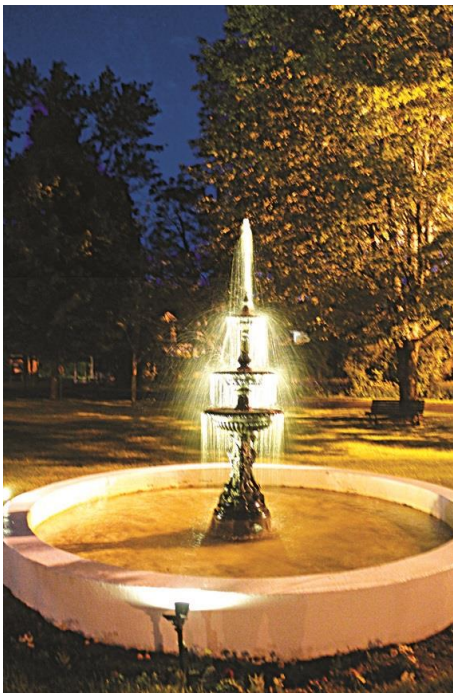
CANAAN, VERMONT MUNICIPAL PLAN

Adopted by Australian Ballot March 7, 2017



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(Photos: top, Johnson Farm; left, Fletcher Park Fountain, Charles Jordan/Colebrook Chronicle photo)

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I. INTRODUCTION

This Plan is intended to provide the basis for the enactment of local land use controls that will guide the future development of Canaan. It will also serve as guidance for the District Environmental Commission when reviewing projects meeting the threshold for Act 250; and for the Vermont Public Service Board when it reviews applications for Certificates of Public Good.

The original Town Plan was written in 1979, and the latest update was in 2011, with the Plan adopted by Australian Ballot at Town Meeting on March 6, 2012.

Since the 2012 Plan update was adopted, the following key developments have occurred in the Town:

- In 2014, new wastewater treatment plan and pump stations have been completed, including new solar-powered aerators in the lagoons
- In 2015, Canaan Fire District #2 in Beecher Falls completed new water mains and a new reservoir.
- Canaan Fire District #1 is currently in the process of completing new water main installation and plans for a new reservoir.
- The Town acquired the land for the Canaan Community Forest

Vermont Act 90 of 2016 established that Municipal Plans adopted after July 15, 2015 will expire in eight years, rather than five years previously set by State statute. Regional Planning Commissions are directed to evaluate, at least twice during an eight year period, whether a municipality with an approved Plan is engaged in a process to implement its Municipal Plan, consistent with its program for implementation. The Act also adds language emphasizing the need for community involvement in the Plan update process, and the need to consider the Municipal Plan's consistency with State planning goals.

The Town of Canaan was fortunate to be chosen for the "Community Heart and Soul" process in 2015, supported in part by the Orton Family Foundation and the Tillotson Family Fund. This effort has engaged residents in identifying goals and action steps designed to improve the community. The community participation garnered by the "Heart and Soul" process has been tapped by the Planning Commission and the ideas that emerged from that process have been incorporated into this Plan.

Also as part of this Plan update, a suite of maps depicting parcel boundaries, existing buildings, natural resources constraints, soils, existing land use, and flood and erosion hazard areas were prepared, and are included in the appendix to this document. All photos were taken by members of the Canaan Planning Commission, unless otherwise credited.

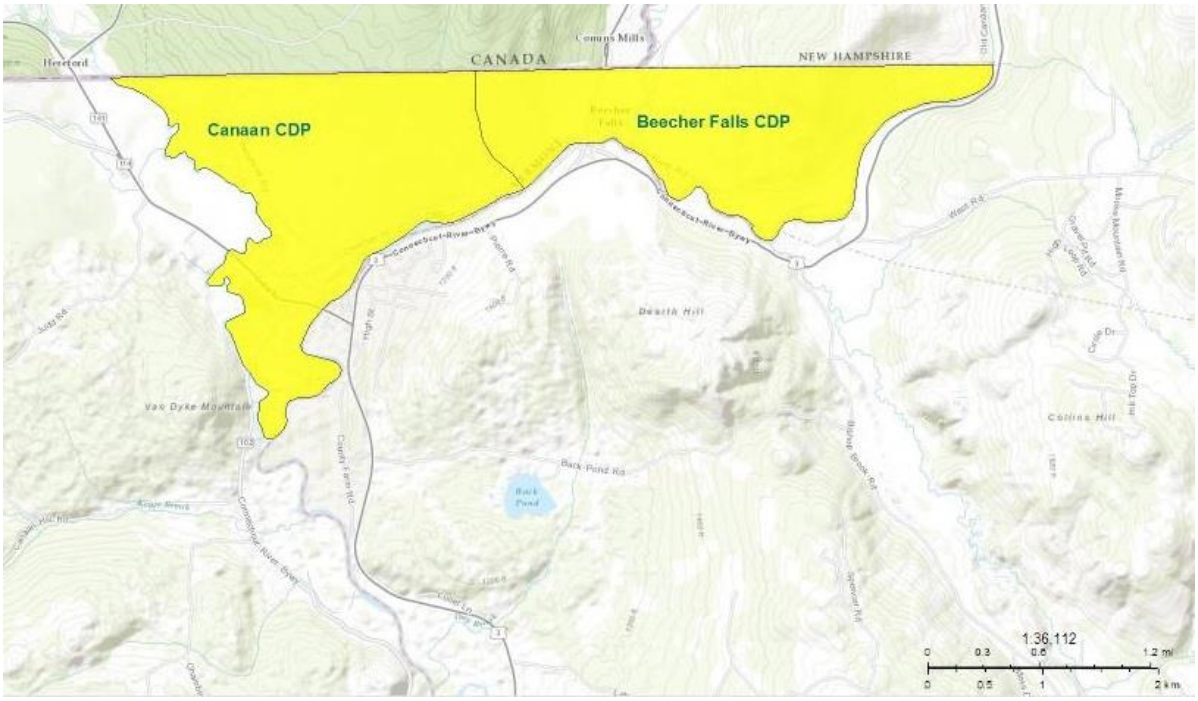
It is important to the Planning Commission that the Canaan Town Plan be a true reflection of the ideas of the citizens of Canaan.

The Planning Commission has developed land use policies that are not intended to remain static, but will change in accordance with changing conditions and trends.

II. TOWN PROFILE

Canaan is located in the extreme northeastern corner of Vermont in the County of Essex. It is bounded on the north by the Province of Quebec, Canada; on the east by the Connecticut River and the towns of Pittsburg, Clarksville, Stewartstown, and Colebrook, New Hampshire; and on the west and south by the towns on Norton, Averill, and Lemington, Vermont. The land area of Canaan is 21,992 acres.

In 2010, new Census Designated Places (CDPs) were created for Beecher Falls and Canaan. Census Designated Places are the statistical counterparts of incorporated places, and are delineated to provide data for settled concentrations of population that are identifiable by name but not legally incorporated. In 2010, population in the Beecher Falls CDP was 177, and in the Canaan CDP was 392. Town-wide, Canaan's population as of the 2010 Census was 972.



The majority of Canaan is hilly woodland. Open farmland runs along the Connecticut River from the village of Canaan to the southernmost border of the Town and from the village of Beecher Falls to the northeast corner of the Town, and along Leach Stream from the village of Canaan northwest to the Canadian border. Vermont Route 102 begins at Canaan village and continues south along the Connecticut River to Lemington on the southernmost border. Vermont 253 begins at Canaan village and continues northeast to the Canadian border. Vermont Route 114 also begins at Canaan village and runs west to Averill. Vermont 141 branches off from 114 north of Canaan village and runs to the Canadian border.

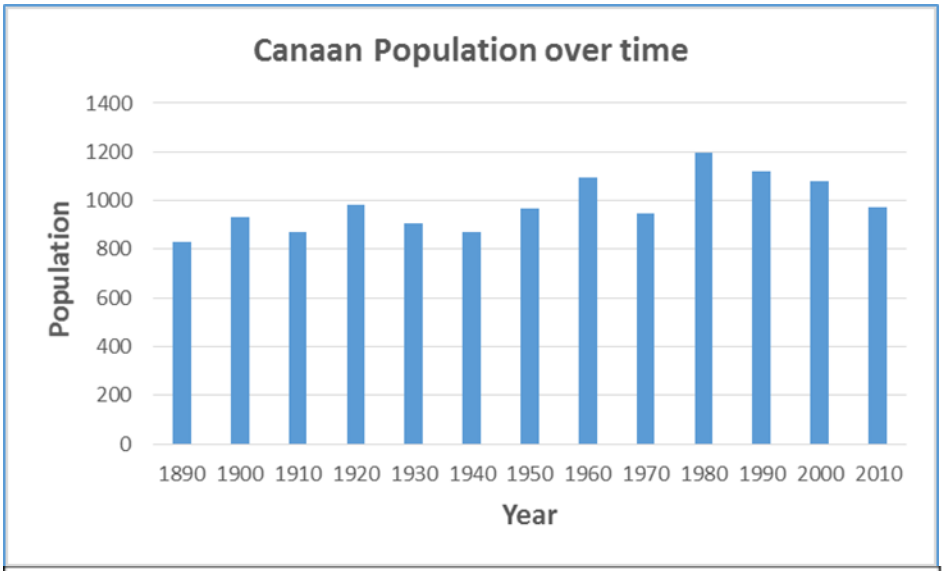
Wallace Pond, Canaan's only recreational lake, is situated on the Canadian border, with more than half of the pond in Canada.

Canaan was chartered by the State of Vermont in 1782 with actual settlement occurring in 1795. Most of the early settlers were farmers who initially established farms in the hilly areas away from the Connecticut River. Gradually, settlement dispersed throughout the Town. Lumbering was a major economic activity with annual log drives on the Connecticut River. In 1888, a railroad line began operating through Beecher Falls with connections to southern New England and extending north to Lime Ridge, Quebec. Six years later, the Beecher Falls Manufacturing Company, taking advantage of the rail service, began furniture manufacturing operations with initial employment of about 150 people. The combination of the railroad, the furniture factory and lumbering resulted in further settlement being concentrated in the river valleys, particularly the villages of Beecher Falls and Canaan. The furniture company now operates under the name Beecher Falls Division of Ethan Allen, Inc.

The Beecher Falls Division of Ethan Allen stopped manufacturing furniture in late August of 2009. At that time 238 employees were laid off, of which 153 were New Hampshire residents. The sawmill operations remained and continue to this day with the milled products being delivered to the Orleans, Vermont plant. The sawmill and peripheral operations currently employ approximately 100 people. The buildings have had some of their manufacturing equipment sold and/or transferred to other Ethan Allen manufacturing facilities.

Additional sources of employment include the federal Department of Homeland Security, small businesses, forestry and agricultural occupations. Though Canaan has attracted people from around the U.S. and Canada for local employment, the Town's population is, by and large, descended from local families. There is a prominent French-Canadian lineage resulting in many bilingual families.

Most retail stores are located across the border in New Hampshire which has no sales tax. This has resulted in particularly strong economic ties with the neighboring towns of Colebrook and Stewartstown.



Source: Vermont Historical Society, www.vermonthistory.org

The population of Canaan has fluctuated near 1000 for the past 120 years, with a peak of 1194 in 1980.

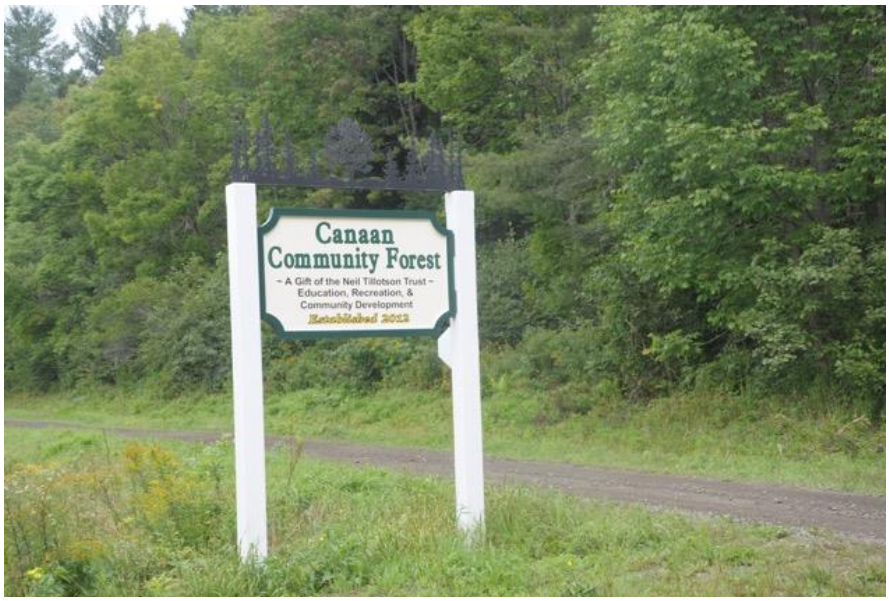
Future trends in the population of Canaan will be largely dependent upon economic factors and job opportunities locally and in neighboring New Hampshire towns.

Additional population and demographic data are included in the Housing and Economic Development sections of this Plan.

The Town of Canaan has several municipal-owned properties which help to enhance its appeal, including Fletcher Park, the Canaan Recreation Park, and the Canaan Community Forest.

Fletcher Park was given to the community by Charles Fletcher in the late 1800's and is located in the heart of Canaan village.

In 1988, the Town purchased a total of 10.6 acres of open land across Vermont Route 102 from the school playing fields to use as a recreational park (pictured above). The park was named the Canaan Recreation Park in memory of Don Sipe. In 2001, the Catholic Diocese of Burlington donated a parcel of land which was incorporated in a new paved walking/running path constructed that year.



In September of 2013, the Tillotson Family Fund donated 424 acres of land formerly owned by the Tillotson family to the Town as the Canaan Community Forest. 368 of these acres are conserved under an easement held by the Vermont Land Trust.

III. POLICIES AND COMPATABILITY WITH THE REGION

State statute at 24 VSA, Sections 4382 (a) (1), (5) and (8) directs that a Municipal Plan include:

- A statement of objectives, policies, and programs of the municipality to guide the future growth and development of land, public services and facilities, and to protect the environment;

- A statement of policies on the preservation of rare and irreplaceable natural areas, scenic and historic features and resources; and

- A statement indicating how the plan relates to development trends and plans for adjacent municipalities, areas and the region developed under this title

Statement of Policies

An analysis of information has indicated that the consensus is to maintain Canaan's rural character as is. Keeping Canaan as a rural New England town with two village centers and the economic efficiencies that go along with that remain a top priority for Canaan citizens.

The following policies are put forth:

a. To maintain services and facilities at or above current levels.
b. To accept our responsibility for our waste by maintaining a recycling plan and other related programs.
c. To provide for residential housing in the existing villages;
d. To provide for a range of lot sizes that encourage more efficient land use;
e. To protect historic resources through a range of programs, both regulatory and non-regulatory;
f. To ensure the availability of safe and affordable child care and integrate child care issues into the planning process
g. To ensure that the implementation of the above policies are consistent with the preservation of scenic and historic features; and consistent with the wise use of natural resources, including irreplaceable natural areas.
h. To encourage development to concentrate toward village centers.

Scenic, Natural and Historic Features

Canaan has natural areas where scenic vistas and rare wildlife may be viewed. Some of these include Wallace Pond and sections of Vermont Routes 102 and 114 where moose are regularly seen. Historical sites include cemeteries, village parks, the Alice Ward Library building, two Customs Houses, as well as other properties listed by the Vermont Division for Historic Preservation. The historic restoration of Grace Community Church, located in the center of

Canaan on Gale Street, was recently awarded a 2016 Preservation Award from the Preservation Trust of Vermont.

Numerous scenic views are present. The views are rural and agricultural and can be found along the Connecticut River valley, the Canaan Community Forest as well as our town roads: Clay Brook Road, Canaan Hill Road, and its spurs; the Fund Road and Judd Road; Kemp Hill Road and Todd Hill Road as well as the Hudson Road. Visitors go to these locations for moose viewing, as these are some of the areas where there is a good chance of seeing them.

Analysis of Compatibility with Adjacent Municipalities and the Region

Since Canaan is in an interdependent relationship with its neighboring towns, we are obliged to evaluate potential obligations and opportunities that are created by certain economic and social trends. The Town of Canaan plans to keep the current communication lines open concerning any developing trends or plans with all adjacent municipalities. The neighboring towns of Norton and Averill currently have up-to-date Municipal Plans. Lemington's last Plan update was in 1995 and, under State statute, expired in 2000. Across the River in New Hampshire, Colebrook has a Master Plan last updated in 2013.

The areas we would be most affected in are housing, schools, water supply and sewage treatment. In the event of economic development in a neighboring town, Canaan could benefit by providing moderately-priced housing. Agricultural land close to the town center that is not precluded from development due to the presence of conservation easements could be considered for conversion to residential use. Canaan's school could be affected by a decrease in any neighboring school's ability to accommodate their current level of enrollment. Our school could benefit from a limited number of additional students while still maintaining present quality standards and programming. This issue is addressed under Section IV. Educational Facilities.

IV. HOUSING

Introduction

State statute at 24 VSA, Section 4382(a) (10) specifies that the housing element of a municipal plan must include a recommended program for addressing low and moderate income persons' housing needs, and should account for permitted accessory dwelling units.

Existing Conditions

Residential development is concentrated in the two village areas of Beecher Falls and Canaan. One mobile home park with 18 units is situated in the Village of Canaan. Most new housing development is occurring in areas outside the village centers. Anecdotal evidence suggests that the people moving to Canaan today are entrepreneurs seeking to live in a rural setting with opportunities for outdoor recreation.

Seasonal homes and camps are located primarily around Wallace Pond and along Canaan Hill, Kemp Hill, and Todd Hill Roads, with a few others scattered throughout the Town. While some are owned by local residents and used primarily as summer cottages, hunting camps or winter retreats, others are owned by vacationing non-residents who may wish to convert these homes to year-round use.

Since 2008 there have been 21 subdivisions resulting in the creation of 27 new lots. From 2010 to 2015 there have been eight (8) permits issued for the construction of new single-family dwelling units.

Table IV.1
Canaan 2015 Grand List

Category	Parcel Count
Residential 1 (less than 6 acres)	274
Residential 2 (6 or more acres)	107
Mobile Home w/out land	21
Mobile Home w/ land	13
Seasonal 1 (vacation home w/ less than 6 acres)	53
Seasonal 2 (vacation home w/ 6 acres or more)	37
Farm	14
Total residential properties	**519**

Source: Town of Canaan Listers

According to the 2015 Canaan Grand List, there were a total of 519 residential properties in Town, including farms (see Table IV.1). This count does not reflect the number of lots with more than one dwelling, properties with rental apartments, or houses with accessory apartments, so does not necessarily reflect total housing unit count.

The Canaan Listers Office prepared a breakdown of property types as recorded in the Grand List over time (see appendix). From 2010 to 2015, 12 year-round residential properties were added to the Grand List while seasonal

properties decreased by five. Based on the 2010 census counts[1], the total number of housing units was 632.

As shown in Table IV.2 below, the Town actually lost housing units from 2000 to 2010, and the number of houses used seasonally decreased by 9.7%. In 2000, the Federal Census indicated 23.7% of housing units in Canaan were seasonally occupied, and in 2010 22% of housing units were used seasonally.
The drop in seasonal homes may be due to the owners converting them to year-round residences.

Table IV.2
Trends in Population and Housing in Canaan 2000-2010

Town of Canaan	**2000 Census**	**2010 Census**	**% change 2000-2010**
Total Population	1,078	972	-9.8%
Total Housing Units	650	632	-2.8%
Occupied Housing Units (households)	441	439	-0.5%
Renter-occupied units	106	109	2.8%
Housing Units for seasonal, recreational or occasional use	154	139	-9.7%
Essex County			
Total Population	6,459	6,306	-2.4%
Total Housing Units	4762	5019	5.4%
Occupied Housing Units (households)	2602	2818	8.3%
Renter-occupied units	533	558	4.7%
Housing Units for seasonal, recreational or occasional use	1844	1928	4.6%
Source: U.S. Census Bureau Decennial Census, 2000 and 2010			

According to the 2010 Census, there were 109 renter-occupied housing units, representing 25% of Canaan's occupied housing units. This is an increase since 2000, when the 106 rental units (24% of total occupied housing units) were renter-occupied. This percentage is higher than in Essex County, where 19.8% of occupied housing units were renter-occupied in 2010.

Population in Canaan dropped 9.8% from 2000 to 2010. Countywide, the population decreased by 2.4%. As per the 2010 Census, Canaan's population was 972. The median age of the population was 48.8. For comparison purposes, the median age in Essex County was 47.4 and in Vermont was 41.5. In Canaan, 28% of households had a member who was 65 years old or older.

The average household size in Canaan was reported as 2.3 for owner-occupied units and 1.94 for renter-occupied units.

[1] Although the U.S. Census Bureau's 2014 American Community Survey, which provides 5-year estimates, is available it has been determined to not be a reliable source of data for Canaan due to the small sample size.

The rental vacancy rental rate in Canaan according to the 2010 Census was 11.4%, and the homeowner vacancy rate was 5.7%. A "healthy" vacancy rate – one where there is adequate supply for those seeking housing – is considered to be 5% for the rental market and 3% for non-rental homes. Therefore, there would appear to be an ample supply of housing on the market in Canaan, particularly rental housing. However, since 1967 is the estimated median year of construction for owner occupied houses in Canaan, and 1939 is the median year of construction for renter-occupied units, the housing that is on the market may be in need of renovation.

Existing Land Use Regulations

Canaan's zoning bylaws provide for four residential districts, accommodating a variety of residential housing types. Multi-family residences are permitted in the Residential Commercial zoning district, along with two-family and single-family homes. One and two-family homes are permitted in the Residential One-Half, Residential One, and Residential Two districts. Single family homes with accessory apartments are permitted in the Agricultural, Rural Lands, and Wallace Pond districts. Mobile Home Parks are permitted as conditional uses in all zoning districts, and have specific standards. The Canaan zoning bylaw also allows for flexibility in development through its "planned unit development" provisions.

Housing Affordability

Information available from the New England Real Estate Network, Inc. shows the median sale price of residential properties in Canaan in 2015 was $44,000, based on seven sales which included primary residences, second homes, and mobile homes. As shown on Table IV.3 below, median sale prices have fluctuated from 2011 to 2015.

Table IV.3
Residential Property Sales in Canaan

Year	Number Sold	Median Sale Price	Average Days on Market
2011	10	$116,000	208
2012	10	$42,000	396
2013	8	$101,250	88
2014	12	$67,500	303
2015	7	$44,000	186

Source: Based on information from the New England Real Estate Network, Inc. for the period January 1, 2011 through December 31, 2015

The median household income in Canaan, estimated for the period 2009-2013 by the Census Bureau's American Community Survey, was $42,639.[2] The median family income was slightly

[2] Data provided by the Vermont Housing Finance Agency (Housingdata.org) was used since income data was not available from the 2010 Census.

higher at $47,031. The median gross rent in Canaan for all rental units (all sizes) was $653, which is lower than the County median rent of $679 and the State median of $875.

Table IV.4 Income, Housing Costs and Ability to Afford			
	Canaan	Essex County	Vermont
Median Family Income, 2009 -2013	$47,031	$45,000	$68,111
Median Household Income, 2009-2013	$42,639	$35,916	$54,267
…homeowner households	$43,393	$40,703	$64,771
…renter households	$13,352	$16,129	$30,943
Median monthly owner costs, 2009-2013	$755	$706	$1,208
…with mortgage	$1,051	$1,041	$1,546
…without mortgage	$424	$417	$631
…as percentage of household income	19.3%	22.1%	22.9%
Number of owner-occupied housing units, 2009-2013	390	2247	182,537
…with owner costs at or above 30% of household income	17.9%	29.2%	32%
…with owner costs at or above 50% of household income	4.9%	11.3%	12%
Specified housing units with gross rents	96	440	69581
…at or above 30% of household income	52.2%	59.6%	52.5%
Median gross rent (all units), 2009-2013	$653	$679	$875
Source: Vermont Housing Finance Agency, www.housingdata.org			

Housing affordability is determined in part on the percentage of household income that goes towards housing costs, whether the housing unit is owner-occupied or renter-occupied. In general, if more than 30% of income is spent on housing costs, the household is considered to be financially stressed. According to data compiled by the Vermont Housing Finance Agency, about 17.9% of home-owners in Canaan were financially stressed due to housing costs, and 52.2% of renters were financially stressed due to housing costs. Compared to the County and State, homeowners in Canaan, are significantly better able to handle owner costs. Renters are about on par with the rest of the State in the percentage of households paying more than 30% of their income on housing.

The Green Hill Apartments on Green Hill Road provide 12 elderly/disabled apartments, 2 of which are wheelchair-accessible. Rental assistance is provided by means of Section 8 project-based vouchers.

Planning Considerations

It is recognized that attractive housing options can increase the quality of life in Canaan, and make the Town more attractive to companies seeking to relocate or expand in Canaan. The 2011 Survey indicated that providing retirement housing and housing for elderly is a high priority for

residents. In addition, a range of attractive housing products can serve to attract families with children to the Town, supporting enrollment in the Canaan Schools.

One of the challenges that the Town needs to address is the high cost of renovation of the older housing stock.

An innovative program that has benefitted the Town is the Canaan School's Building Trades Program. During the school year, students enrolled in this program renovate older homes in the community in need of major repairs, but the amount of work that can be accomplished is limited due to the limited time during the school year. The Canaan School District is seeking funding in order to continue this program during the summer months paying a certified VT Building Trades instructor and students enrolled in the program. Shown above is the Domanico house, the latest project completed.

Housing Trust Fund

Another tool to consider is a local housing trust fund. For example, the City of Montpelier has had success attracting families with young children to Montpelier by offering grants to families to purchase single-family homes. Provided the families have the proper income qualifications and credit history, the grant is offered on a competitive basis, and homeowners do not need to pay it back if they stay in their homes for 15 years. The program has successfully increased the student enrollment in the Montpelier public schools.

Another consideration is providing incentives for the substantial renovation of housing to both attract young families with children, and retirees who may be looking to downsize and move closer to conveniences, such as the post office, library and other civic and cultural amenities. However, it is noted that while some residents may appreciate being close to civic amenities, Canaan often attracts residents seeking a rural lifestyle with ready access to outdoor recreation. For them, a location on a small property in the center of Town may not be desirable.

Neighborhood Development Area

The Town is seeking Village Center designation for Canaan Village and Beecher Falls as a means to revitalize the historic commercial centers (see Economic Development and Land Use sections). Residential areas adjacent to designated Village Centers may be appropriate locations

for designated Neighborhood Development Areas (NDA). The State's objective in designating NDAs is to "create and maintain walkable neighborhoods that have a human scale, are pedestrian oriented, contain a mix of uses (both residential and non-residential), accommodate but manage vehicular traffic, provide a variety of public spaces, have a sense of identity or place, and are connected to adjacent neighborhoods and the downtown/village core." Ethan Allen owns 23.5 acres land in the Canaan Village area which has access to public water and sewer. This and other areas near the village centers would be areas to consider for NDA designation.

Benefits of a NDA designation by the State are primarily incentives provided to the developer, although the benefit to the Town is an increased grand list and neighborhood revitalization. These benefits are:

- 50% discount on Act 250 application fees
- Agency of Natural Resources fees for wastewater review are capped at $50.00 for projects that have received sewer allocation from an approved municipal system;
- Exemption from the land gains tax.

An additional benefit is available to developers who build a qualified mixed-income project – they are exempt from Act 250 regulations.

In order to qualify, the residential area must be within ¼ mile of the boundary of a designated Village Center, and the residential development must be built to a density of at least four units per acre.

Resources for Low and Moderate Income Residents

Although there is a high rental vacancy rate in Canaan and the median rent is lower than the County and State median, data collected by the Vermont Housing Finance Agency (VHFA) indicates that renters in Canaan are financially stressed (see Table IV.4). To address the housing costs of low-income residents, there are several programs that can provide assistance. For renters, the Section 8 Housing Choice Voucher program provides rental assistance administered by the Vermont State Housing Authority (VSHA). This program utilizes privately owned existing housing stock. Tenants in the Section 8 program are free to select their own housing unit provided the unit meets housing quality standards and certain rent limitations. Other programs available to renters include:

- The **Shelter Plus Care** program, which provides rental assistance to homeless people with disabilities.
- The **Family Unification** program, which provides rental assistance to families to prevent separation of children from their families.
- The **Mainstream Housing** program, which funds rental assistance for non-elderly disabled families.

Applications for rental assistance are available on the VSHA website at http://www.vsha.org/vsha-programs/rental-assistance-program/, or by calling (802) 828-1991.

Since rental units available on the market may not meet housing quality standards, another program which could be of assistance is USDA's Multi-Family Housing Direct Loan program. This program provides competitive financing for the construction or repair of affordable multi-family rental housing for low-income, elderly, or disabled residents.

For homeowners that are low income, USDA's Single Family Housing Repair Loan & Grant program provides low interest loans to families with incomes below 50 percent of the area median income, and grants to low-income householders age 62 or older who are not be able to repay a loan. In addition, Rural Edge, the regional non-profit housing organization, operates a Revolving Loan Fund that assists low-income homeowners in making necessary health, safety, and accessibility repairs to their homes.

Goals and Action Steps

1. Preserve and restore Canaan's stock of older houses and encourage their continued use to provide a range of housing choices.
   - Encourage the restoration of older homes by making information about Efficiency Vermont's programs, USDA's Single Family Housing Repair Loan and Grant program, and USDA's Multi-family Housing Direct Loan program readily available to property owners.
   - Support the continued operation of the Building Trades home renovation program.

2. Maintain a high standard of housing for all residents.
   - Make state building code for rental properties available to landlords and tenants.
   - Ensure that relevant local land use regulations are enforced.
   - Provide information to low income residents and landlords about the rental assistance and home renovation assistance available through VSHA, USDA, and Rural Edge.

3. Encourage new housing developments within walking distance (approximately ½ mile) of existing community centers.
   - Provide clear direction on land use policy to the Act 250 district commission when larger developments are reviewed.
   - Ensure that local land use regulations provide adequate standards to achieve these objectives.
   - Review zoning districts to encourage any new development to be within walking distance of village centers.

4. Consider the designation of a Neighborhood Development Area
   - Examine potential areas near village centers to consider for designation. If appropriate, work with and arrange for a site visit by the State program coordinator.

V. FACILITIES AND SERVICES

Introduction

State statute at 24 VSA Section 4382(a)(4) requires municipal plans to contain a utility and facility plan, "consisting of a map and statement of present and prospective community facilities and public utilities showing existing and proposed educational, recreational and other public sites, buildings and facilities, including hospitals, libraries, power generating plants and transmission lines, water supply, sewage disposal, refuse disposal, storm drainage, and other similar facilities and services, with indications of priority of need, costs and method of financing."

Existing Conditions

Town Buildings

Town Office
The present Town Office is a brick building located on Vermont Route 253 next to the Post Office. It was initially constructed and used by the Community National Bank who sold it to the Town in 1980 for $60,000 including 1.12 acres of land. The single story building has a finished basement with rest rooms, storage room, conference room and a vault. The ground floor of the building houses the Town Clerk and Treasurer's office, another vault, a large conference room and three rooms used by the Superintendent of Schools. A new rest room was added on the ground floor in 1997 in compliance with the Americans With Disabilities Act and a new metal roof was installed in 2000. A handicapped entrance was added in 2008 and a chair lift in 2010 to provide access to the lower level. Numerous local clubs and organizations make good use of the building throughout the year. In 2016, a new propane generator was installed so that the Town Office can act as a command center in case of an emergency.

Town Barn
The Town Barn, including 1.33 acres of land was purchased in 1966 from Hermas Gendreau as storage space for the Town road maintenance equipment. It is located off Vermont Route 253 near the Town Office. In 1997 the original barn was torn down and a new pole barn, 24'X 72', was built by the Canaan Building Trades class and was completed in 1998. Concrete pads were installed in 2009.

Town Library
In 1933, Alice M. Ward willed her home to the Town of Canaan for use as a public library. The library is located adjacent to Fletcher Park in the center of Canaan village and in 1980 was recognized as a building in the National Register of Historic Places. This building is owned and maintained by the Town.

Old Town Hall Building
The two story building was built in 1872 with "School District No. 3" on the first floor and the

Town Hall on the second floor, where Town Meetings were held until March 4, 1947, when the Canaan Memorial High School gymnasium was first available. From 1947 until 1984, the building was used for and by several different businesses, including a medical clinic, a law office, the Superintendent of Schools office and an apartment. In 1984, the Town sold the building to a Land Surveying business, with the same business selling it back to the Town in 1995.

On September 28, 1994, the Town of Canaan voted to re-purchase the former Town Hall located at the southerly end of Fletcher Park and adjacent to the Alice Ward Library. The purchase was fully funded by State and Federal grants and took place in 1995.

The reason for the purchase was to restore the appearance and utility of the historic building; furnish a site for the High School Building Trades students to learn and practice restoration and renovation of old structures; and, upon completion, to serve as rest room facilities for the adjacent Town Recreation Park and Fletcher Park, where frequent public functions are held. It continues to be used by the School for off-site classes. In 2003, extensive repairs were made to the building sill and a handicap access ramp was installed and in 2006 the building was transferred to the School District. In September of 2003, the Canaan Learning Center (CLC) moved into the building where it operated in partnership with the School District. In 2015, the CLC moved its operations into the Alice Ward Memorial Library and maintains its programs separately from the School.

Town Properties

The Town owns several properties including three open cemeteries: the Alice Hunt Cemetery west of the village on Vermont Route 114, the Canaan Village Cemetery on Vermont Route 253, and the South Canaan Cemetery on Vermont Route 102. In 2000, the Town purchased additional land doubling the available space in the Alice Hunt Cemetery. The Town also has several older cemeteries, the locations of which can be found on the maps located at the Town Office.

Town properties used for recreation include:

- Fletcher Park (donated to the Town in 1896) at the junction of Vermont Routes 102 and 114 in Canaan Village;
- Beecher Falls Park at the junction of Vermont Route 253 and River Road and;
- Playing fields that adjoin the school buildings.
- Canaan Community Forest
- Meadow Lot
- Canaan Recreation Park:
    - 1 Baseball field
    - 1 Little League field
    - 2 Soccer fields
    - 2 Tennis courts
    - 1 Basketball court

- 1 Batting cage
- 1 Picnic pavilion
- 54 Parking spaces
- Walking path
- Playground

Since the 2012 Town Plan, the following improvements were made to the Canaan Recreation Park:

- Resealed the walking path
- Resurfaced the tennis and basketball courts
- Installed new playground equipment
- Installed fitness stations
- Installed lean to shelters/picnic tables to provide shade
- Installed more electricity for batting cage
- Installed shuffleboard court
- Installed spring toys
- Installed arch climber
- Installed security cameras
- Golf range to practice your driving skills
- Installed new swing sets
- Installed new basketball rims and backboards
- Fixed drainage issues in soccer field
- Installed memorial benches to honor their loved ones

Water Supply

The Canaan and Beecher Falls villages are served by separate water systems.

Beecher Falls village
The Canaan Selectboard voted on August 20, 2004 to establish a new water district: Canaan Fire District #2 (CFD#2) comprising all of the Vermont assets of the former Riverside Waterworks from Ethan Allen Inc. It consists of a gravel packed well, a small reservoir and distribution pipes ranging from eight to two inches in size. Well capacity is two hundred gallons per minute with a maximum yield estimated to be over 250 gallons per minute. The District serves approximately 120 households, including Riverside village in New Hampshire.

The Town acquired Riverside Water Works from Ethan Allen in 2007 and was awarded a grant/loan from USDA to study/construct updates to the system. Phase 1 of this was completed in 2010 with a new 150,000 gallon storage tank being constructed above Route 3 in Stewartstown, a new eight inch main on Route 3 including fire hydrants, a source well replacement and individual water meters. Phase 2, involving the installation of approximately 6300 linear feet of 8” water main and 1200 linear feet of 2” water main to replace deteriorated galvanized water mains, was completed in 2011.

Canaan village
Canaan Fire District #1 was formed in 1986 and currently supplies water to about 140 dwellings, two school buildings, a motel, and several small businesses in Canaan village as well as the village of West Stewartstown, New Hampshire. It should be noted that the Green Hill apartment complex on Vermont Route 253 is not a water system user.

The primary source of supply is a group of springs located northwest of the village in Canaan, augmented during dry periods by a 180 gallon per minute driven well located in Ethan Allen Park near Leach Stream. In 1987, a 100,000 gallon covered concrete reservoir was constructed and master meters were installed at both the new reservoir and the well to provide improved monitoring of usage and to alert personnel of possible leaks in the system. A new chlorine system was installed in 1997.

In 1988, a new eight inch line was installed from the fire hydrant on Reservoir Road to the fire hydrant near the Town Office on Vermont Route 253 to increase system reliability by providing a complete loop of a large section of the Fire District, with resulting increased water pressure. In 1998, the Town used the Global Positioning System (GPS) to map the location of the springs. The Canaan Fire District Committee also adopted a Source Protection Plan around the springs and well house which reduced the number of State mandated tests.

In 2002, a solar powered system was installed to coordinate operation of the well to maintain reservoir level.

In 2003, a backup pump was purchased to minimize system down time and a call plan was setup to notify users when reduced usage is necessary.

Hydrants providing fire protection in the major portion of the village are located along the six inch line. Pressures range from fifty to seventy pounds per square inch.

In the summer of 2016 all hydrants were replaced and more were added to the system. There are now 18 hydrants and three flushing hydrants located in the district.

The water mains in Fire District #1 have been undergoing replacement, funded through a loan from USDA. Engineering design work was completed by Tata & Howard, and construction began in 2016. The

improvements, scheduled for completion in 2017, include:

- Construction of a new water treatment facility to remove iron, manganese and arsenic at the well.
- Construction of a water storage tank with a larger volume and at a higher elevation on the Community Forest Land, and extension of the water main north parallel to Route 253 to connect with the Canaan Fire District #2 water system for an alternate source of supply.
- Replacement of existing water mains on VT Route 102, Christian Hill, Gale Street, Ethan Allen Drive, Power House Road, and in the Canaan Mobile Home Park.
- Installation of 2 fire hydrants and 1 flushing hydrant along VT Route 102, 4 fire hydrants along Christian Hill, 2 fire hydrants along Gale Street, 1 fire hydrant along Ethan Allen Drive, and 1 flushing hydrant along both Power House Road and within the Canaan Mobile Home Park.
- Abandonment of the spring sources located in Canada, and utilization of the existing well as the primary source once the water line work and construction of the water storage tank is complete.

Water Pollution Control

The service area of the Canaan-West Stewartstown wastewater treatment facility includes single family residential customers, apartments, two mobile home parks, motels, restaurants, offices, schools, gas stations, a Homeland Security border station, a bowling alley, the Ethan Allen Furniture Company and the Coos County Nursing Hospital and Correctional facility. The estimated residential population served is approximately 1,000 persons.

The sewage collection system and treatment facility was initially built in 1973 and was expanded in 1981 to serve West Stewartstown, New Hampshire. At that time, West Stewartstown purchased 46% (85,100 gallons per day) of the system's total capacity of 185,000 gallons per day (GPD) and made a commitment to pay 46% of future capital expenditures. The current state discharge permit, in effect until March 31, 2020, sets limits of 185,000 GPD monthly average flow, 30 mg/l monthly average 5-day biochemical oxygen demand, 45mg/l monthly average total suspended solids, as well as other discharge parameters. Monthly average discharge for 2015 was 90,000 GPD which is 49% of the allowed flow.

Three existing aerated lagoons were constructed in 1975 when the WWTF constructed. In 2014 the plant underwent a complete upgrade and although the old lagoons were kept intact with a newly installed EDI aeration system with three excelsior blowers. Canaan has a designed maximum daily discharge of .185 million gallons per day (MGD). Normally the system runs under .1 MGD. The existing treatment facility consists of three aerated lagoons which operate in series under gravity flow. Preliminary treatment is provided upstream of the lagoons by the headworks, which consists of a Raptor fine screen followed by an automated grit screw both purchased from Lakeside equipment. After the wastewater has been treated in the aerated lagoons the effluent enters the chlorine contact tank (CCT) where liquid sodium hypochlorite is mixed with the lagoon effluent using a mechanical lightning mixer. The CCT provides the required contact time to provide effective disinfection. At the end of the CCT is a v notch weir that discharges to the river. An automatic sampler is located just prior to the weir which

provides a location to obtain plant effluent samples prior to discharge into the Connecticut River. The plant has is equipped with SCADA (Supervisory Control And Data Acquisition) is a system for remote monitoring and control that operates with coded signals over communication channels. This calls out the operator in case of an emergency and will allow remote access of controls. The plant also has an automatic backup generator.

Collection of raw sewage is accomplished through a system of gravity and force mains. The force mains are operated by five pump stations. The stations along Vermont Route 253 between Beecher Falls and Canaan, and the station located by the Ethan Allen Factory have emergency power generators but the Hall stream Pump station and the Border Patrol station in Canaan do not. The majority of the mains are eight inches in diameter with some sections of ten inch pipe. Collection of sewage is separated from storm drain collection. West Stewartstown has two pumping stations with a combination of eight and ten inch lines. The treatment facility serves a population of approximately 1200 including the employees of Ethan Allen Inc. Under the current sewer bylaw, any new structures located within 100 feet of the collection system are required to connect to the system. Maintenance costs and debt service for the sewage treatment facility are paid by user fees.

In 1994, the Town hired an engineering firm to do a 20 year State mandated evaluation. In 2004 - 2014, the Selectmen entered an agreement with a local septic firm to reduce the amount of solids entering the Town system and compost them, thus substantially reducing the cost of maintaining the lagoon aeration system.

In 2011, Canaan and Stewartstown voted to fund an extensive overhaul of the wastewater treatment facility. Construction of the new facility occurred from 2013 to 2014, and was put into operation in 2014. Now with the operation of the new plant the headworks removes all inorganic material before entering the lagoons. In 2015 the Town entered into an agreement with a local septic firm to haul septage from Canaan and Stewartstown to the plants septage receiving station up to 6000 gallons per day. Residents for a yearly operation and maintenance fee are permitted to dump their septage without a dumping fee from the facility. Any remaining capacity is filled by the septic hauler from surrounding towns for a dumping fee.

Fire Protection

The Beecher Falls Volunteer Fire Department (BFVFD) was organized in 1943 to protect the Beecher Falls Manufacturing plant (now Ethan Allen Inc.). The coverage area eventually grew to include the towns of Averill, Avery's Gore, Canaan, Norton and Warrens Gore in Vermont as well as West Stewartstown , Clarksville and the Halls Stream area in New Hampshire and a total of 5 adjacent towns in Quebec. In 1993 a Rescue Squad was formed as an integral part of the BFVFD.

In January 1976, the fire station and all equipment was destroyed by fire. A new building was constructed at the same location consisting of a six bay garage with a meeting room and toilet facilities, expanded to eight bays in 1999.

Apparatus currently owned by the department includes:

1989 Spartan 1500 gpm pumper
1973 PEM FAB 1250 gpm pumper
1986 Mack tanker
1996 Grumman Rescue Van
1998 Snowmobile w/rescue sled and trailer
2006 Ford 550 Brush & Rescue
2006 HME Command Pumper & Heavy Rescue
2007 Vtech Tanker
2010 Polaris Ranger ATV/Rescue
District 2 MCI Trailer
Hazardous materials trailer with decontamination and containment capabilities

The BFVFD is governed by a 6 member board of directors and currently has 40 members including 3 chiefs, 6 captains and 6 lieutenants. This includes 21 Level 1 certified firefighters. Two representatives from the department serve on the 45th Parallel Emergency Medical Services. 911 fire and rescue dispatching is currently managed by the Colebrook Communication Center.

Police Protection

The Town has its own part-time Chief of Police for routine police protection. The Essex County Sheriff is located in Lunenburg, some forty miles from Canaan, there are, however, two officers (including the Chief) presently living in Canaan.

The nearest State Police Barracks is about 45 miles away in Derby. There is one State Police Trooper residing in Essex County (in Canaan).

U.S. Border Patrol Agents provide support and assistance to state and local officers as needed. A new Border Patrol Station was completed in 2012 located on Vermont Route 114 on the north side of Town.

Solid Waste Disposal

In 1991, Canaan joined the "Coos County Recycling Center" project in neighboring West Stewartstown, New Hampshire, a cooperative effort involving several neighboring New Hampshire towns. At Town Meeting 2007, the voters approved a "pay-by-the-bag" system for solid waste as well as a fee based system to pay for construction debris, tires and electronics. All metals and recyclables are accepted at no charge.

In 2006, Canaan purchased land next to the wastewater treatment plant for a solid waste transfer station. The Town also voted to build a transfer station, which began operating in August 2008. Canaan voted to withdraw from the Northeast Kingdom Waste Management District (NEKWMD) at the 2009 Town Meeting.

Act 148, Vermont's Universal Recycling Law, was passed in 2012. The purpose of this law was to increase recycling, reduce greenhouse gas emissions, decrease the dependence on landfilling, and reduce municipal expense by diverting recyclables and compostable materials from the waste stream. In addition to recyclables, the law banned the disposal of leaves, yard debris and clean wood as of July 2016, and will ban food scraps from landfills by July 2020.

The Town of Canaan has a Solid Waste Management Plan which is consistent with and meets the requirements of Act 148, the State Materials Management Plan, the Regional Plan, the Town Plan, the Zoning Ordinance, and the Town Waste Management Ordinance. We have a solid waste review committee that meets quarterly to make sure we are meeting all the requirements of our Solid Waste Management Plan and the timelines to meet all the requirements for Act 148. All required timelines are addressed in our Solid Waste Implementation Plan (SWIP). Our SWIP covers both our transfer station and stump dump. We accept waste from Town residents only, but share our Household Hazardous Waste Events with Lemington, VT. We are classified as an independent town, and do not belong to a waste management district. We are a collection site for electronic waste and therefore are required to accept electronic waste from local towns in Vermont at no direct cost to the Town of Canaan. We are a member of the Coos County Recycling Center located in Stewartstown, NH, which serves eight towns. The Northeast Resource Recovery Association (NRRA) in NH is another resource for training and managing recyclables not handled at our recycling center. Non-recyclable materials go to the Mt. Carberry landfill in Gorham, NH.

Library

In 1933, Alice M. Ward willed her home to the Town for use as a public library. The library is located adjacent to Fletcher Park in the center of Canaan village and was placed on the National Register of Historic Places in 1980. The building is owned and maintained by the Town.
The Town appropriated $15,000 for a new roof in 1989 and, in 1991, the Selectmen obtained a grant to repair eight of the building's original 1846 windows. The Library Trustees and the Canaan Historical Society Executive Committee have designated four rooms on the second floor for the development of a museum to preserve our local heritage. In 1998, the previous rented apartment on the first floor was converted to additional library space. Renovations are ongoing and have been funded by Town tax appropriations as well as grants and generous donations by organizations such as the Tillotson Foundation and Ethan Allen, Inc. In 2003 the carriage house was stabilized through installation of a full perimeter concrete foundation with a $13,000 matching grant from the Vermont Division for Historic Preservation and funds from the Town of Canaan.

Entirely paid for with grant funding, the outside of the library and carriage barn saw fresh paint in 2004 and 2006. With funds from the Preservation Trust of Vermont and labor of the Canaan School's Building Trades Department, the southern half of the library was gutted, insulated and renovated in 2007. New carpet was installed on the north side of the library in 2011.

In 2015 with funding from Town appropriations and some grant monies the roof was replaced and rot repairs were made. Additionally the furnace was replaced. The library has received a

$50,000 grant from the Preservation Trust of Vermont and this will be used during the fall of 2016 for drainage work to divert water which during hard rains and spring melts have caused foundation damage. At that time the existing front porch will be replaced. Depending on potential grants yet to be awarded, additional work will be done to repair parts of the foundation, stabilize the cupola on the carriage house, repair bad clapboards, repair the second floor porch of the library and lastly paint. The Trustees will continue to seek funding to complete the building's restoration and repairs.

The library holds a playgroup for young children and their families weekly. There are various programs for all ages, youth to adult, occurring at the library. Updates on programs may be found in local papers as well as on the library website and Facebook page. Flyers are posted at the Library and in other locations. Thousands of dollars are brought into the library for programming every year with diligent grant writing by library staff and trustees.

The library has high-speed wireless Internet with three patron computers and plenty of space for those with their own electronics. We are a fully automated library with over ten thousand titles and if we do not have it, with interlibrary loan, we can usually get it for you. The library also has electronic devices that may be checked out such as tablet computers, digital cameras and other items. Current library hours are Monday through Thursday 12-5, Friday 12-4 and Saturday 9-1.

Health Facilities and Services

Canaan's population is becoming older, particularly with the loss of family-sustaining jobs in the area. The 2010 census shows that Canaan's population, with 17.1% past their 65th birthday, is older than the Vermont state average of 14.6% age 65 and over. The increasing number of older people makes local availability of geriatric care particularly important.

Indian Stream Health Center based in Colebrook, NH opened a clinic office in Canaan in 2014. Upper Connecticut Valley Hospital, a critical access hospital, is located in Colebrook, NH. Tertiary care is available in West Lebanon, New Hampshire; Portland, Maine; Burlington, Vermont; or Sherbrooke, Quebec.

The nearest pharmacy is in Colebrook, New Hampshire. Transportation to medical appointments is provided by Rural Communities Transportation. There are no transportation charges but donations are welcomed.

Veterans who use VA medical services may do so at the Indian Stream Health Clinic in Colebrook, NH two half days per week. The VA Hospital is located in White River Junction. Transportation for veterans may be arranged through the Disabled American Veterans, which operates a largely volunteer service.

Twenty-four hour ambulance services are available from the 45th Parallel Ambulance Service in Colebrook, New Hampshire supported by an annual contribution from Town taxes and a user service charge. Weather permitting, emergency air ambulance service is available from Colebrook to tertiary care centers.

Home health care is provided by the Orleans-Northern Essex Home Health Agency in Newport, Vermont. Long-term care that allows people to stay in their homes requires coordination; those services are available through the Area Agency on Aging for Northeastern Vermont, based in St. Johnsbury, and Northeast Kingdom Human Services. Nursing homes are located in West Stewartstown, New Hampshire; Barton, Newport and St. Johnsbury, Vermont.

Northeast Kingdom Human Services in Newport, Vermont provides services to Canaan residents with mental disabilities. These services are supported by user service charges and an annual contribution from Town taxes.

School health programs include speech, occupational, and physical therapy provided through the Visiting Nurse Association and dental referrals, screening and special education. There are other programs offered through grants which vary from year to year.

Communications and Media

As is common in most parts of the County, Canaan has two kinds of communication services: Direct link methods such as telephone and cable television connections using poles and wires and broadcast methods relying on satellite or tower transmission and antennae for reception.

Telephone lines are located along all the state highways and nearly all the Town's Class 2 and 3 roads. Canaan has had Enhanced 911 service since November 1998. The Williston communications center, one of two State Police dispatch centers, provides regional coordination and dispatch for Canaan and other area towns. E-911 provides caller location information if a conventional telephone is used. A tower on Ben Young Hill in Clarksville, NH provides limited pager coverage. There is very little cellular telephone coverage in the area, but demand for it continues to increase.

Cellular service is patchy at best due to lack of antennae. Currently cellular service from Colebrook, NH is available to some people in South Canaan. The hilly terrain interferes with line-of-sight transmissions such as cellular telephone signals. The current low population may be viewed by provider companies as a disincentive to development or improvement.

Emergency personnel use two-way radios linked to local transmitters. In 2011 a new radio tower for utility crews was permitted for installation near Canaan village in order to improve emergency response. Loggers and other contractors use citizen band radios. Satellite telephones are also occasionally used.

The area has fallen behind in availability of more advanced telephone and data transmission technologies. This limits economic development in Canaan and surrounding areas. Broadband Internet access still does not exist in most parts of the Town. DSL internet service is available in parts of South Canaan and in the village centers of Canaan and Beecher Falls. Fiber cable television and internet service is also available in the village centers of Canaan and Beecher Falls. There is wireless internet service available in the village centers as well. Despite the presence of fiber optic cable for backhaul along Vermont Routes 114 and 102, as well as in the

village center, and assurances from the State and the telephone service provider that it is coming, true broadband eludes most Canaan residents. The Town has established an informal Broadband Committee which is working with providers and seeking to increase services for residents. As of 2016, there were plans for increased service to Beecher Falls and for Wallace Pond, but Canaan Hill and several other areas were underserved. Satellite link internet has delays in connection that sometimes cause problems with data transfers. Also, with satellite, weather can obstruct the system's operation. The Town offices, the School and the Library share a network that has broadband access to the Internet and public access is available at the Library.

Canaan residents who use television subscribe to cable or, in outlying areas, satellite services for television. This is necessary as digital signals are lower-powered than analog ones that sometimes came in, leaving Canaan residents unable to receive over-the-air broadcast television any more.

A survey conducted in 2011 prior to the last Plan update showed widespread dissatisfaction with internet service options, as well as cellular phone service. The need for economic development requires that Canaan develop the technological milieu that is considered normal and necessary in the rest of the country. The Town is receptive to innovations and new technologies in communications that will better serve residents' personal and professional goals and that will enhance the quality of life in Canaan.

Goals and Action Steps

1. Town-owned properties have scenic as well as historical features that the Town has long recognized and maintained and should continue to do so.

- The Town will seek grant funds as appropriate to enhance and improve Town-owned properties.

2. The current wastewater treatment facility should be maintained to provide adequate capacity and maintain compliance with all regulatory guidelines.

- Include long-range funding needs of the facility in the Town's budget

3. The current level of police and fire protection should be maintained.

- Canaan's Local Emergency Operations Plan should be regularly reviewed for accuracy.

4. Continued vigilance has to be maintained in order to contain costs, reduce waste and continue our successful recycling system.

- Include the Town's portion of the long range costs of the recycling center in the Town's budget.

5. Ensure that communications infrastructure blend into the landscape while serving the community.

- Review zoning bylaw to include provisions such as:
  - All communications infrastructure should be located in areas that do not detract from scenic views from public lands and roads, and should respect the integrity of the landscape.
  - Towers and related infrastructure should only be as tall as necessary in relation to surrounding treetops.
  - Unless required by the FAA, towers should not be illuminated.
  - Structures should be designed in order to minimize aesthetic impacts.

6. Encourage further coverage of broadband and cellular service

- Explore funding sources to develop a strategic plan to utilize existing communications infrastructure in Canaan as well as in neighboring communities, and to identify additional locations as necessary to bring cell phone and internet coverage to underserved areas of Town.
- Work with providers to extend coverage
- Pursue opportunities for funding to extend coverage
- Work with Northern Community Investment Corporation (NCIC), the State, and other entities to encourage providers to extend coverage.

VI. EDUCATIONAL FACILITIES

Introduction

State Statute at 24 VSA, Section 4382 (a) (6) requires that municipal plans include an "educational facilities plan consisting of a map and statement of present and projected uses and the local public school system. "

Existing Conditions

Facilities

The location of the Canaan Schools is depicted on the base map that accompanies this plan. The Canaan Schools serve students from Canaan and the surrounding Vermont school districts as well as from neighboring New Hampshire towns. Canaan Schools are within the Essex North Supervisory Union (ENSU), which include the districts of Bloomfield, Brunswick, Canaan, Lemington, and Norton.

The elementary and high schools are located in two adjacent buildings on a five-acre lot overlooking the Connecticut River in Canaan village. The high school building, built in 1946, is a wood and steel framed masonry building. A gymnasium and library were added in 1977 replacing the original gym. Basic facilities in the high school include: six general classrooms; a stage and gym with locker and shower facilities; a library/media center; a science laboratory; an art classroom; a music classroom; special education offices, a meeting room and offices for the principal, athletic director and a mail/copy room.

The elementary school building, constructed in 1960, is a steel framed masonry building with a three-room addition that was completed in 1986. It has 7 general classrooms, a multi-purpose room/cafeteria (shared with the high school) an office space for special services, and a nurse's area. The building also includes the CTE area housing Building Trades, Diversified Agriculture, Woodworking and Business Classrooms.

The High School building is equipped with a back-up generator, which allows the building to be used as the Community Shelter in the case of an emergency.

In 2008 the boiler in the high school was installed and in 2010 the elementary school boiler was installed. Both boilers were specified and installed with essentially identical equipment to allow easy parts access and common operating practices on both facilities. These two boiler plants should prove reliable, simple to operate and energy efficient for years to come.

The existing school classroom facilities can absorb growth of approximately 40%.

Enrollment and Costs

Enrollment at the Canaan Schools has decreased by approximately 30% from 2005/2006 to the 2015/2016 school year. Canaan schools reported enrollment of 74 in grades K-6 and 113 in grades 7-12 in the 2015/2016 school year. As reported by the Vermont Department of Education, there were 12 students enrolled in pre-K in Canaan in the 2015/2016 school year.

Per pupil costs in Canaan are among the lowest in our immediate area. Low costs are facilitated by the tuition income from New Hampshire students. Local education tax rates are based on per pupil costs. In FY 2016, Canaan's education spending per equalized pupil was $10,253.47. By comparison, the Northeast Kingdom towns of Craftsbury and Concord which also operate K-12 schools had per-pupil spending of $16,933.83 and $16,413.32 respectively. (Concord has recently elected to close its high school and offer school choice for its secondary students).

Vermont Act 46 of 2015 was enacted to address the steep decline in Vermont's student population over the last decade and a half, and the increase in per-pupil education costs over the same period. The preamble to the legislation suggests that "the optimal size for student learning is in elementary schools of 300 to 500 students and in high schools of 600 to 900 students," and "the optimal size for a school district in terms of financial efficiencies is between 2,000 and 4,000 students."

As reported by the ENSU Superintendent, the five districts of the ENSU are exempt from the Allowable Growth Provision of Act 46, but some districts may see substantial tax increases due to the loss of "phantom students" from the equalized pupil count.

The ENSU has made collaborative efforts with the neighboring supervisory district in New Hampshire, SAU 7. Canaan and SAU 7 shares a music teacher and language teachers. Some Canaan students have also been able to attend Colebrook's automotive class.

Goals and Action Steps

1. Canaan's educational facilities should be maintained and efforts made to strive for cost-effective solutions to offer quality education for the citizens of the community.

2. Use Canaan Community Forest (CCF) as a collaborative teaching opportunity

- Continue to partner with the School to use the CCF as part of the Diversified Agriculture and the Building Trades CTE programs, as appropriate

- Continue to partner with the school to use the CCF as a learning opportunity for outdoors education, which sometimes provides a positive benefit for the CCF through trail maintenance and other benefits.

3. Encourage collaboration between the school and neighboring communities

- Work with the school to make collaboration smooth, through funding cooperation or otherwise.
- Pursue opportunities for collaborative funding

VII. TRANSPORTATION

Introduction

As per State statute at 24 VSA, Section 4382(a) (3), a transportation element should include a map and statement of present and prospective transportation and circulation facilities showing existing and proposed highways and streets by type and character of improvement, and where pertinent, parking facilities, transit routes, terminals, bicycle paths and trails, scenic roads, airports, railroads, and port facilities, and other similar facilities or uses, with indications of priority of need.

Existing Conditions

Highways

There are 46.1 miles of highway in Canaan of which Vermont Routes 102, 114 and 253 account for nearly half or 17.84 miles. Town Highways consist of:
Class II: 2.35 miles
Class III: 15.08 miles
Class IV: 10.86 miles

The State Agency of Transportation began a major reclamation and paving project on part of Vermont Route 114 in 2001, completing it in 2009. Work on repaving Vermont Route 102 from Lemington to Canaan was undertaken in 2015-2016. State Route 253 has seen increased truck traffic in recent years due to the closing of the bridge in Beecher Falls connecting to U.S. 3, and was repaved during the summer of 2016. The State highways handle a substantial amount of local traffic as well as through traffic.

In general, those portions of Town highways within the villages of Canaan and Beecher Falls are paved and those outside the villages unpaved, the exception being River Road in Beecher Falls which was paved in 2002. The bridge on Clay Book Road was upgraded in 1990 with State Aid funds. The Hall Stream bridge was upgraded for an anticipated thirty to fifty more years of service in 2000. The Keyer Brook bridge at the junction of the Canaan Hill and Clay Brook Roads was washed out in the heavy rains of 1998 and was replaced. Most Town highways are in good condition for present levels of traffic.

One full time person and one part time person (as needed during the winter) as well as additional summer help are responsible for road maintenance.

Equipment owned by the Town includes:

- 2011 one ton truck
- 2000 Backhoe/loader
- 2016 International 999 Truck
- 2005 Grader
- 2 stainless steel road sanders
- 2 snow plows

- Misc. tools, machinery etc.

Equipment is housed in the Town Garage on Vermont Route 253.

An aggressive graveling plan was implemented in 2005 with the intention of resurfacing the Class 3 roads on a 5-year cycle as follows:
2006 Todd Hill Rd 2007 Kemp Hill Rd, Cook St, Judd Rd
2007 Canaan Hill Rd (part) 2009 Wallace Pond area class 3 roads
2010 Remainder of Canaan Hill Rd, Clay Brook Rd, Fund Rd

With funding provided through a Better Back Roads grant in 2012, a number of culverts were replaced and upsized on Kemp Hill. In 2015, a Better Back Roads grant funded ditching and stone-lining along roads on Canaan Hill, and in 2016, a new grant is funding additional work on Canaan Hill which will involve replacing 7 undersized culverts.

The Northeastern Vermont Development Association (NVDA) will be completing Canaan's Town Highway Short Structure Inventory by the end of the summer of 2017, and will coordinate with the Town.

The Municipal Roads General Permit

The 2015 Vermont legislative session created a new regulatory framework for all work on Town Highways, The Municipal Roads General Permit (MRGP), as part of Act 64, (the Vermont Clean Water Act.) This general permit is intended to achieve significant reductions in stormwater-related erosion from municipal roads, both paved and unpaved. Research and water quality monitoring has indicated that roads are responsible for 6-10% of phosphorus loads to Lake Champlain and other waterways, and roads contribute over 10% of sediment loads. Excessive sediment and phosphorus can cause algae blooms, increase water turbidity (cloudiness), and degrade fish and invertebrate habitat. Municipalities will need to develop and implement a customized, multi-year plan to stabilize their road drainage system. The plan will include bringing road drainage systems up to basic maintenance standards, and additional corrective measures to reduce erosion. The permit applies to all Vermont municipalities. Information can be found on the program's website at:
http://www.watershedmanagement.vt.gov/stormwater/htm/sw_municipalroads.htm.

Municipalities will need to inventory their road network and identify priority road segments that are connected to surface waters through ditches, culverts or other drainage structures. Towns will then report to the Vermont Department of Environmental Conservation (DEC) which of these priority road segments meet and do not meet MRGP standards. Towns will prioritize road segments and develop remediation plans and implementation schedules (capital budgets). Towns can apply for funding through the Better Back Roads Program for both the inventory and remediation process. There is technical assistance through the County Conservation District, VTrans Maintenance District, Vermont Local Roads and NVDA. DEC will be developing a draft MRGP and standards by December 2016 and a final version one year later. Towns will begin applying for MRGP coverage between 2018-2021. Exact dates are to be determined. Towns can

be apprised of the coming requirements through participation in the Regional Road Foreman's Group facilitated by NVDA and their VTrans District, or by going to the DEC MRGP website above. Before the MRGP and standards are finalized, towns can begin identifying road erosion sites that could potentially impact waterways and begin implementing road best management practices. Towns identifying sites and implementing Best Management Practices (BMP)s will be credited for this work as part of the MRGP.

Trails

Trail systems within the Canaan Community Forest provide for ATV users, bicyclists, hikers, and snowshoers. In the winter, there is a network of snowmobile trails in the Community Forest and across private land via easements that are part of the Vermont Association of Snow Travelers (VAST) network, maintained locally by the Canaan Border Riders Club.

Written descriptions of the trails within the Canaan Community Forest are provided on the Canaan website, along with maps of selected areas. The trails connect with key recreational resources and other trail systems including the Connecticut River Paddlers Trail, the Connecticut River Recreational Trail in New Hampshire, and the New Hampshire-Vermont Commerce Trail.

Bus, Rail and Air Service

The nearest bus stops are in Littleton and Berlin, New Hampshire with service to points south in New Hampshire and in Newport, Vermont with service to western and southern Vermont, southern New England and Quebec.

Limited unscheduled commercial air service is available in Newport, Vermont and Whitefield, New Hampshire. There is a private landing field in Colebrook, New Hampshire without commercial service. There is no longer any rail service available north of North Stratford, New Hampshire.

Canaan residents travel frequently outside Town to obtain commercial and professional services and at various times the need for some sort of public transportation has been expressed, but current demand is not sufficient to make it possible.

Goals and Action Steps

1. Current Town highways should be maintained as necessary to provide safe and sufficient passage.

- Continue to participate in Road Foreman meetings facilitated by NVDA.
- Budget for long range capital expenditures

2. Meet the requirements of the Municipal Road General Permit

- Work with the Essex County Natural Resource Conservation District to complete a Road Erosion Inventory, funded through a Category A Planning Grant through the Better Back Roads program.

VIII. ENERGY

Introduction

State statute at 24 VSA, Section 4382 (a) (9) directs that a municipal plan contain an energy plan that includes:

- an analysis of energy resources, needs, scarcities, costs and problems within the municipality,
- a statement of policy on the conservation of energy, including programs to implement that policy
- a statement of policy on the development of renewable energy resources, and
- a statement of policy on patterns and densities of land use likely to result in conservation of energy

Existing Conditions

Resources and Infrastructure

As in many of the towns in Vermont, Canaan uses a number of different forms of energy, which come from a variety of sources. Vermont Electric Co-Op serves the entire Town of Canaan. Basic house current is available in the villages and along the highways; far up in the hills, there are "off the grid" dwellings. Three-phase electrical service, necessary for heavier uses, is available along Vermont Routes 114, 102, 253, and 141.

Heating oil, propane gas, wood pellets and other stove fuels are supplied by a number of area distributors. Firewood is also locally available. Motor fuels are sold at service stations in and around Canaan.

A large natural gas pipeline is located in Beecher Falls, but there are no local connections.

Vermont Electric Cooperative upgraded the transmission lines along Route 102 in Canaan to three-phase power in 2015. According to them, this improvement will improve reliability and flexibility to buy from lower-cost power producers.

Canaan has historically used water power. Eversource of NH has an active hydroelectric generating station in Canaan village, making clean electricity when there is sufficient flow.

Needs, Scarcities, and Costs

Canaan's residences and businesses are currently able to meet their energy needs with existing Providers, but costs are a concern.

Costs of all forms of energy are comparatively high in Canaan and environs due to a variety of

factors beyond local control. Motor fuel costs depend on the distributor's price for delivery of a certain quantity plus taxes.

Table VI-1 below shows the relative cost and efficiency of different types of fuel in the State, as of August 2016.

Table VI-1 **Cost and Efficiency of Fuel Sources**						
Type of Energy	**BTU/unit**	**Typ Effic**	**$/unit**	**$/MMBtu**	**High Efficiency**	**$/MMBtu**
Fuel Oil, gallon	138,200	80%	$2.01	$18.21	95%	$15.33
Kerosene, gallon	136,600	80%	$2.55	$23.38		
Propane, gallon	91,600	80%	$2.21	$30.16	95%	$25.40
Natural gas, ccf	100,00	80%	$1.41	$17.67	95%	$14.88
Electricity, kWh (resistive heat)	3,412	100%	$0.15	$43.46		
Electricity, kWh (cold climate heat pump)	3,412		$0.15		240%	$18.32
Wood, cord (green)	22,000,000	60%	$227	$17.21		
Pellets, ton	16,400,000	80%	$275	$20.96		
Source: August 2016 Vermont Fuel Price Report, Department of Public Service MMBtu: million British thermal units						

Problems

Paying for heating fuels is increasingly problematic for Canaan residents and businesses alike. The cost of electrical power and fuel oil impacts businesses, both large and small. All propane is trucked and there is no piped natural gas available locally. The cost to those who commute to and from Canaan continues to be a concern.

Renewable Energy Resources

Renewable energy resources are energy sources that are either never depleted or are quickly regenerated. These would include energy resources such as solar, wind, water, and wood.

Some private solar facilities have been installed in Town, some of which are off-the-grid and some of which are net-metered.

Wood and wood products (such as pellets) are also used as a heating source in Town. According to the American Community Survey's 2014 estimates, about 40% of Canaan households used a heating fuel source other than electricity, gas or fuel oil.

In order to encourage the use of renewable energy devices, the Vermont State Statutes at 24 V.S.A. Section 4413 exempts from local regulation the installation of rooftop renewable energy devices that serves to heat water, space, or generates electricity; and does not permit local bylaws to prohibit the installation of other types of solar collectors or energy devices based on renewable resources.

Planning Considerations

Land Use Patterns

Using the terrain to help conserve energy should be considered in land development. Building on south facing hillsides exposes buildings to more solar energy, reducing the need for conventional heating. Earth sheltered homes can also be less costly to heat and cool. Planting deciduous trees to the west also provides shade and reduces the need to expend energy to cool homes in summer.

Homes that are clustered require shorter networks of streets and utilities. Shorter streets and electrical lines require less energy to build and maintain. In addition, with shorter electrical lines there is less line loss. This alone can result in a significant savings of money and energy.

Conservation of Energy

The Planning Commission advocates the conservation of energy including using energy saving products such as compact fluorescent lighting, weather stripping, window plastic, and water heater wraps. Turning down thermostats at night, shutting off lights in empty rooms and other energy saving strategies should be taught and practiced in schools, at home and at work.

When building, renovating or redecorating, energy efficient products and design strategies should be used. For example, a south-facing wall with lots of tight windows will help heat a building in winter, while an overhanging roof to shelter those windows somewhat in the summer will cut down on unwanted heat. Insulated shades and draperies, pulled closed, also help by blocking passive solar heating when it is hot, and opening them lets the heat in when the temperatures drop.

State statute at 24 V.S.A. § 4449, requires that when a municipal land use permit is sought, the administrative officer shall provide the applicant with a copy of the applicable building energy standards under 21 V.S.A. §§ 266 (residential building energy standards) and 268 (commercial building energy standards). This requirement is intended to increase compliance with the energy standards.

The Property Assessed Clean Energy (PACE) Program, if established locally, helps eligible residents finance weatherization and efficiency improvements or install renewable energy systems on their properties. The value of those improvements is added to the assessed value of the property with the cost of the improvements paid back as an assessment over a period not to exceed twenty-years. Since the payments are tied to the property rather than the owner, PACE financing payments can be transferred to a new homeowner at any time. For more information see the "PACE Decision Making Packet" prepared by Efficiency Vermont and available on their website: http://www.efficiencyvermont.com

Wind

Recent developments in wind power technology have stimulated interest in locating wind farms along high ridge lines in the Northeast Kingdom. Proximity to high volume transmission lines and fairly constant high wind speeds are required to make wind projects commercially feasible. Drawbacks can include visual impact on scenery and radio frequency interference if the wind turbines are in line of sight with transmission towers.

Canaan does not appear to have large tracts that favor commercial development as the technology and transmission system currently stand; however, as improvements are made, commercial wind generating may become viable in the future. If such development is proposed, the desires of Canaan residents regarding maintaining the scenic, recreational and agricultural feel of the Town will be considered.

At Town Meeting 2016, the Canaan Planning Commission distributed a survey to residents seeking input on desired locations and regulations for solar and wind installations. In regard to wind turbines, a majority of respondents agreed that both small and industrial-scale wind turbines should be located so as not to impact adjacent properties with sound, and should avoid ridge lines and other scenic features. A majority felt that small-scale turbines should be encouraged for residential, municipal and small business use. However, the number of respondents who felt industrial-scale wind turbines should be encouraged were outweighed by those who were neutral on the issue or felt they should be discouraged.

Meanwhile, small wind generators and solar panels are used in some areas of Town as individual landowners seek to reduce their dependence on the grid. Unlike solar panels, which usually stay close to building surfaces, wind generators need to be freestanding in order to work. Most are tower-mounted to ensure the rotor blades reach the wind. Because of their relatively low power, the smaller turbines are less likely to interfere with radio frequency transmissions. They also tend to be designed to turn themselves off if ice collects on the blades, reducing the danger of ice being flung off.

Vermont's Public Service Board has authority to regulate any electrical generator that connects to the grid, including the residential generators that put excess power from the house back onto the grid. Thus, the zoning bylaws will have very limited jurisdiction over them. However, some residential systems are self-contained and off the grid. It may be useful to have the zoning bylaws address their use.

Solar

As part of Act 56 of 2015, setback requirements for solar energy plants requiring a Certificate of Public Good from the Vermont Public Service Board were added to 30 V.S.A., Section 248, in response to concern with the visual impact of such installations. The Act also requires that ground-mounted solar plants comply with the screening requirements of a municipal bylaw,

unless such compliance would "prohibit or have the effect of prohibiting the installation of such a facility or have the effect of interfering with the facility's intended functional use."

The minimum setbacks are different depending on the size of the solar facility. For a facility with a plant capacity exceeding 150 kW, the plant must be set back 100 feet from the traveled way of a State or municipal highway, and 50 feet from all other property boundaries. For a facility with a plant capacity less than or equal to 150 kW but greater than 15 kW, the setback is 40 feet from a highway or 25 feet from other property boundaries. No setbacks are established for facilities less than or equal to 15 kW.

A local planning consideration for these installations is the potential impact on scenic and agricultural resources. The preservation of Canaan's rural setting and scenic views, and support for an agriculturally-based economy are values expressed in this Plan. If the solar arrays are located on property that is being used for or has potential to be used for productive farmland, it removes this land from the local inventory of land available for agricultural uses. Although the land is typically leased by the company installing the solar array, the lease term is typically 30 years. Based on current technology, solar arrays typically have a 25 year lifespan, so a decommissioning plan is an important consideration.

The 2016 Town Meeting Survey indicated that a majority of those surveyed felt that both small scale (less than ½ acre) and large-scale solar installations (on more than ½ acre) should avoid impacting scenic views, but should be encouraged. A high number of respondents also indicated that installations should be screened from roads and adjacent properties, should not be located on productive agricultural land, although there were a number of respondents who were neutral on the issue, suggesting that this would need further discussion. A clear majority of residents felt that roof-top solar installations should be encouraged.

State Review Process

Vermont has a State review process governing the location of public utility generating equipment, outlined in Section 248 of Title 30 of State statute, which requires companies to obtain a Certificate of Public Good from the Public Service Board (Board) before beginning site preparation or construction of electric transmission facilities, electric generation facilities and certain gas pipelines within Vermont.

Recent changes to State statute enacted by Act 174 will allow towns the option of seeking a certification of energy compliance from the Vermont Department of Public Service, which will result in greater deference given to the Town Plan when the Public Service Board is making a decision to grant a Certificate of Public Good. The standards for this determination are being developed by the Department of Public Service and will be released in November 2016.

Policy for Renewable Energy Facilities

The Town of Canaan supports the use of responsibly sited and developed residential-scale and commercial renewable energy projects. The Town does not support the development of renewable energy installations that negatively impact scenic views or remove valuable agricultural land from current or potential productive use. Canaan desires to maintain the working landscape and views important to its rural cultural aesthetic.

Projects must meet the following standards regarding siting and scale outlined below in order to be considered "orderly development" supported by this Town Plan and in order to not unduly impact the productive use of agricultural lands and the aesthetics of the rural countryside this plan intends to protect:

Siting

Where a project is placed on the landscape constitutes the most critical element in the aesthetic siting of a project. Poor siting cannot be adequately mitigated. Accordingly, all renewable energy projects must evaluate and address the proposed site's aesthetic impact on the surrounding landscape.

Good sites have one or more of the following characteristics:

- Roof-mounted systems;
- Systems located in close proximity to existing larger scale, commercial, industrial or agricultural buildings;
- In the case of solar arrays, proximity to existing hedgerows or other topographical features that naturally screen the proposed array from view from at least two sides;
- Reuse of former brownfields or otherwise impacted property.

Poor Sites have one or more of the following characteristics:

- No natural screening;
- Topography that causes the turbines or arrays to be visible against the skyline from common vantage points like roads or neighborhoods;
- A location in proximity to and interfering with a significant viewshed;
- The project results in the removal of productive agricultural land from agricultural use;
- The project requires public investment in transmission and distribution infrastructure in order to function properly.

Mass and Scale

The historical working landscape that defines Canaan currently and that the Town desires to preserve is dominated by viewsheds across open fields to wooded hillsides and views of distant mountain ranges. Rural structures like barns fit into the landscape because their scale and mass generally do not impact large tracts of otherwise open land. All commercial scale solar arrays

shall also be limited in mass and scale, and/or have their mass and scale broken by screening, to fit in with the landscape. Commercial projects larger than ½ acre would be larger than any other structure within the municipality of Canaan, except the Ethan Allen plant. Commercial projects of that size cannot be adequately screened or mitigated to blend into the municipality's landscape and are therefore prohibited, except where the Ethan Allen industrial development already exists. If a commercial project larger than ½ acre is proposed, the Ethan Allen property may be an appropriate location for consideration.

Projects found to have poor siting characteristics pursuant to the standards contained above, and/or projects larger than ½ acre in size violate the municipalities' standards regarding orderly development.

Average person

For the purposes of this Plan, either the municipal legislative body or the planning commission (depending upon which body is selected by the legislative body to represent the municipality before the Public Service Board in any Section 248 hearing), shall be deemed to represent the voice of the "average person" with respect to the "Quechee Test" when evaluating the aesthetics of a proposed renewable energy facility.

Mitigation of impacts

In addition to properly siting a project, developers must take the following actions to mitigate impacts resulting from projects:

- Locate the structures on the site to keep them from being "skylined" above the horizon from public and private vantage points;
- In regard to solar arrays, shorter panels may be more appropriate in certain spaces than taller panels to keep the project lower on the landscape.
- At a minimum, all solar arrays must observe the setback requirements contained in Title 30, Section 248 (s). However, developers are encouraged to increase setbacks to at least those listed in Canaan's Zoning Regulations within the Zoning District in which it lies;
- Use the existing topography, development or vegetation on the site to screen and/or break the mass of the development;
- In the absence of existing natural vegetation, the commercial development must be screened by native plantings beneficial to wildlife and pollinators that will grow to a sufficient height and depth to provide effective screening within a period of 5 years. Partial screening to break the mass of the site and to protect public and private views of the project may be appropriate;
- Practice a "good neighbor policy." The siting of the development should be done in such a manner that it creates no greater burden on neighboring property owners or public infrastructure than it does on the property on which it is sited. As an example, a landowner may not site a renewable energy facility on his or her property in a location calculated to diminish the visual impact of the development from his or her residence, but places it immediately within their neighbor's or the public's viewshed. Locating a

renewable energy facility in a manner designed to reduce impacts on neighbors or public viewsheds constitutes reasonable mitigation.

- Use black or earthtone materials (panels, supports fences) that blend into the landscape instead of metallic or other brighter colors).

Decommissioning and Restoration

All projects shall be decommissioned at the end of their useful life and the property shall be restored to its pre-project condition. Developers of all projects 100 kW and greater shall provide the municipality with appropriate assurances to guarantee funding exists to decommission the project. In keeping with Canaan's desire to retain our agricultural land base, a renewable energy generation facility's useful life shall be deemed to be at the end of the initial contract for services with the power company.

Goals and Action Steps

1. Support energy conservation efforts

- Make available contact information for home weatherization programs and publications of the State conservation utility. These entities may be invited to participate in public gatherings to get their message out.
- Investigate the PACE program as a way to encourage the installation of residential-scale renewable energy
- Review local regulations that establish screening requirements, as provided by Act 56, to be applied to ground-mounted solar plants as one means of protecting scenic views.
- Investigate renewable energy systems for any newly constructed municipal buildings.

2. Regulate renewable energy devices to the extent permitted

- Address the regulation of energy producing systems according to the regulatory capabilities reserved to the Town by law.
- Consider revising the zoning bylaw regarding the impact on the scenic and agricultural values in the Town.

IX. ECONOMIC DEVELOPMENT

Introduction

As per State statute at 24 VSA, Section 4382 (a) (11), a municipal plan shall contain an economic development element that "describes present economic conditions and the location, type, and scale of desired economic development, and identifies polices, projects and programs necessary to foster economic growth."

Existing Conditions

Regional context

According to the Vermont Department of Labor's *Economic and Demographic Profile Series 2015*, Essex County had an estimated labor force of 2,850 in 2014, which accounts for less than 1% of the State labor force. The county's covered employment, which includes all private and public ownerships but doesn't count all farm employment or self-employment, totals only 1,057, a fraction of a percentage of statewide covered employment. "Covered" employment is the count of jobs that are covered by the Vermont or Federal Unemployment Compensation Law.

Although Vermont as a whole has seen a significant shift from a "goods-producing" to a "service-providing" economy, this trend is not as pronounced in the Northeast Kingdom. Statewide in 2014, goods-producing jobs made up 16.3% of all jobs in the State, while goods-producing jobs accounted for 22% of jobs in Essex County. The goods-producing industries include natural resource sectors of agriculture, forestry, and mining, as well as construction and manufacturing. Service-providing sectors include transportation and warehousing, utilities and information; finance and insurance; real estate and rental; educational services; health care and social assistance; professional and technical services; management of companies, administrative and waste services; arts, entertainment, and recreation; accommodation and food services; wholesale and retail trade; and government.

Although the state economy gained 11,402 jobs (3.9% increase) between 2010 and 2014, Essex County experienced a 7.8% job loss.

Northeast Kingdom Employers

The U.S. Census Bureau County Business Patterns provides annual statistics for businesses with paid employees. (Data for 2013 were released in April 2015.) The series excludes data on self-employed individuals, employees of private households, railroad employees, agricultural production employees, and most government employees. In 2013, there were 54 establishments with 50 or more paid employees located in the Northeast Kingdom, the majority of which were located in Orleans and Caledonia Counties. Based on local data, there are currently two establishments with 50 or more employees in Essex County.

The greatest number of establishments in the Northeast Kingdom (over 60% of the total) employ four or fewer employees.

Self-Employment

Self-employment in the Northeast Kingdom represents a significant share of total employment, compared to the rest of Vermont. In 2008, self-employed workers represented about 17.1 percent of the regional workforce, compared to 14.1 percent of the state workforce. The majority of the self-employed are engaged in construction; retail trade; professional and technical services; forestry, fishing, and agricultural support services; healthcare and social assistance, and other services.

The Northeast Kingdom and Vermont saw a decrease in self-employment from 2008 to 2013. In the region, the biggest losses came from construction, transportation and warehousing, and information sectors. These losses were partially offset by significant gains in manufacturing. Much of this growth came from non-durable goods manufacturing, and specifically, food manufacturing. As of 2013 the Northeast Kingdom region had 85 "non-employers" (unincorporated businesses or sole proprietorships) in food manufacturing, representing $1.65 million in receipts.

Agricultural Economy

One of the State's 14 planning goals articulated in statute at 24 VSA § 4302 (b)(9) is "To encourage and strengthen agriculture and forest industries." Policies under this goal are:

- Strategies to protect long-term viability of agricultural and forest lands should be encouraged and should include maintaining low overall density
- The manufacture and marketing of value-added agricultural and forest products should be encouraged.
- The use of locally-grown food products should be encouraged.
- Sound forest and agricultural management practices should be encouraged
- Public investment should be planned so as to minimize development pressure on agricultural and forest land.

The land-based economy is a critical part of the Northeast Kingdom's traditional landscape that preserves open spaces and enhances the region's scenic beauty.

The forest industry is also an integral part of the region's economic and social identity, and logging continues to be a locally important economic activity. These include jobs in logging and trucking, wood products and furniture manufacturing, paper manufacturing, wood energy, maple syrup and Christmas trees.

In 2012, Act 142 created the Working Lands Enterprise Fund and the Working Lands Enterprise Board (WLEB). The WLEB is made up State agencies and private sector members in the supply chains of agriculture and forestry.

In 2014 the Canaan Community Forest received a $50,000 grant from the WLEB. It was used to develop the CTE program and construct a sugar house.

Local Conditions

Local Work Force, Income and Type of Employment

With the downsizing of major employer Ethan Allen in 2009, some workers have retired. Other workers have started their own small businesses. Still others have started commuting to find jobs, whether in manufacturing or the tourist trades. Forestry work continues to be a presence and either remains stable or is slightly decreasing with the closure of additional mills. The maple industry is increasing, with small local producers and with large producer Sweet Tree in Island Pond employing many locals.

Existing Commercial and Industrial Uses in Canaan

There are approximately 40 employees working for the U.S. Customs and Border Protection at the two ports of entry and the new Border Patrol Station in Canaan. Ethan Allen employs 100. There are several small employers in the area, averaging 3 to 10 employees.

Planning Considerations

Attracting Potential Businesses

In 2012, two reports were prepared for the Northern Community Investment Corporation (NCIC) to determine the feasibility of developing an "energy park" in Beecher Falls. A preliminary engineering report was prepared by Northstar Industries and a marketing study was completed by Camoin Associates to consider industries that could benefit from locating in the proposed energy park. The marketing study was intended to determine whether industries that had a "robust demand" for energy could be attracted to Beecher Falls, to support the construction of a combined heat and power facility, and a natural gas metering and pressure regulating station connected to the Portland Natural Gas Transmission System.

The marketing study examined an array of industries, both with precedence of operations in the Northeast, as well as new industries. In particular, the report assessed which industries would most benefit from low cost energy.

The report advises that manufacturing sectors that are conducive to rural economic environments, and that can benefit from accessibility of natural gas and proximity to the Canadian border should be targeted. Due to its location in a Foreign Trade Zone, the report also advises that businesses that fit with the targeted sectors and that also conduct foreign trade (importing and exporting), and include both manufacturing and warehousing/logistics components should be targeted.

From 2011, Canaan has invested substantially in infrastructure. The improvements include

- Efficient waste water treatment plant, including solar power;
- Both Canaan Fire District 1 and 2 have
    - new main lines and reservoir, making the system redundant;
    - additional fire hydrants;
    - sufficient capacity for expansion.

The wastewater and water systems are shared with West Stewartstown, NH. (See also Utilities and Facilities section of this Plan).

In 2015 and 2016, Canaan has participated in the Heart and Soul process for community strengthening. It is helping to identify the positive aspects of Canaan, such as its natural beauty and quality of life, as well as working on actionable steps to enhance the community.

Child Care

It has been recognized that the availability of high-quality affordable child care is an important component to supporting the local workforce. State statute at 24 VSA § 4302 (b)(13) lists as a goal "To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and child care work force development."

The State has licensing regulations for center-based child care and preschool programs, and separate regulations for registered and licensed family child care homes. Licensed family child care homes can provide services for more children and have additional standards beyond what is required of registered child care homes.

In Canaan, there are two child care facilities: one licensed provider and one registered home.

Canaan School pre-school is a licensed provider, operating Monday through Thursday from 12:30 to 2:30. It is licensed to care for up to 22 children at any one time. It has the capacity to serve pre-school age children, but not infants or toddlers.

The one registered family child care home in Canaan is located on Hall Stream Road and has a capacity to serve 2 infants, 2 toddlers , 2 pre-school aged children, and 4 school-aged children, for a total capacity of 10. As of June 15, 2016, there was only one vacancy, in the school-aged category. The home, which is located on the school bus route, is in operation Monday through Friday from 6:30 A.M. to 5 PM.

Regulated child care programs can participate in the State's quality recognition and improvement system, and can receive a quality recognition level ranging from 1 star to 5 stars. Based on this system, a "high-quality" childcare program is a program with a 4 or 5-star recognition. Both child care programs in Canaan are rated as 4 star.

There are also child care options in neighboring Colebrook, New Hampshire.

The expense of creating and running a child care center is a concern for providers, and the expense of paying for it are a concern of working families.
For families where both parents work, (including self-employed), are attending school, have a special health care need, or other particular service need, Vermont provides a child care subsidy on a sliding scale based on family size and monthly income. For example, a family of 4 with a gross monthly income of up to $2,025 would be eligible for a 100% subsidy of child care costs, while a family of 4 earning a $6,075 per month would be eligible for a 10% subsidy. There is an online application form to apply for the child care subsidy on the website of the Vermont Department for Children and Families, Child Development Division:
http://www.brightfutures.dcf.state.vt.us/

Financial assistance is also available to childcare providers through the Child Development Division. These include grants for child care centers in high poverty areas that are at risk of

closing, grants for professional development, for quality improvement, to support special accommodations, and Individual Professional Recognition Bonuses.

Local Resources and Tools for Economic Development

In addition to regional and state sources of funding for business start ups, (Working Lands Enterprise Board, Vermont Community Development Program, business loans from NCIC, etc.) Canaan has its own revolving loan fund that is available to qualified businesses and individuals who need funding to start a new business or expand an existing one. Interested applicants can submit a business plan to the Town.

The State Village Center designation program is another tool to incentivize business development in existing downtown buildings. Commercial buildings in a designated village center can benefit from an array of tax credits for physical improvements to the building, and the municipality earns additional points on certain grant applications. Village Center designation is appropriately located in the commercial/civic core, and a single town can have multiple designated Village Centers. The commercial areas of Beecher Falls, Canaan Village and possibly Wallace Pond may be appropriate areas for Village Center designation.

Goals and Action Steps

1. Increase local employment opportunities and increase the tax base

- Work with NCIC to recruit commercial enterprises that can make use of the factors unique to Canaan: Public sewer and water infrastructure, proximity to the Canadian border, (proximity to natural gas) agricultural lands, and location in the Foreign Trade Zone.
- Seek Village Center designation for the commercial and civic areas of Canaan
- Review Heart and Soul Committee Results

2. Increase the availability of child care and develop the child care workforce

- Encourage registration of providers
- Provide education and assistance for meeting requirements of registration
- Provide education about assistance for paying for child care
- Coordinate further with the school

X. FLOOD RESILIENCE

Introduction

State statute at 24 VSA, Section 4382 (a)(12) directs that a municipal plan shall include a flood resilience plan that:

- Identifies flood hazard and fluvial erosion hazard areas based on State river corridor maps, and designates those areas to be protected, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, to reduce the risk of flood damage to infrastructure and improved property;
- Recommends polices and strategies to protect the areas in flood and fluvial erosion hazard areas and to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.

Existing Conditions

The Town of Canaan is located in the Upper Connecticut River Tactical Basin, in the area north of the Nulhagen River.

The Connecticut River extends along the eastern boundary of the Town with New Hampshire. Named surface waters and watercourses in Canaan include Wallace Pond, Leach Stream, Hall Stream, Morrill Stream, Bolter Brook, Keyer Brook, Clay Brook and Willard Stream. The locations of wetlands are depicted on the "Natural Resources Constraints" map included in the appendix to this Plan.

FEMA-mapped Special Flood Hazard Areas

Areas of Canaan were mapped by the Federal Emergency Management Agency in 1980 to depict areas of special flood hazard. These areas are depicted on the Flood Insurance Rate Map (FIRM) and Floodway Map, with base flood elevations noted. The Town has been a member of the National Flood Insurance Program since 1980. The Town has flood hazard regulations that regulate development on land that is within the area of special flood hazard area, as depicted on the FIRM. The Town's flood hazard regulations, which are incorporated in the Town's zoning bylaw, were last updated in 2008. Membership in the NFIP enables property owners in the FEMA-mapped flood hazard area to obtain flood insurance. It is estimated that approximately 50 structures are in or near the flood hazard areas mapped by FEMA.

River Corridors

The Agency of Natural Resources has released a State-wide River Corridor map which depicts areas subject to fluvial erosion. These areas are depicted on the River Corridor Map contained in the Plan. In many cases, the River Corridors coincide with the areas mapped on the FIRM. However, the river corridor maps are intended to depict areas at risk of fluvial erosion do to the dynamic movement of water in rivers and streams, whereas the FIRM depicts areas subject to inundation. For that reason, areas like wetlands that are depicted on the FIRM will not be

mapped on the River Corridors. Areas that are currently within the Statewide River Corridors in Canaan are not subject to the local flood hazard regulations unless they coincide with the FIRM areas. There are approximately 15 structures within the mapped River Corridor.

Infrastructure and Buildings at Risk

Infrastructure within the River Corridor include the wastewater treatment plant, and the Town well located on Leach Stream.

The Town of Canaan has made considerable progress in upgrading infrastructure to mitigate against future flood losses. In 2012, a number of culverts were replaced and upsized on Kemp Hill. In 2015, a Better Back Roads grant funded ditching and stone-lining along roads on Canaan Hill, and in 2016, a new grant is funding additional work on Canaan Hill which will involve replacing 7 undersized culverts.

Another area that floods consistently after several days of heavy rains is the intersection of Halls Stream Road and River Road. River Road extends along the Connecticut River on the eastern edge of Town. Although it appears that nothing short of elevating the road 10 feet will resolve this flooding issue, the Town mitigates risks to people from this flooding by working with the fire department to set up road blocks after periods of heavy rain to alert motorists to avoid the intersection.

A privately owned home on Leach Stream near Rt. 114 is threatened by erosion, as is the road in this location. It is critical to continue to monitor this situation.

Houses on Wallace Pond are also threatened by flood hazards. Leach and Morrill Streams flow into Wallace Pond. By regulating development in river corridors upstream of Wallace Pond, increased flood hazards to homes in this area can be avoided. It is also noted that in the winter, ice flowing downstream piles up on the shore of Wallace Pond.

The Town of Canaan has submitted a draft Local Hazard Mitigation Plan (LHMP) for review by DEMHS. Once approved by FEMA, the Town Selectboard will adopt the LHMP. The LHMP identifies the buildings and structures within the Special Flood Hazard Area mapped by FEMA.

ERAF

The Emergency Relief Assistance Fund (ERAF) helps Vermont municipalities repair damaged infrastructure after a presidentially-declared disaster. The federal government funds 75% of the cost and the remaining 25% needs to be met by the Town and State. The Town has the following four flood hazard mitigation measures in place:

1) Flood Hazard Regulations that meet minimum standards for enrollment in the National Flood Insurance Program;
2) Locally adopted Agency of Transportation Road and Bridge Standards;
3) Local Emergency Operations Plan (LEOP); and
4) Local Hazard Mitigation Plan approved by FEMA (in process).

The State will currently meet half the required 25% match (12.5% of the total project cost.) If the Town opts to regulate development within River Corridors according to State model ordinances, it would further increase the amount of funding provided by the State under ERAF to 17.5% of the total project cost.

Planning Considerations

Local Hazard Mitigation Plan
Once the LHMP has received approval by FEMA and has been adopted by the Town Selectboard, the proposed mitigation measures related to flood hazards contained in that plan should be incorporated in this Town Plan by reference.

Vegetated buffer areas and coverage limitations
Maintaining natural vegetation and limiting impervious surfaces in areas close to streams helps prevent potential sedimentation of streams and water bodies and reduce stormwater runoff that could contribute to downstream flooding. Therefore, in addition to the recommended avoidance of areas within the statewide river corridors, it is recommended that a setback of 50 to 100 feet be maintained from of smaller streams.

Upland and wetland areas
The management of upland forested areas plays an important role in flood hazard management. As these areas are cleared and become developed, storm water, instead of infiltrating naturally into the soil, quickly runs off hard surfaces picking up pollution and carrying it to waterways. Increased flows during storms can destabilize stream channels and adversely affect water quality. Limiting the extent of disturbance and development of impervious surfaces on upland slopes helps to reduce the amount of storm water runoff, and helps to avoid overwhelming existing stormwater infrastructure, including roadside ditches and culverts. Avoiding steep slopes greater than 15% when clearing and developing land, and requiring that stormwater runoff from new development be managed on-site will also help mitigate future flood hazards.

Wetlands provide an important floodwater storage function, storing stormwater runoff and flood waters that overflow riverbanks. As flood waters recede, the water is released slowly from the wetland soils. By holding back some of the flood waters and slowing the rate that water reenters the stream channel, wetlands can reduce the severity of downstream flooding and erosion.

The State of Vermont regulates activities in and adjacent to wetlands in accordance with the Vermont Wetland Rules. State permits are necessary for activities in or within 100 feet of Class I wetlands, and within 50 feet of Class II wetlands. A permit can only be issued if it is determined that the use will have no undue adverse impact on protected functions, unless such impacts are mitigated.

Protection of steep slopes and wetland areas can also be achieved through securing conservation easements in critical locations and by encouraging enrollment of managed forested

areas in the current use program.

Other Studies
In 2008, the Essex County Natural Resources Conservation District prepared a study of the Bolter, Keyer and Willard Streams. The report recommended river corridor restoration along Willard Stream. It also called attention to flood damage and depositional issues related to the bridge at Route 102 and a constructed berm adjacent to Willard Stream. The executive summary of this report is included in the appendix to this Plan.

The Tactical Basin Plan for the Upper Connecticut and Passumpsic River watersheds is a plan prepared by the Watershed Management Division of the Agency of Natural Resources.
The Tactical Basin Plan identifies areas in Caanan along the Connecticut River that are important floodplain forest restoration sites.

The Plan also notes that a segment of the Connecticut River is impaired due to levels of E-coli (see page 15)

The Plan highlights the Johnson Farm conservation project in Canaan as a success story.

266 acres were conserved as part of a wildlife management area along the Connecticut River and a working farm by the Vermont Land Trust. "The project protected over six miles of river frontage which now has a floating buffer (that moves with the river as it moves) which will be restored to a floodplain forest. Funding for the project came from the Upper Connecticut River Mitigation and Enhancement Fund, significant investments from the Vermont Housing and Conservation Board and funding from the USDA Natural Resource Conservation Service, Pew Charitable Trusts, and the Department of Environmental Conservation through an Ecosystem Restoration Program grant. A floodplain restoration plan for the parcel and buffer planting was completed in 2014 and restoration efforts are expected to occur over the next few years."

In the Tactical Basin Plan's implementation Table, relevant objectives include:

- Protect and restore important floodplain and wetland habitat in the Basin.
- Work with towns on the Connecticut River from Lunenburg to Canaan to strengthen NFIP bylaws and shoreland protections along the Connecticut River.
- Complete VANR Bridge and Culvert surveys in the upper Connecticut River watershed with priorities on the Leach Stream watershed and the towns of Canaan and Concord.

Goals and Action Steps

1. Mitigate flood hazards and maintain good water quality by undertaking restoration projects, reducing stormwater runoff from new development, and assuring long-term protection of the River Corridor from incompatible development and uses.

- Work with staff engineers at the VT Department of Environmental Conservation (DEC) to monitor the erosion problems at Leach Stream near Route 114, and undertake corrective action as necessary.

- Amend the Flood Hazard regulations to regulate development within the River Corridor Areas mapped by DEC, in order to mitigate flood hazard risks and protect investments made in restoration projects, and receive a higher amount of funding under ERAF.

- Consider establishing impervious coverage limitations as part of the Town's zoning district standards to limit stormwater runoff that can contribute to flooding and degrade water quality.

- Participate in regional flood hazard area education events to inform local residents.

- Encourage the public to establish conservation easements in critical locations.

XI. LAND USE

Introduction

State Statute at 24 VSA, Section 4382 (a) (2) specifies that the Municipal Plan include a Land Use plan "consisting of a map and statement of present and prospective land uses, indicating those areas proposed for forests, recreation, agriculture …residence, commerce, industry, public, and semi-public uses and open spaces reserved for flood plain, wetland protection, or other conservation purposes; and setting forth the present and prospective location, amount, intensity, and character of such land uses and the appropriate timing or sequence of land development activities in relation to the provision of necessary community facilities and service."

This section is divided in two parts - an overview of present land uses and regulations, followed by a description of the planning considerations for future land use.

Existing Conditions

Natural Resource Factors

An important consideration in the Municipal Plan is the natural resources of the community and limitations they place on future land development. In Canaan, shallow soils, steep slopes, stream banks, and flood plain areas limit prime agricultural land and favor forestry. The natural resources of Canaan are integral both to its current existence and to its future potential.

Soils
Soil Conditions which can limit future development of land include: shallow depth to bedrock, instability, inability to absorb water and excessive wetness.

Information from the Soil Conservation Service indicates that the existence of these conditions vary widely throughout the Town. In general, the best soils are found in the valley regions with the soil becoming increasingly shallow and unstable as the land slopes up and away from the valleys. (See the Soils Map in the appendix to this Plan.)

Soil conditions are extremely important away from the village centers where on-site water supply and sewage disposal are required. However, except for the river valley bottom land, most of the remaining land area is moderately to steeply sloped which limits the density of development which can be supported in these areas.

Steep Slopes
Land with slopes in excess of 15 percent tends to erode once disturbed and presents limitations in terms of road construction and other types of excavations thus making it unsuitable for intense development.

The largest area of steeply sloped land is in the central portion of the Town. Within this area there are four hills, all over 1500 feet high. (See the Natural Resources Constraints Map in the appendix.) In addition, most of the land west of Vermont Route 253 between Canaan village and Beecher Falls is steeply sloped. Steeply sloped land also occurs around numerous other hills scattered throughout the Town.

Connecticut River
The Connecticut River and its major tributaries represent an important natural resource in the Town of Canaan. Canaan actively participates in the Connecticut River Joint Commission whose mission is to preserve and protect the resources of the Connecticut River Valley.

Streambanks
The streambanks of the Connecticut River and its major tributaries are important in terms of outdoor recreation as well as contributing significantly to the natural beauty of the Town. The major tributaries of the Connecticut include Willard, Leach and Hall streams. Minor tributaries include Keyer and Capon brooks and their tributaries. In addition, the upper portion of Leach Stream, with its tributary Morrill Brook, drains into Wallace Pond.

Intense development too close to the banks of these streams would limit their accessibility for recreational purposes and decrease their attractiveness. (See also discussion of River Corridors in the Flood Resilience section of this Plan).

Flood Plain Areas
In the event of a major flood, most of the land lying between Vermont Route 102 and the Connecticut River would be flooded. Fortunately, practically all of this land is currently in agricultural use. In order to insure against the damage and inconvenience a major flood would cause, other types of development should be somewhat limited in this general area. Substantial flooding also occurs along the banks of Leach and Hall Streams. There are wetlands encompassed in many of the flood plains, some of which are currently under plans for protection. These wetlands are important natural resources and should continue to be protected from development. (See also Flood Resilience Section of the Plan)

Wallace Pond Area
Wallace Pond represents an important natural and recreational resource for Canaan. While it possesses the potential to serve as a site for expanded recreational and seasonal development, development in this area must be guided in such a way as to protect the water quality and visual appearance of the pond.

Air Quality
With the lack of heavy industry and a relatively open terrain, Canaan enjoys clean air which contributes to the scenic values of the area. Although air quality must be balanced with other concerns when development is considered, it is important that it remain a factor to be considered with any new or changing development.

Scenic Values
The forested and agricultural lands that make up Canaan define its scenery. The landscape of Canaan also contributes to its recreational offerings. Although scenic values must be balanced with other concerns when development is considered, it is important that it remain a factor to be considered with any new or changing development.

Present Land Uses

Agriculture
Canaan owes its natural good looks to farming. While much of the countryside was once open land, today's farms are concentrated on those fertile areas better suited to intensive use of machinery, mainly the flat terraced soils of the Connecticut River valley. Other areas of agricultural land include the land along Vermont Route 114 from the village of Canaan to the Canaan-Hereford international border crossing on Vermont Route 141. Areas of Town containing agricultural soils can be seen on the Soils Map in the appendix to this Plan. There are at present five working farms in the Town with approximately 1400 acres under intensive tillage and hay field management (about 6.4 percent of the Town land area). In 1998, the development rights to approximately 371 acres of land adjacent to the village of Canaan along Vermont Routes 102 and 114 were sold to the State of Vermont.

There are a few small scale gardening operations which meet family needs. Many residents have always grown their own food and more are raising poultry and livestock.

Forestry
Roughly 18,000 acres or 82 percent of the Town land area is wooded, supplying renewable forest resources to mills in the area. The larger tracts of woodland are owned by woods contractors and other private parties. The two largest areas are found in the Morrill and Hudson Brook watersheds and are in various stages of timber growth and harvest. In most cases, the prime forestry lands are relatively inaccessible and therefore unsuitable for other types of uses with the exception of outdoor recreational activities. As indicated in the 2011 resident survey, the rural forested nature of the undeveloped lands is important to maintain the character of Canaan. Under reasonable management the total forest (assuming an average growth rate of 1/3 cord/acre/year) could sustain an annual harvest of 6,000 cords or 3,000,000 board feet. This points to the considerable economic value of our forests.

In September of 2013, 424 acres of land formerly owned by the Tillotson family were transferred to the Town as the Canaan Community Forest. 368 of these acres are conserved under an easement held by the Vermont Land Trust. A forest cutting took place in the winter of 2014 under the oversight of the Essex County Forester, in preparation for the establishment of a sugaring operation on the site. Sugaring began in the winter/spring of 2015/2016, with work on the buildings by the Buildings Trades, by the school's Career and Technical Education (CTE) program and with sugaring work by the Diversified Agriculture CTE program.

There are about ten Christmas tree farms in the area, ranging from small part-time businesses to

larger full-time businesses, making tree farming a major forest crop in Canaan.
Equally important to the Town are forest fringe benefits, notably clean water, fish and wildlife, firewood and outdoor recreation of various types. Not the least contribution to the Town's welfare is the exceptionally attractive setting provided for the village areas by the surrounding forested hills.

Commercial
The Residential-Commercial (RC) districts in the villages currently have a mixture of residential and commercial uses:

- 1 surveyor
- 3 restaurants
- 1 dance hall
- 1 membership club
- 1 bowling alley
- 1 motel
- 1 small engine repair shop
- 2 service stations
- 1 insurance/real estate agency
- 1 machine shop
- 1 redemption center

Commercial enterprises outside the villages include:

- 1 auto body repair shop
- 1 lakeside cabin complex
- 1 printer/embroiderer
- 1 motel
- Several sugarhouses

Industrial
Ethan Allen, Inc., maker of Ethan Allen furniture, is the main industrial employer in Canaan. An industrial wood harvesting contractor has headquarters and shop facilities in Canaan. Eversource operates a hydroelectric plant (1,100 KW) on Power House Road.
The wooden penstock was replaced with steel in 2010.

Year-Round Residential
Population is concentrated in the two village areas of Beecher Falls and Canaan. One mobile home park with 18 units is situated in the village of Canaan. A Housing for the Elderly project was built in Canaan village in 1982 consisting of 10 single and 2 double units.
New homes, consisting of both frame dwellings and mobile homes, are occurring mostly in outlying locations. (see also the Housing section of this Plan.)

Seasonal Residential and Camps
These are located primarily around Wallace Pond and along the Canaan Hill, Kemp Hill and Todd Hill roads, with a few others scattered throughout the Town. While some are owned locally and used primarily as summer cottages, hunting camps or winter retreats, others are owned by

vacationing non-residents who may be tempted to convert to year-round use at some later date. Second home development has been modest in Canaan and surrounding towns.

Federal and State Agency Properties

U.S. Customs and Border Protection maintains two ports of entry in Canaan: one on Vermont Route 141 and another on Vermont Route 253. Both of these buildings are listed on the National Registry of Historic Places and were constructed in the early 1930's. A Border Patrol station in Canaan on Route 114 was completed in 2012. There are United States Post Offices in both Beecher Falls and Canaan.

The Vermont Agency of Transportation maintains equipment and salt/sand storage facilities on Vermont Route 141 built in 1998. The Vermont Department of Fish and Wildlife maintains a boating and fishing access on Wallace Pond.

Recreational Uses

Town-owned land used for recreational purposes include Fletcher Park in Canaan Village, Beecher Falls Park, playing fields adjacent to the school buildings, the 10.6-acre Community Recreation Park which includes active and passive recreational facilities (see Facilities and Services section of the Plan), and the Community Forest, which contains trails used for hiking, snowmobiling and snowshoeing. All terrain vehicles (ATVs) are permitted on the designated trails which connect with New Hampshire trails, serving as a draw to recreational users.

The Canaan Community Forest Committee has developed a management plan for the forest. In January of 2013, the Town received a $73,000 Tillotson grant for the purpose of enhancing the local educational, recreational and economic opportunities of the land. $30,000 of the grant is being used to fund a pilot diversified agriculture program serving juniors and seniors to prepare them for careers in agriculture, forestry and the biological sciences.

The State Department of Fish and Wildlife maintains a boat launch/fishing access on the west end of Wallace Pond. The Town maintains a public access/boat launch on the Connecticut River just south of the Route 114 bridge to New Hampshire.

The Johnson Farm Wildlife Management Area (WMA), between Route 102 and the Connecticut River, is another area providing opportunities for passive recreation. The 266-acre WMA was established in 2012, part of 849-acres of farmland and natural areas previously owned by Bill and Ursula Johnson.

The property has agricultural land interspersed with oxbow ponds, shrub-scrub swamps, emergent marshes and floodplain forests. The farm is known for its six mile long stretch of scenic Connecticut River frontage and for its habitat diversity. The 583 acres of the farm that are not part of the WMA are protected with a farmland conservation easement jointly held by the Vermont Land Trust, the Vermont Housing and Conservation Board and the Vermont Agency of Agriculture. The farm property includes a contiguous 544 acre block on both sides of VT RT 102 in Canaan, with an additional 39 acres on the east side of RT 102 in Lemington. There are 325

acres of tillable land with productive bottomland soils. The farm spans three miles of road frontage and the large and level fields are accessed by a solid network of farm roads.

The WMA comprises four separate parcels, each having its own access off of Route 102. Information kiosks and parking are provided at two sites, one in Canaan, and the other in Lemington. Planning is currently underway by the State Department of Forest Parks and Recreation to create trails and access points to the Connecticut River. The State is coordinating planning with the Connecticut River Paddlers' Trail to create primitive campsites in the WMA along the river.

Existing Land Use Regulations

Canaan currently has a zoning bylaw that establishes eight zoning districts in Town:

Industrial
Residential-Commercial
Residential One-Half
Residential One
Residential Two
Agricultural
Rural Lands
Wallace Pond District

(See zoning map in Appendix)

Industrial
The Industrial (IND) District encompasses the lands occupied by and in the immediate vicinity of Ethan Allen Inc. in Beecher Falls village, an area on the south side of Vermont Route 114 west of Canaan village, and an area on the north side of Vermont Route 114 between Harriman Hill and Wallace Pond. These areas serve as locations for the establishment of a variety of types of manufacturing and commercial activities to provide employment opportunities and broaden the tax base in Canaan. All uses within this district are subject to site plan approval which requires that certain standards with respect to traffic areas, circulation and parking, landscaping and screening are met.

Residential-Commercial
The Residential-Commercial (R-C) District provides for a mixture of residential and commercial uses at a high density of development in four locations:
(1) an area within the village of Beecher Falls;
(2) an area within the village of Canaan;
(3) an area adjacent to Vermont Route 141;
(4) an area adjacent to the Canaan Post Office on Vermont Route 253;
(5) an area at the east end of Wallace Pond.
Uses are subject to site plan and/or conditional use approval which require conformance to certain standards with respect to impact on the community and the character of the area.

Residential One-Half
This district (R ½) is intended to be primarily for single and two family dwellings at a higher

density of development than Residential-1. Various other uses that complement the district may be allowed. The R ½ district includes areas within both village centers and along the west side of Vermont Route 253 between Canaan and Beecher Falls.

Residential-One
The Residential-One (R-1) District is primarily for residential use in a rural setting at a higher density of development as the Residential-2 District. All other uses within the district are conditional and require site plan approval. The R-1 District includes areas within the villages of Beecher Falls and Canaan.

Residential-Two
The Residential-Two (R-2) District is primarily for residential use in a rural setting at a higher density of development as the Rural Lands. This district includes areas which are served by an adequate year-round road system.

Agricultural
The Agricultural (AGR) District is intended to preserve major areas of prime agricultural land while allowing other uses that are secondary to agricultural use. Areas designated AGR begin in Canaan village and continue south on the east side of Vermont Route 102 to the Lemington Town line.

Rural Lands
The Rural Lands (RL) District includes areas of the Town that have a low density of development as they are generally mountainous, remote from densely developed areas and generally not served by an adequate year-round road system.

Wallace Pond District
The Wallace Pond District (WPD) includes that area of Town where the lake is situated on the north side of Vermont Route 114 and a section on the south side of the road.

Flood Hazard Areas
The Zoning By-Law also includes requirements with respect to development in flood hazard areas. While these requirements do not prohibit development in such areas, they do insure that damage due to flooding is minimized.

Planning Considerations

In reviewing the land use in the Town, Canaan considers multiple factors including the existing rural and agricultural nature of the Town. Additional considerations are density of development, number of curb cuts on highways, existing infrastructure support, and concentrating development in the village centers.

The use of the Planned Unit Development provisions in Section 314 of the Town zoning ordinance is a way to preserve large blocks of forested or agricultural land in the Agricultural and Rural Lands districts while allowing for the creation of smaller house lots.

An area of the former Tillotson land transferred to the Town that is not covered by a conservation easement may be added to the Industrial District. The idea of establishing an "Energy Park" on a portion of the former Tillotson land was explored through a study commissioned by Northern Communities Investment Corporation (NCIC) in 2012. This study identified the types of industries that would benefit from the development of an industrial park served by a combined heat and power facility and a natural gas metering and pressure regulating station connected to the Portland Natural Gas Transmission System. Although, several factors resulted in the decision to not move this particular project forward providing for industrial use on this land is still a consideration to attract future development.

Industrial zones in other areas of Town, such as in the vicinity of Lake Wallace, will need to be re-assessed. Some have been in place due to past industrial activities.

Village Center Designation

A tool that can support revitalization of civic and commercial buildings in aging commercial centers is the State's Village Center designation program. The designation involves delineating a boundary that encompasses commercial, civic and mixed uses in the core of a town's commercial area. Benefits of designation include an array of tax credits available to business and property owners seeking to make physical improvements to older buildings within the designated area. Designation also confers a competitive edge to municipalities when applying for grant funds under programs such as the State Municipal Planning Grant program.

Two areas have been identified by the Planning Commission as being appropriate locations for Village Center designation: Beecher Falls and Canaan Village. While the exact boundaries will not be delineated until after a site visit and consultation with the State coordinator for the Village Center program, it is intended to encompass commercial and civic uses within these centers.

A complementary State designation program is called Neighborhood Development Area (NDA) designation. This is a designation that can be applied to areas within ¼ mile of a designated Village Center (see discussion of NDA in Housing section of Plan).

Goals and Action Steps

1. Ensure that zoning bylaws reflect the vision for the Town

- Review zoning bylaws and zoning map
  - Consider rezoning areas to include opportunities for appropriate development.
  - Consider limiting development in areas that would involve an unreasonable increase in provision of Town services.
  - Consider including the portion of the former Tillotson land that is not conserved in the Industrial zoning district.
- Review effectiveness of new waiver zoning provision

- Compare applications to grants of permits

2. Protect scenic resources from visual impacts of commercial and industrial development.

    - Provide for adequate screening requirements of commercial/industrial developments in the zoning bylaws
    - Establish appropriate limits on building height and footprint.

3. Support the revitalization of the historic commercial centers in Town and compact residential development surrounding the commercial centers.

    - Seek Village Center designation for Canaan Village and Beecher Falls
    - Investigate Neighborhood Development Area designation for residential areas adjacent to commercial centers

XII. IMPLEMENTATION

HOUSING				
Goals and Action Steps	Type of Action		Responsible Party	Priority[3]
	Regulatory	Non-regulatory		
1. Preserve and restore Canaan's stock of older houses and encourage their continued use to provide a range of housing choices.				
• Encourage the restoration of older homes by making information about Efficiency Vermont's programs, USDA's Single Family Housing Repair Loan and Grant program, and USDA's Multi-family Housing Direct Loan program readily available to property owners.		X	Planning Commission	4
• Support the continued operation of the Building Trades home renovation program.		X	School District	3
2. Maintain a high standard of housing for all residents.				
• Make state building code for rental properties available to landlords and tenants		X	Town Clerk/Planning Commission	3
• Ensure that relevant local land use regulations are enforced.	X		Zoning Administrator	2
• Provide information to low income residents and landlords about the rental assistance and home renovation assistance available through VSHA, USDA, and Rural Edge.		X	Town Clerk/Planning Commission	3
3. Encourage new housing developments within walking distance (approximately ½ mile) of existing community centers.				

[3] Priority is rated on a scale of 1 to 5, with 1 being the highest.

• Provide clear direction on land use policy to the Act 250 district commission when larger developments are reviewed.		X	Planning Commission	2
• Ensure that local land use regulations provide adequate standards to achieve these objectives.	X		Planning Commission	2
• Review zoning districts and revise if necessary to encourage any new development to be within walking distance of village centers.	X		Planning Commission	2
4. Consider the designation of a Neighborhood Development Area				
• Examine potential areas near village centers to consider for designation. If appropriate, work with and arrange for a site visit by the State program coordinator.		X	Selectboard/Planning Commission/Heart & Soul	5

FACILITIES AND SERVICES				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-regulatory		
1. Town-owned properties have scenic as well as historical features that the Town has long recognized and maintained and should continue to do so.				
• The Town will seek grant funds as appropriate to enhance and improve Town-owned properties		X	Selectboard	5
2. The current wastewater treatment facility should be maintained to provide adequate capacity and maintain compliance with all regulatory guidelines.				
• Include long-range funding needs of the facility in the Town's budget		X	Selectboard	5
3. The current level of police and fire protection should be maintained.				
• Canaan's Local Emergency Operations Plan should be regularly reviewed for accuracy.		X	Selectboard	5
4. Continued vigilance has to be maintained in order to contain costs, reduce waste and continue our successful recycling system.				
• Include the Town's portion of the long range costs of the recycling center in the Town's budget.		X	Selectboard	5
5. Ensure that communications infrastructure blend into the landscape while serving the community.				
• Review zoning bylaw to include provisions such as: o All communications infrastructure should be located in appropriate areas, respecting the integrity of the landscape.	X		Planning Commission	2

○ Towers and related infrastructure should only be as tall as necessary in relation to surrounding treetops. ○ Unless required by the FAA, towers should not be illuminated. ○ Structures should be designed in order to minimize aesthetic impacts.				
6. Encourage further coverage of broadband and cellular service.				
• Explore funding sources to develop a strategic plan to utilize existing communications infrastructure in Canaan as well as in neighboring communities, and to identify additional locations as necessary to bring cell phone and internet coverage to underserved areas of Town.		X	Selectboard/Broadband Committee	2
• Work with providers to extend coverage		X	Selectboard/Broadband Committee	2
• Pursue opportunities for funding to extend coverage		X	Selectboard/Broadband Committee	2
• Work with Northern Community Investment Corporation (NCIC), the State, and other entities to encourage providers to extend coverage.		X	Selectboard/Broadband Committee	2

EDUCATIONAL FACILITIES				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-regulatory		
1. Canaan's educational facilities should be maintained and efforts made to strive for cost-effective solutions to offer quality education for the citizens of the community.				
2. Use Canaan Community Forest (CCF) as a collaborative teaching opportunity.				
• Continue to partner with the school to use the Canaan Community Forest (CCF) as part of the Diversified Agriculture and the Building Trades CTE programs, as appropriate		X	School District/Canaan Community Forest Management Committee	3
• Continue to partner with the school to use the CCF as a learning opportunity for outdoors education, which sometimes provides a positive benefit for the CCF through trail maintenance and other benefits.		X	School District/Canaan Community Forest Management Committee	3
3. Encourage collaboration between the School and neighboring communities				
• Work with the school to make collaboration smooth, through funding cooperation or otherwise.		X	School District/Selectboard	2
• Pursue opportunities for collaborative funding.		X	School District/Selectboard	2

TRANSPORTATION				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-Regulatory		
1. Current Town highways should be maintained as necessary to provide safe and sufficient passage.				
• Continue to participate in Road Foreman meetings facilitated by NVDA.		X	Selectboard	3
• Budget for long range capital expenditures.		X	Selectboard	3
2. Meet the requirements of the Municipal Road General Permit				
• Work with the Essex County Natural Resource Conservation District to complete a Road Erosion Inventory, funded through a Category A Planning Grant through the Better Back Roads program.		X	Selectboard	3

ENERGY				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-regulatory		
1. Support energy conservation efforts				
• Make available contact information for home weatherization programs and publications of the State conservation utility. These entities may be invited to participate in public gatherings to get their message out.		X	Town Clerk	3
• Investigate the PACE program as a way to encourage the installation of residential-scale renewable energy		X	Selectboard	5
• Review local regulations that establish screening requirements, as provided by Act 56, to be applied to ground-mounted solar plants as one means of protecting scenic views.	X		Planning Commission	2
• Investigate renewable energy systems for any newly constructed municipal buildings.		X	Selectboard	5
2. Regulate renewable energy devices to the extent permitted.				
• Address the regulation of energy producing systems according to the regulatory capabilities reserved to the Town by law.	X		Planning Commission	3
• Consider revising the zoning bylaw regarding the impact on scenic and agricultural resources in the Town.	X		Planning Commission	2

ECONOMIC DEVELOPMENT				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-regulatory		
1. Increase local employment opportunities and increase the tax base.				
• Work with Northern Communities Investment Corporation (NCIC) to recruit commercial enterprises that can make use of the factors unique to Canaan: Public sewer and water infrastructure, proximity to the Canadian border, (proximity to natural gas) agricultural lands, and location in the Foreign Trade Zone.		X	Selectboard/Heart&Soul	5
• Seek Village Center designation for the commercial and civic areas of Canaan		X	Selectboard	1
• Review Heart and Soul Committee Results		X	Planning	5
2. Increase the availability of child care and develop the child care workforce.				
• Investigate requirements and encourage registration.		X	Planning Commission/ Heart&Soul	5
• Provide education and assistance for meeting requirements of registration.		X	Planning Commission/ Heart&Soul	5
• Provide education about assistance for paying for child care.		X	Planning Commission/ Heart&Soul	5
• Coordinate further with the school.		X	Planning Commission/ School District/ Heart&Soul	5

FLOOD RESILIENCE				
Goals and Actions Steps	Type of Action		Responsible Party	Priority
	Regulatory	Non-regulatory		
1. Mitigate flood hazards and maintain good water quality by undertaking restoration projects, reducing stormwater runoff from new development, and assuring long-term protection of the River Corridor from incompatible development and uses.				
• Work with staff engineers at the VT Department of Environmental Conservation (DEC) to monitor the erosion problems at Leach Stream near Route 114, and undertake corrective action as necessary.		X	Selectboard	4
• Amend the Flood Hazard regulations to regulate development within the River Corridor Areas mapped by DEC, in order to mitigate flood hazard risks and protect investments made in restoration projects, and receive a higher amount of funding under ERAF.	X		Planning Commission	4
• Consider establishing impervious coverage limitations as part of the Town's zoning district standards to limit stormwater runoff that can contribute to flooding and degrade water quality.	X		Planning Commission	5
• Participate in regional flood hazard area education events to inform local residents.		X	Planning Commission	5
• Encourage the public to establish conservation easements in critical locations.		X	Planning Commission	5

LAND USE				
Goals and Actions Steps	Type of Action		Responsible Party	Time frame
	Regulatory	Non-regulatory		
1. Ensure that zoning bylaws reflect the vision for the Town.				
• Review zoning bylaws and zoning map o Consider rezoning areas to include opportunities for appropriate development. o Consider limiting development in areas that would involve an unreasonable increase in provision of Town services. o Consider including the portion of the former Tillotson land that is not conserved in the Industrial zoning district.	X		Planning Commission	2
• Review effectiveness of new waiver zoning provision o Compare applications to grants of permits		X	Planning Commission	2
2. Protect scenic resources from visual impacts of commercial and industrial development.				
• Provide for adequate screening requirements of commercial/industrial developments in the zoning bylaws.	X		Planning Commission	2
• Establish appropriate limits on building height and footprint.	X		Planning Commission	2
3. Support the revitalization of the historic commercial centers in Town and of the compact residential development surrounding the commercial centers.				
• Seek Village Center designation for Canaan Village and Beecher Falls.		X	Selectboard	2

• Investigate Neighborhood Development Area designation for residential areas adjacent to commercial centers.		X	Selectboard/Planning Commission/Heart&Soul	5

XIII. APPENDIX

- Connecticut River Watershed Project, Executive Summary (2008)
- Canaan Resident Types 2003-2015 (prepared by Canaan Town Listers Office)
- Maps
    - Base Map
    - Land Use Map
    - Soils Constraints Map
    - Natural Resource Constraints Map
    - Flood Resiliency Map
    - Zoning District Map