



TRUSTEES MEETING NOTICE & AGENDA
TUESDAY, JUNE 27, 2017 at 6:30 PM
LINCOLN HALL MEETING ROOM, 2 LINCOLN STREET

1. **CALL TO ORDER/PLEDGE OF ALLEGIANCE TO FLAG** [6:30 PM]
2. **AGENDA ADDITIONS/CHANGES**
3. **APPROVE AGENDA**
4. **GUESTS, PRESENTATIONS AND PUBLIC HEARINGS**
 - a. Comments from Public on Items Not on Agenda
 - b. Robin Scheu, Executive Director, Addison County Economic Development Corporation
 - c. Dan Albrecht, Senior Planner, Chittenden County Regional Planning Commission, re: 2017 All-Hazards Mitigation Plan and Lake Champlain Byway Corridor Management Plan
5. **OLD BUSINESS**
 - a. Certification of Adoption 2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan/Town of Essex and Village of Essex Junction All-Hazards Mitigation Plan – Pat Scheidel
 - b. Resolution Reaffirming Participation in the Lake Champlain Byway – Robin Pierce
 - c. Update on 2017 Neighbors Day – Stephanie Teleen and Darby Mayville
6. **NEW BUSINESS**
 - a. Review and Approve Retreat-Work Session Minutes – George Tyler
7. **MANAGER’S REPORT**
 - a. Trustees meeting schedule
8. **TRUSTEES’ COMMENTS & CONCERNS/READING FILE**
 - a. Board Member Comments
 - b. Executed Warranty Deed for Park Street School
 - c. Letter to George Tyler from Martha Heath, Chair, Essex Westford School District Board
 - d. Article about Village of Waterbury, VT
9. **CONSENT AGENDA**
 - a. Approve Minutes of Previous Meeting 6/13/17
 - b. Expense Warrant #17049 dated 6/16/17 in the amount of \$148,328.51
 - c. Expense Warrant #17050 dated 6/23/17 in the amount of \$503,353.94
10. **EXECUTIVE SESSION**
 - a. Legal
11. **ADJOURN**

Meetings of the Trustees are accessible to people with disabilities. For information on accessibility or this agenda, call the Village Manager’s office at 878-6944.

**TOWN OF ESSEX
AND
VILLAGE OF ESSEX JUNCTION, Vermont
2017 All-Hazards Mitigation Plan**

**Annex 6 to the
2017 Chittenden County Multi-Jurisdictional
All-Hazards Mitigation Plan**

Yellow text is for additions of dates, etc. after FEMA authorizes adoption

Prepared by:

The Chittenden County Regional Planning Commission

and the

Town of Essex and the Village of Essex Junction, Vermont

*Adopted by the Town of Essex Selectboard
on Month, Day, 2017*

*And by the Village of Essex Junction Village
Trustees*

on Month, Day, 2017

Approved by FEMA effective _____

Executive Summary

Hazard Mitigation is a sustained effort to permanently reduce or eliminate long-term risks to people and property from the effects of reasonably predictable hazards. The purposes of this updated Local All-Hazards Mitigation Plan are to:

- Identify specific natural, technological and societal hazards that impact the Town of Essex and the Village of Essex Junction;
- Prioritize hazards for mitigation planning;
- Recommend town-level goals and strategies to reduce losses from those hazards; and
- Establish a coordinated process to implement the plan, taking advantage of a wide range of resources.

This plan is a local annex to the *Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan*. **In order to become eligible to receive various forms of Federal hazard mitigation grants, a Chittenden County municipality must formally adopt its Local All-Hazards Mitigation Plan along with the *Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan*, or develop and adopt an independent, stand-alone Local All-Hazards Mitigation Plan.**

Section 1: Introduction and Purpose explains the purpose, benefits, implications and goals of this plan. This section also describes municipal demographics and development characteristics, and describes the planning process used to develop this plan.

Section 2: Hazard Identification expands on the hazard identification in the *Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan* with specific municipal-level details on selected hazards.

Section 3: Risk Assessment discusses identified hazard areas in the municipality and reviews previous federally-declared disasters as a means to identify what risks are likely in the future. This section presents a hazard risk assessment for the municipality, identifying the most significant and most likely hazards which merit mitigation activity.

The top Hazards by type with the most risk in Essex and Essex Junction are:

<u>Natural Hazards:</u>	Severe Winter Storm, Fluvial Erosion and Severe Rainstorm
<u>Technological Hazards</u>	Water Pollution, Power Loss and Hazardous Materials Incident
<u>Societal Hazards</u>	Key Employer Loss and Economic Recession

Section 4: Vulnerability Assessment discusses buildings, critical facilities and infrastructure in designated hazard areas, vulnerable populations and the issue of estimating potential losses.

Section 5: Mitigation Strategies is the heart of this All Hazards Mitigation Plan. This section begins with an overview of goals and policies in the *2016 Essex Town Plan* and the *2014 Village of Essex Junction Comprehensive Plan* that support hazard mitigation. This is followed by an analysis of existing municipal actions that support hazard mitigation, such as planning and zoning, and public works. This section presents the following municipal all-hazards mitigation goals:

- 1) Reduce at a minimum, and prevent to the maximum extent possible, the loss of life and injury resulting from all hazards.

- 2) Mitigate financial losses and environmental degradation incurred by municipal, educational, residential, commercial, industrial and agricultural establishments due to various hazards.
- 3) Maintain and increase awareness amongst the town's residents and businesses of the damages caused by previous and potential future hazard events as identified specifically in this Local All-Hazards Mitigation Plan and as identified generally in the Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan.
- 4) Recognize the linkages between the relative frequency and severity of disaster events and the design, development, use and maintenance of infrastructure such as roads, utilities and stormwater management and the planning and development of various land uses.
- 5) Maintain existing municipal plans, programs, regulations, bylaws and ordinances that directly or indirectly support hazard mitigation.
- 6) Consider formal incorporation of this Local All-Hazards Mitigation Plan into the municipal comprehensive plan as described in 24 VSA, Section 4403(5), as well as incorporation of proposed new mitigation actions into the municipality's/town's bylaws, regulations and ordinances, including, but not limited to, zoning bylaws and subdivision regulations and building codes.
- 7) Consider formal incorporation of this Local All-Hazards Mitigation Plan, particularly the recommended mitigation actions, into the municipal/town operating and capital plans and infrastructure, utilities, highways and emergency services.

This section includes the following Mitigation Actions planned by the Town:

Category A: Improve capabilities of existing road and stormwater management infrastructure to address identified vulnerable infrastructure to mitigate Severe Rainstorm, Flooding, Fluvial Erosion and Water Pollution

- Action A-1: Stormwater Management
- Action A-2: Plan for Repair of Vulnerable Infrastructure
- Action A-3: Erosion Management
- Action A-4: Fluvial Erosion Hazard Mitigation Implementation

Category B: Operate an effective stormwater management system

- Action B-1: Mitigate impacts of runoff such as excessive flow, sediment load and excessive phosphorus discharge.
- Action B-2: Begin implementation of Flow Restoration Plans for Indian Brook and Sunderland Brook
- Action B-3: Develop Phosphorus Control Plan

Finally, this section includes an Implementation Matrix to aid the municipality in implementing the Mitigation Actions and annual monitoring and evaluation of this Plan.

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SECTION 1: INTRODUCTION AND PURPOSE

1.1 Purpose and Scope of this Plan

The purpose of this Local All-Hazards Mitigation Plan is to assist this municipality in identifying all hazards facing their community and in identifying strategies to reduce the impacts of those hazards. The plan also seeks to coordinate the mitigation efforts of this municipality with those outlined in the *Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan* as well as efforts of quasi-governmental organizations such as Local Emergency Planning Committee, District #1 and the Chittenden County Regional Planning Commission.

This annex, when used with the appropriate sections of the Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan, constitutes an All-Hazards Mitigation Plan for the Town of Essex and the Village of Essex Junction. Community planning can aid in significantly reducing the impact of expected, but unpredictable natural and human-caused events. The goal of this plan is provide hazard mitigation strategies to aid in creating disaster resistant communities throughout Chittenden County.

1.2 Hazard Mitigation

The *2013 Vermont State All-Hazards Mitigation Plan* defines hazard mitigation as

Any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. The Federal Emergency Management Agency (FEMA) and state agencies recognize that it is less expensive to prevent disaster or mitigate its effects than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies and measures during all of the other phases of Emergency Management—Preparedness, Mitigation Response and Recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where they are most severe and to identify actions that can be taken to reduce the severity of the hazard.

Hazard mitigation strategies and measures can reduce or eliminate the frequency of a specific hazard, lessen the impact of a hazard, modify standards and structures to adapt to a hazard, or limit development in identified hazardous areas.

1.3 Hazard Mitigation Planning Required by the Disaster Mitigation Act of 2000

Hazard mitigation planning is the process that analyzes a community's risk from natural hazards, coordinates available resources, and implements actions to reduce risks. According to 44 CFR Part 201, Hazard Mitigation Planning, this planning process establishes criteria for State and local hazard mitigation planning authorized by Section 322 of the Stafford Act as amended by Section 104 of the *Disaster Mitigation Act of 2000*. Effective November 1, 2003, local governments now have to have an approved local mitigation plan prior to the approval of a local mitigation project funded through federal Pre-Disaster Mitigation funds. Furthermore, the State of Vermont is required to adopt a State Pre-Disaster Mitigation Plan in order for Pre-Disaster

Mitigation funds or grants to be released for either a state or local mitigation project after November 1, 2004.

There are several implications if the plan is not adopted.

- Flood Mitigation Assistance Grant Program (FMAGP) funds will be available only to communities that have adopted a local Plan
- A community without a plan is not eligible for HMGP project grants but may apply for planning grants under the 7% of HMGP available for planning.
- For the Pre-Disaster Mitigation (PDM) program, a community may apply for PDM funding but must have an approved plan in order to receive a PDM project grant.
- Under Vermont's Emergency Relief Assistance Fund rules, contributions from the State to cover the non-Federal share of a municipality's FEMA Public Assistance project costs varies depending on whether a community has a plan. A community without a plan would have to cover 17.5% of the overall project cost, but a community with a plan would have to cover only 7.5% to 12.5% of the cost.

1.4 Benefits

Adoption and maintenance of this Plan will:

- Make certain funding sources available to complete the identified mitigation initiatives that would not otherwise be available if the plan was not in place.
- Ease the receipt of post-disaster state and federal funding because the list of mitigation initiatives is already identified.
- Support effective pre- and post-disaster decision making efforts.
- Lessen each local government's vulnerability to disasters by focusing limited financial resources to specifically identified initiatives whose importance has been ranked.
- Connect hazard mitigation planning to community planning where possible, such as in emergency operations plans, comprehensive plans (aka "town plans"), capital improvement plans and budgeting, open space plans, and stormwater master plans.

1.5 All-Hazards Mitigation Plan Goals

The Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan establishes the following general goals for the county as a whole and its municipalities:

- 1) Hazard mitigation planning should take into account the multiple risks and vulnerabilities of the significant hazards in the County due to its mixed urban-suburban-rural nature, its economic importance to the State and its significant presence of public and private infrastructure.
- 2) Promote awareness amongst municipalities, residents and business in the county of the linkages between the relative frequency and severity of disaster events and the design,

development, use and maintenance of infrastructure such as roads, utilities and stormwater management and the planning and development of various land uses.

- 3) Ensure that regionally-initiated mitigation measures are consistent with municipal plans and the capacity of municipalities to implement them.
- 4) Encourage municipalities to formally incorporate their individual Local All-Hazards Mitigation Plan into their municipal plan as described in 24 VSA, Section 4403(5), as well as incorporate their proposed mitigation actions into their various bylaws, regulations and ordinances, including, but not limited to, zoning bylaws and subdivision regulations and building codes.
- 5) Encourage municipalities to formally incorporate elements of their Local All-Hazards Mitigation Plan, particularly their recommended mitigation strategies, into their municipal operating and capital plans and programs, especially, but not limited to, as they relate to public facilities and infrastructure, utilities, highways and emergency services.
- 6) Educate regional entities on the damage to public infrastructure resulting from all hazards and work to further incorporate hazard mitigation planning into the regional land use and transportation planning program conducted by the Chittenden County Regional Planning Commission.
- 7) Maintain existing mechanisms, develop additional processes, or explore funding mechanisms and sources to foster regional cooperation in hazard mitigation, specifically and emergency management planning, generally.

1.6 Town of Essex and Village of Essex Junction: Demographics and Development Characteristics

The Village of Essex Junction is an incorporated village located in the Town of Essex (cf. Figure 1.1). Each municipality has its own governing body and land use regulations. However, the Town of Essex includes the Village of Essex Junction. Some data sources only collect information at the town level and do not have separate data for the Village. Whenever possible, this local All Hazards Mitigation Plan provides data for both the Village and the Town.

The Town of Essex and the Village of Essex Junction are located in the center of Chittenden County. They are bounded on the west by Colchester and South Burlington, on the north by Westford, on the east by Jericho and on the south by Williston. Additionally, the Town of Essex shares corners with Underhill on the northeast and Milton on the northwest. The two jurisdictions encompass 39.43 square miles.

Based on U.S. Census data, the University of Vermont's Center for Rural Studies reports a municipal population of 10,316 people in Essex Town, and 9,271 people in Essex Junction Village for a combined total of 19,587 in 2010. Selected population characteristics are as follows:

Table 1-1 Essex and Essex Junction, selected population characteristics, 2010

Category	Village of Essex Junction		Essex Town outside the Village		Town and Village Combined	
	Number	%	Number	%	Number	%
Total Population	9,271	--	10,316	--	19,587	--
Median Age	38.9 years	--	--	--	39.9	--
Population age 65 years and over	1,037	11.2	1,129	10.9	2,166	11.1
Population under 10 years old	1,156	12.5	1,300	12.6	2,456	12
Population (and %) in group quarters	13	0.1	24	0.2	37	0.2

U.S. Census Bureau, 2010 Census of Population and Housing, Population and Housing Unit Counts

The following shows the types of housing within Essex, also based on the 2010 U.S. Census data:

Table 1- 2 Essex and Essex Junction, selected housing unit data, 2010 Census

Category	Village of Essex Junction		Essex Town outside the Village		Town and Village Combined	
	Number	%	Number	%	Number	%
Total Housing Units	4,009	--	4,137	--	8,146	--
Occupied housing units	3,875	96.7	4,012	97.0	7,887	98.2
Vacant housing units	134	3.3	125	3.0	259	3.2
Vacant housing units used for seasonal, recreational or occasional use	20	0.5	43	1.0	63	1.0
Detached 1-unit housing units	2,442	63.5	2,300	2300	4,742	62.9
Housing units with 5 or more units in structure	693	17.3	441	55.6	1,134	13.9
Mobile homes	26	0.6	58	1.4	84	1.0
Housing structures built in 1939 or earlier	454	11.3	218	5.3	672	8.2

U.S. Census Bureau, 2010 Census of Population and Housing, Population and Housing Unit Counts

The concentration of residential and commercial/industrial development in Essex is shown in *Figure 1-1*. Population in the two jurisdictions is tightly concentrated in Essex Junction and near Essex Center. The current development pattern in the municipalities consists of steady growth of single family homes, condominiums and apartments in permitted subdivisions within the sewer and water service areas coupled with similar growth in the construction of randomly placed single-family homes on large lots in the outlying portions of Essex (outside the sewer service area). Generalized zoning for the Village and Town is depicted in *Figure 1-2*.

Table 1-3 Town of Essex and Village of Essex Junction, Historic Combined Population Trends

Year	Population
1980	14,329
1990	16,498
2000	18,626
2010	19,587
2014	20,724
Source: April 1 Census Counts for 1980-2010, July 1 ACS Estimates for 2014	

1.7 Summary of Planning Process

As noted above, the update of this municipal All Hazard Mitigation Plan (AHMP) was part of the planned update of the Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and the municipal AHMPs that are annexes to the Multi-Jurisdictional Plan. The CCRPC, with funding provided by the State of Vermont via a FEMA Hazard Mitigation Grant, began this update process in the spring of 2015.

1.7.1 Development of the 2017 Essex and Essex Junction All Hazards Mitigation Plan

CCRPC staff met several times with various Town and Village staff and officials during the course of the development of this plan. Initial Meetings focused on the following issues:

1. Reviewing the matrix used in 2011 to identify and prioritize hazards facing the Town, and determining whether the overall scoring still makes sense
2. Discussing any newly significant hazards in the Town and identifying any new actions that could be taken to address them.
3. Discussing any progress that has been made on the strategies and tasks from the 2011 plan.

These first set of meetings were held between August 24 and December 1, 2015. Staff met with:

- Dana Hanley (Community Development Director, Essex)
- Greg Duggan (Planner, Essex)
- Robin Pierce (Community Development Director, Essex Junction)
- Rick Jones (Public Works Superintendent, Essex Junction)
- Jim Jutras (Water Quality Superintendent, Essex Junction)
- Dennis Lutz (Public Works Director, Essex and Essex Junction)
- Chris Gaboriault (Fire Chief, Essex Junction)
- Pat Scheidel (Municipal Manager for Essex and Essex Junction)
- Brad LaRose (Chief, Essex Police)

- Charles Cole (Fire Chief, Essex).

Based on this meeting, CCRPC Staff developed memos for Essex’s Selectboard and Planning Commission and for the Essex Junction Village Trustees and Planning Commission outlining proposed changes to the 2011 materials and summarizing the reported progress. The memos also clearly stated how CCRPC staff could be reached for comment. The Planning Commission reviewed the draft during September and October, and Selectboard and Village Trustees received the memo during November. The meeting was open to the public and was duly warned in compliance with the Vermont Open Meeting Law (*1 V.S.A. §§ 310-314*). The memos, as meeting materials, were also available to the public. Members of the public who attended the meeting were able to review the memo and provide comments on the development of the plan. The Planning Commission and Selectboard offered changes regarding the ranking of hazards and the prioritization of mitigation strategies, which were incorporated into the plan.

In addition, the following materials were reviewed:

1. The 2014 Village of Essex Junction Comprehensive Plan and the 2016 Essex Town Plan
2. River corridor plan for the Browns River
3. Phase II Stream Geomorphic Assessment Report for Alder Brook
4. Flow restoration plans for Indian Brook and Sunderland Brook
5. Information on previous disasters
6. Information from Vermont Agency of Natural Resources on fluvial erosion hazards and flood hazards
7. Information from the Vermont Agency of Transportation on town roads, bridges, culverts and high crash locations.
8. Information from the Vermont Department of Emergency Management and Homeland Security on prior disaster and hazardous materials reporting.

Demographic information for this Plan was updated by a CCRPC intern in 2015. New information, relative to the 2011 AHMP, from review of the Land Development regulations and the Comprehensive Plan was incorporated into Section 5. Information on prior disasters, fluvial erosion hazards and flood hazards and various transportation data was incorporated into Sections 2, 3 and 4. Throughout the plan development process CCRPC staff sent rough drafts of the plan to numerous town and village staff to review for accuracy and conferred with these same staff regularly via phone and email. CCRPC staff produced new versions of the 2011 maps and also produced new maps desired in this 2016 update.

1.7.2 Opportunities for involvement in the planning process and formal public review and governing body approval

Emergency management planners are obligated to provide opportunities for the general public, neighboring communities, local, regional and state agencies, development regulation agencies and other interests to be involved in the review and development of Hazard Mitigation Plans. Additionally, the CCRPC, as a public agency is obligated to provide public notice and opportunities for input into its programming and processes. With regard for public involvement in the development of the first drafts of this Municipal AHMP *prior to release of public drafts,*

there was no formal solicitation process to recruit or invite the public to come to staff level meetings wherein the first process of updating data in the old 2011 Plan. That being said, however, the public has been free to review the 2011 Plans on the CCRPC website since they were first posted in 2011. Additionally as noted in Section 1.10.2.4 of the Multi-Jurisdictional AHMP, in the period before the first municipal draft AHMPs were publicly released in August 2016 (see below) there were twelve public meetings held by the CCRPC Board and the Plan Update Committee wherein the overall Hazard Mitigation planning process was discussed including the content and purpose of the local, Municipal AHMPs as well as the planned timeline for their development starting in 2015 and extending well into 2016. [Note that opportunities for public review and development of the Multi-Jurisdictional AHMP are described in Section 1.10.2 of the that document.]

Commencing with an August 5, 2016 press release and with a comment deadline of August 19, 2016, the CCRPC issued a press release and also posted to all of the electronic bulletin boards of Front Porch Forum in every municipality in the County to solicit and receive comments on the first drafts of this Town of Essex and Village of Essex Junction All-Hazards Mitigation Plan as well as the AHMPs of the other 18 municipalities in the County. On August 5, 2016, emails to the same state agency staff and executive directors of neighboring Regional Planning Commissions as noted above, were also sent to encourage their review and comment. The public, agency staff and RPC staff were directed to provide comments to Dan Albrecht, Senior Planner at the CCRPC.

With regards to opportunities for public involvement and input from neighboring communities in development of individual Local All-Hazards Mitigation Plans including this Plan for the **Town of Essex and Village of Essex Junction**, opportunities were as follows:

- a) On August 5, 2016, the CCRPC posted all the first drafts of the 18 local AHMPs on the CCRPC website and via various means (press release, electronic newsletter, etc) made the public aware of the opportunity to comment. The public was advised to send comments directly to Dan Albrecht, CCRPC Senior Planner by August 19, 2016.
- b) On August 5, 2016 the CCRPC staff sent direct emails to the Agency staff noted above notifying them as well of the opportunity to review the 18 local AHMPs posted on the CCRPC website and encouraging them to send any comments directly to Dan Albrecht, CCRPC Senior Planner by August 19, 2016.
- c) On August 5, 2016 direct emails were also sent to the municipal Mayors/ Managers/ Administrators and/or Clerks of the abutting 12 communities outside of Chittenden County (South Hero, Georgia, Fairfax, Cambridge, Stowe, Waterbury, Duxbury, Fayston, Lincoln, Starksboro, Monkton and Ferrisburgh) that about the County notifying them as well of the opportunity to review the 18 local AHMPs posted on the CCRPC website and encouraging them to send any comments directly to Dan Albrecht, CCRPC Senior Planner by August 19, 2016.

No comments were received on the draft Town of Essex and Village of Essex Junction AHMP prior to the August 19th deadline. Additionally, no inquiries were received concerning this AHMP after August 19th through December 31, 2016 while the Plan was posted on the CCRPC website.

1.7.3 Review and adoption process

On July 31, 2016 the first draft of this local Essex and Essex Junction AHMP was sent to the Vermont Department of Emergency Management and Homeland Security (VDEMHS) for review. Comment and required revisions were received from VDEMHS on August 8, 2016.

CCRPC staff, working in concert with municipal staff, then made revisions to the Plan to address the required revisions.

The revised final draft annex was submitted to VDEMHS and FEMA for formal review and approval pending municipal adoption on March 17, 2017. On April 25, 2017, FEMA Region One issued a notice that the Town of Essex and Village of Essex Junction AHMP was approved pending adoption by the relevant municipal governing body. CCRPC staff provided the final versions of the Multi-Jurisdictional Plan and this Municipal Annex to the Town manager for distribution to the Town of Essex Selectboard and Village of Essex Junction Village Trustees members May 4, 2017. CCRPC also provided draft language for a resolution of adoption to be discussed at a regularly scheduled and properly warned Town of Essex Selectboard meeting on Month Day 2017 and Village of Essex Junction Village Trustees meeting on Month Day 2017.

The revised annex was adopted by the Selectboard on Month Day 2017 and by the Village Trustees on Month Day 2017 and a copy of the resolution sent to VDEMHS and FEMA Region One on Month Day 2017. On Month Day 2017 issued a letter that the Town of Essex and Village of Essex Junction Plan was approved effective Month Day 2017.

1.7.4. Monitoring, Evaluation and Updating of the Plan

Section 6 of the Multi-Jurisdictional AHMP document provides extensive details on the role each municipality and the Chittenden County RPC will play to be certain that progress on the implementation of this local AHMP is monitored and evaluated and that the AHMP is updated as needed and no later than its anticipated expiration in early 2022. In short, the Town of Essex and the Village of Essex Junction will:

- in the fall of 2017 and each fall thereafter, the municipal departments as noted in Section 5.5 as the conclusion of this document shall respond to CCRPC's questionnaire seeking information on the status (progress, problems if any, etc.) of each identified mitigation strategy detailed in Section 5;
- in the fall of 2018 and the fall of 2020, provide information to aid CCRPC in its more comprehensive review of the Multi-Jurisdictional AHMP and this local AHMP which will address issues such as goals, risks, resources, implementation problems, and partners; in partnership with the municipalities, the CCRPC will make the public aware of the availability of these review documents (via press releases, posting on the CCRPC website, electronic newsletters, one formal announcement in a paper of general circulation in the County, and other mechanisms) and provide detailed instructions on how to provide comment on these reviews;

- provide at least one representative of the municipalities to participate as a member of the Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan Update and Review Committee which, after the current Plan update process is completed, to resume meeting in 2018; and
- participate in the Plan update process (assumed to commence in 2020 and conclude in early 2022).

Finally, it should be reemphasized that the Essex and Essex Junction may review and update their own programs, initiatives and projects more often by working directly with the State Hazard Mitigation Officer (SHMO) based on changing local needs and priorities. Formal changes to individual municipal annexes may be made at any time by each municipality's governing body in order to reflect changing conditions, priorities, and opportunities during the 5-year life cycle of their single jurisdiction plan.

SECTION 2: HAZARD IDENTIFICATION

Detailed descriptions of the natural, technological, and societal hazards affecting the municipalities of Chittenden County are contained in the *Multi-Jurisdictional All-Hazards Mitigation Plan*. Designated and non-designated hazard areas are described in Section 3 of this annex. Vulnerability of structures and infrastructure to hazards is also described in Section 4 and depicted on Figure 4.1.

2.1.1 Profiled Hazards

This Plan profiles six (6) Natural Hazards: Severe Winter Storm, Flooding, Fluvial Erosion, Severe Rainstorm, Extreme Temperatures and Wildfire. Prior to this discussion of Hazards and the subsequent analysis of Risk and Vulnerability, it will be first helpful to summarize the general state of knowledge regarding Location, Extent and Impact in Essex and Essex Junction for these hazards:

Hazard (section of MJAHP where discussed)	Are Location data available?	Are Extent data available?	Are Impact data available?
Severe Winter Storm (2.1.1.1)	No, occurs across the municipality and not mapped	No, only long-term data is at single point of National Weather Service station in South Burlington	Yes, if FEMA declares disaster. See 3.3 below.
Flooding (2.1.1.3)	Yes, 100 & 500 year flood areas delineated in the municipality. See Figure 2.1	*Yes but only at a few discrete locations with gauge data such as the USGS station located in Williston and Essex Junction in the Winooski River. See County MJAHP for details.	Yes, if FEMA declares disaster but co-mingled with fluvial erosion and severe rainstorm hazards events. See 3.3 below.
Fluvial Erosion (2.1.1.4)	Yes, fluvial erosion hazards areas (now termed river corridor protection areas) are mapped in the municipality. See Figure 2.1	Though fluvial erosion is considered a significant hazard in the municipality, the number of feet-acres of soil lost in any one event has not been recorded nor is there a record with such data.	Yes, if FEMA declares disaster but data co-mingled with flood and severe rainstorm events. See 3.3 below.

Severe Rainstorm (2.1.1.2)	No, occurs across the municipality and not mapped. Damage locations are mapped but damages can just as easily be a function of poorly designed road and/or driveway drainage as it is a function of heavy rain exceeding infrastructure capacity.	*Yes but only long-term data is at single point of National Weather Service station in South Burlington.	Yes, if FEMA declares disaster but data co-mingled with flood and fluvial erosion events. See 3.3 below.
Extreme Temperatures (2.1.1.5)	No, occurs across the municipality and not mapped.	*Yes but only at single point of National Weather Service station in South Burlington	‡Data not systematically collected on impacts.
Wildfire (2.1.1.6)	No, occurs across the municipality and not mapped.	Some compiled data on a countywide basis as shown in the Multi-Jurisdictional Plan but no systematic data collected after 2010.	‡Data not systematically collected on impacts.

** It is useful to note that while this NWS data is reliable it represents one discrete location in a county that has an area of 620 square miles in area. Likewise, while there are likely other systematic point-specific records being collected by individuals, business or organizations these data do not appear to be easily accessible. Finally, even if such data were accessible, only if the data was collected by mutually compatible means would it be useful.*

‡An intensive search of municipal public works records may reveal documentation of some prior repair or labor costs associated with frozen or burst sewer and/or water pipes caused by Extreme Cold. However, such analysis would show where past events happened not the location of inadequately buried pipes which might be vulnerable to future events.

‡ An intensive search of fire department records may reveal documentation of locations and acres burned caused by Wildfire. However, such analysis would show where past events happened but would not show the location of areas susceptible to future events (warnings by the US Forest Service and local fire departments are not location-specific) nor the location of individuals who are likely to unwisely burn trash or leaves or fail to extinguish a campfire during dry conditions.

This Plan profiles several Technological Hazards. Prior to this discussion of Hazards and the subsequent analysis of Risk and Vulnerability, it will be first helpful to summarize the general state of knowledge regarding Location, Extent and Impact in Essex and Essex Junction for these hazards:

Hazard (section of MJAHP where discussed)	Are Location data available?	Are Extent data available?	Are Impact data available?
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<p>Water Pollution (2.2.1)</p>	<p>Indian and Sunderland Brooks are impaired streams. The Town and the Village are subject to the requirements of a Municipal Separate Storm Sewer System (MS4) Permit as well as the Vermont Clean Water Act.</p>	<p>Phosphorus-loading for general locations is known but non-point sources are varied and dispersed. A road erosion inventory of gravel roads in Essex was performed in 2016 but data analysis is not yet complete and projects have not yet been prioritized or scoped. Remaining hydrologically-connected road segments in the Village and the Town will be inventoried in 2017 or 2018.</p>	<p>Annual budgetary impacts to individual municipalities are significant but vary depending upon location and whether they are a designated MS4 community. Both Essex and Essex Junction are MS4 permitted communities.</p>
<p>Hazardous Materials Incident (2.2.2)</p>	<p>Storage locations are known (see listing below of addresses). Incidents occurring during transportation could occur anywhere.</p>	<p>Rough estimates of spill amounts are recorded.</p>	<p>No formal data readily available on cleanup costs.</p>
<p>Power Loss (2.2.3)</p>	<p>Outage locations not mapped</p>	<p>During an actual outage some data is recorded on duration although typically this is stated as “x,000 customers within the power company’s service area”.</p>	<p>Outage data is broad and refers to total customers within a county.</p>
<p>Invasive Species (2.2.4)</p>	<p>Several species known to occur in upland and agricultural areas but no systematic mapping has taken place.</p>	<p>No formal damage has been documented to date</p>	<p>No formal damage has been documented to date</p>

Multi-Structure Fire (2.2.5)	Could happen anywhere within the more developed portions of the municipality	Data not formally collated across agencies	Data not formally collated across agencies
Major Transportation Incident (2.2.6)	Depending upon type of incident, could happen anywhere	No formal database of damages.	Varies depending upon type of incident.
Water Supply Loss (2.2.7)	Water distribution systems are mapped (Figure 1.4)	Data not formally collated across agencies	Data not formally collated across agencies
Sewer Service Loss (2.2.8)	Sewer lines are mapped (Figure 1.4)	Data not formally collated across agencies	Data not formally collated across agencies
Natural Gas Service Loss (2.2.9)	General areas of services are known but specific locations of loss not recorded.	Information for this rare occurrence not publicly available.	No formal damage has been documented to date.
Telecommunications Failure (2.2.10)	Depending upon type of incident, could happen anywhere	Information for this rare occurrence not publicly available.	No formal damage has been documented to date
Other Fuel Service Loss	Distribution points of fuels such as firewood, fuel oil and propane are individual addresses and not mapped nor publicly available.	No formal loss of service has been documented.	No formal damage has been documented to date

The following discussion of societal hazards is based upon qualitative information from discussions with Chittenden County law enforcement professionals as well as quantitative data from the State of Vermont.

Hazard (section of MJAHMP where discussed)	Are Location data available?	Are Extent data available?	Are Impact data available?
Crime (2.4.1.1)	Significant incidents could happen anywhere in the municipality.	Data collection is not standardized across municipalities.	Significant socio-economic impacts

Economic Recession (2.4.1.2)	Would occur across the community.	Historic data on unemployment levels & poverty rates	Longer lasting impacts hard to measure below county level
Terrorism (2.4.1.3)	The FBI does not share a list of potential targets.	Unknown but assumed to be significant if incident occurs	Unknown but assumed to be significant if incident occurs
Civil Disturbance (2.4.1.4)	County-wide. Significant incidents can happen anywhere. The likelihood of an event may not be geographically likely but rather related to the type of event (political event, sporting event, protest, etc.)	No formal damage has been documented to date	No formal damage has been documented to date
Epidemic (2.4.1.5)	Could happen anywhere	Data not formally collated across agencies	Other than 1917 Influenza epidemic no formal damage has been documented to date
Key Employer Loss (2.4.1.6)	Depending upon type of employer	No formal database of damages.	No formal database of key employer loss is maintained

SECTION 3: RISK ASSESSMENT

3.1 Mapped Hazard Areas

3.1.1 Flood Hazard Areas

In 1981, Essex began participation in the NFIP Emergency Program. In 2012, Essex Junction began participating in the NFIP Emergency Program. The Town has been issued official FEMA Floodplain maps, including most recently issuance of Digital Flood Insurance Rate Maps (DFIRM) by FEMA. New DFIRM Maps went into effect on 7/18/2011.

The town is participating in the regular NFIP as of January 2017. Essex and Essex Junction's most recent Zoning Regulations designate a Flood Hazard Overlay District for areas designated as FEMA Special Flood Hazard Areas or within 100 feet of the SFHA and not above the base flood elevation. Development is highly restricted in these overlay districts. No new development is allowed in the overlay district except limited conditional uses, such as improvements to existing structures and infrastructure and infrastructure projects that cannot be located elsewhere.

According to the municipal plans of both the Town of Essex and the Village of Essex Junction, lands along the following drainages have been designated flood hazard areas: Indian Brook, Alder Brook, Browns River, Abbey Brook, and the Winooski River. Within the Village of Essex Junction is a large farm known as the Whitcomb Farm. A significant portion of the lower elevations of the farm are within the 100-year floodplain.

A simple GIS intersection analysis reveals that portions of town roads are located within the 100-year floodplain, as well as culverts, bridges, and utility poles. Unfortunately, this level of analysis does not take into account the fluvial geomorphology (volume, velocity, direction, etc.), nor does it factor in the elevation of the road relative to flood elevation. Analysis also reveals farmland located within the floodplain. However, without an accurate fluvial geomorphology assessment at each location it is not currently possible to predict how many cubic yards of productive soils would be lost during a flood event.

Figure 2.1 shows the current extent of the FEMA-FIRM flood hazard area in Essex and Essex Junction, as well as structures, infrastructure, and critical facilities located in the flood hazard area.

Parts of Essex Town and Essex Junction lie downstream of the Essex Dam #19, which is the only high-hazard dam located in Chittenden County. Green Mountain Power, which owns the dam, has mapped the area that would be inundated in the unlikely event of a dam failure. Inundation maps are routinely reviewed and updated to identify new developments that might be affected by inundation. The emergency action plan for the dam is updated annually and provided to appropriate first-responder organizations.

The only systematic data on river flow in the municipality is collected on the Winooski River at a gauge at a location straddling South Burlington and Essex Junction (cf. Section 2.1.1.3 of the MJAHP). While the data has been collected since the massive 1927 flood, once dams were constructed by the mid-1930s, water flows became more tightly regulated for flood control and electricity generation and therefore recorded peak flows may not accurately measure total rainfall or total discharge.

3.1.2 Fluvial Erosion Hazard Areas

During development and adoption of both the 2005 and 2011 Multi-Jurisdictional Plan and the municipal AHMPs, threats from stream erosion were identified as Fluvial Erosion Hazard (FEH) Areas through the analytical lens of Stream Geomorphic Assessment (SGA). The SGA approach is still used by the Vermont Agency of Natural Resources but the Vermont General Assembly adopted two related terms that are now used in managing fluvial erosion hazards. ANR now identifies and maps:

- *River Corridor*, which is the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance or natural restoration of a dynamic equilibrium condition, as that term is defined in 10 V.S.A. §1422, and for minimization of fluvial erosion hazards, as delineated by the Agency in accordance with the ANR Flood Hazard Area and River Corridor Protection Procedures.
- *River Corridor Protection Area*, which is the area within a delineated river corridor subject to fluvial erosion that may occur as a river establishes and maintains the dimensions, pattern, and profile associated with its dynamic equilibrium condition and that would represent a hazard to life, property, and infrastructure placed within the area. The river corridor protection area is the meander belt portion of the river corridor without an additional allowance for a riparian buffer to serve the functions of bank stability and slowing flood water velocities in the near-bank region.

Phase II SGA work has been completed on Indian Brook, Alder Brook and the Browns River in Essex and Essex Junction, and a River Corridor Plan was developed for the Browns River. Phase 2 SGA based River Corridor Protection Areas (formerly Fluvial Erosion Hazard Areas) were developed for Indian Brook, Alder Brook, portions of Abbey Brook and the Browns River. Figure 3.2 shows the progress of geomorphic assessments and identified Phase 2 SGA based River Corridor Protection Areas (RCPA) in Essex and Essex Junction. A River Corridor is also defined for the Winooski River. Figure 2.1 indicates all portions of the streams in Essex and Essex Junction that would be captured by the RCPA and/or RC.

3.1.3 Repetitive Loss Properties and National Flood Insurance Program

Repetitive loss properties are public or private buildings insured under the National Flood Insurance Program that have made at least two insurance claims of more than \$1,000 each during a ten year period.

According to the National Flood Insurance Program there are no such properties located in the Town of Essex or the Village of Essex Junction.

The status of the Town and Village's participation's in the National Flood Insurance Program is as follows:

Initial Flood Hazard Boundary Map	Initial Flood Insurance Rate Map	Current effective Map Date	Date of joining Regular NFIP	Date of most recent Community Assistance Visit
9/20/74 (Essex)	1/16/81 (Essex)	7/18/2011	1/16/81 (Essex)	4/5/2004 (Essex)

6/28/74 (Essex Junction)	1/2/81 (Essex Junction)		4/12/12 (Essex Junction)	2/27/2012 (Essex Junction)
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The Town’s Administrative Officer is responsible for assuring compliance by landowners with the NFIP in both municipalities. The Zoning Boards of Adjustment (Essex and Essex Junction) review and adjudicate applications for development within the floodplain. These DRBs review and adjudicate applications for development within the floodplain including any proposed new construction in the SFHA which is highly regulated. The Town and Village also work with DEC to respond to any local requests for Floodplain identification including questions about mapping.

3.2 Non-designated Hazard Areas

The following hazards are not formally analyzed nor mapped due to the random nature of where such damage occurs. However they occur with some frequency and therefore are discussed here.

3.2.1 1998 Ice Storm Damage

Damage from the 1998 ice storm (DR-1201) was considered light in both jurisdiction, and was limited to tree fall and limb damage. Damage occurred throughout Essex Junction, while in Essex the damage was concentrated west of Old Stage Road. Neither municipality received formal Public Assistance dollars as part of this disaster. Some smaller winter storm events have occurred since then, including most recently DR-4163, declared in January 2014. However, mapping the locations of potential future events is not feasible as their occurrence is a function of numerous climatic variables.

3.2.2 Severe Rainstorms

In prior versions of this Annex and the County Plan, damage to roads, culverts and bridges from thunderstorm events was discussed as either the result of flooding or fluvial erosion. It was assumed that overflowing nearby streams, rivers or lakes were the cause of the damage. Analysis has shown that this damage is caused by intense, localized thunderstorms which cause excessive and rapid water flows on and over paved and gravel roads, roadside ditches, driveway culverts, stormwater systems, etc. In many cases, damaged infrastructure is located nowhere near a formally mapped Floodplain or Fluvial Erosion Hazard Area or River Corridor. This was the case in more recent FEMA-declared disasters in the summer of 2013 and 2015. Because of this new information, CCRPC has decided to add “Severe rainstorm” to the 2016 Update to the County Plan and its annexed local AHMPs. While past damage locations can sometimes be mapped (depending upon the degree and accuracy of data collection efforts) this may or may not provide any degree of predictability of the potential locations for future events.

A portion of the Town of Essex’s road infrastructure as well as the driveways of some private homes and businesses consist of gravel and/or dirt and are therefore susceptible to damage from intense Severe rainstorms. Damage occurring in DR#-4120 (noted below) included significant damage from Severe rainstorms.

Ridgeline and hilltop homes, utility lines, and homes located in the midst of mature forests are the most vulnerable to damage from falling trees and tree limbs. Since 2011, 6 high wind events have been specifically identified as affecting Essex and Essex Junction by the National Climatic Data Center. According to the National Climatic Data Center, lightning has struck once in Essex Junction since 2011.

3.2.3 High Crash Locations

The following High Crash Locations have been identified by the Vermont Agency of Transportation in Essex and Essex Junction.

Table 3-1 Essex and Essex Junction, high accident intersections, based on 2010-2014 data

Intersection	Severity Index (\$/crash)
Intersection of VT 15 and Susie Wilson Road	\$17,429
Intersection of VT 15 and West Street	\$26,679
Intersection of Susie Wilson Road and Kellogg Road	\$11,645

Source: VTrans

Table 3-2 Essex and Essex Junction, high crash road sections, 2010-2014

Road	Road Type	Section (miles)	Severity Index (\$/crash)
VT 2A	Minor Arterial	0.278-0.578	\$16,425
VT 2A	Minor Arterial	0.578-0.878	\$17,189
VT 2A	Minor Arterial	2.478-2.778	\$19,8971
VT 15	Principal Arterial	1.282-1.582	\$14,112
VT 15	Principal Arterial	1.582-1.882	\$17,445
VT 15	Principal Arterial	2.082-2.382	\$15,116
VT 15	Principal Arterial	3.682-3.982	\$18,213
VT 15	Principal Arterial	4.782-5.082	\$18,555
VT 289	Freeway	0.000-0.300	\$17,154
Susie Wilson Road	Urban Collector	0.000-0.300	\$22,248

Source: Vermont Agency of Transportation

3.2.4 Road Infrastructure Failure

Of the 21 bridges inventoried by VTrans for Essex and Essex Junction, two are rated functionally deficient. None of the bridges in Essex or Essex Junction are rated Scour Critical with regards to fluvial undermining of bridge structure. Details on the bridges in the town are found in Table 4-4. For a listing of culverts identified as “geomorphically-incompatible” either due to inadequate size or improper alignment, see Section 4.2.2.

3.2.5 Hazardous Substances

Hazardous material release is discussed as a possible hazard in the Multi-Jurisdictional All-Hazards Mitigation Plan. According to VDEMHS, as of May 2016 there are many reported hazardous material storage sites in South Burlington. Sites that contain large amounts of fuel or store what VEM calls Extremely Hazardous Substances are more likely to cause significant problems in a hazardous materials incident.

Table 3-3 Essex and Essex Junction, fuel storage sites in excess of 10,000 lbs.

Owner / Facility	Type of Substance	Location
ESSEX EXXON	BENZINE (MOTOR FUEL)	ESSEX
ESSEX GULF	BENZINE (MOTOR FUEL)	ESSEX
SIMON'S ESSEX CENTER STORE & DELI	DIESEL FUEL	ESSEX
SIMON'S ESSEX CENTER STORE & DELI	GASOLINE	ESSEX
ESSEX CENTER SHELL-ROUTE 15	GASOLINE	ESSEX CENTER
ESSEX DISCOUNT BEVERAGE	GASOLINE	ESSEX CENTER
ESSEX DISCOUNT BEVERAGE	DIESEL FUEL	ESSEX CENTER
ESSEX DISCOUNT BEVERAGE	KEROSENE	ESSEX CENTER
SIMONS ESSEX CENTER	FUELS, GASOLINE	ESSEX CENTER
SIMONS ESSEX CENTER	DIESEL	ESSEX CENTER
DAVE WHITCOMB SERVICE CENTER	GASOLINE	ESSEX JUNCTION
ESSEX COLONIAL MART	DIESEL FUEL	ESSEX
ESSEX COLONIAL MART	GASOLINE	ESSEX
ESSEX GO GO	GASOLINE	ESSEX
FAIRGROUND BEVERAGE	GASOLINE	ESSEX JUNCTION
FAIRGROUND BEVERAGE	DIESEL FUEL	ESSEX JUNCTION
GLOBALFOUNDRIES	PETROLEUM PRODUCTS (FUEL OIL #2, #6, & PROPANE)	ESSEX JUNCTION
MAPLEFIELDS @ ESSEX	FUELS, GASOLINE	ESSEX
SIMON'S RT 2A STORE, LLC	FUELS, GASOLINE	ESSEX
BUSHEY'S AUTO REPAIR II (SUNOCO)	DIESEL FUEL	ESSEX JUNCTION.
BUSHEY'S AUTO REPAIR II (SUNOCO)	GASOLINE	ESSEX JUNCTION.
MIKE BUSHEY AUTO, INC. (SUNOCO)	GASOLINE	ESSEX JUNCTION.
RIVER ROAD BEVERAGE AND REDEMPTION	GASOLINE	ESSEX
ESSEX JUNCTION, VT POP 1	DIESEL FUEL #2	ESSEX JUNCTION
BILL BUSHEY SUNOCO INC.	FUELS, GASOLINE	ESSEX JUNCTION
GREEN MOUNTAIN POWER CORPORATION - ESSEX PLANT #19	DIESEL FUEL	ESSEX JUNCTION
LAMELL LUMBER CORP	DIESEL FUEL	ESSEX
ROBINSONS INC	KEROSENE	ESSEX JUNCTION
ROBINSONS INC	DIESEL FUEL	ESSEX JUNCTION
ROBINSONS INC	FUEL OIL, [NO. 2]	ESSEX JUNCTION

SIMON'S FIVE CORNERS STORE	FUELS, GASOLINE	ESSEX JUNCTION
STEVENS GAS SERVICE	PROPANE	ESSEX
VERIZON ESSEX JCT CO (VT474206)	DIESEL FUEL	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION PUBLIC WORKS	DIESEL FUEL*	ESSEX JUNCTION
TOWN OF ESSEX	GASOLINE	ESSEX
TOWN OF ESSEX PUBLIC WORKS	DIESEL FUEL	ESSEX

Source: Vermont Emergency Management, Essex and Essex Junction Public Works Depts., and Essex Junction Fire Dept.

* Fuel stored in vehicles only. Bulk fuel no longer stored onsite.

Table 3-4 Essex and Essex Junction, Extremely Hazardous Substances storage sites

Owner / Facility	Type of Substance	Location
ESSEX EXXON	BENZINE (MOTOR FUEL)	ESSEX
ESSEX GULF	BENZINE (MOTOR FUEL)	ESSEX
VERIZON WIRELESS: ESSEX VT	SULFURIC ACID	ESSEX
VERIZON WIRELESS: ESSEX VT	SULFURIC ACID	ESSEX
SIMONS ESSEX CENTER	FUELS, GASOLINE	ESSEX CENTER
SIMONS ESSEX CENTER	DIESEL	ESSEX CENTER
GLOBALFOUNDRIES	NITRIC ACID	ESSEX JUNCTION
GLOBALFOUNDRIES	CHLORINE	ESSEX JUNCTION
GLOBALFOUNDRIES	SULFURIC ACID	ESSEX JUNCTION
GLOBALFOUNDRIES	AMMONIA	ESSEX JUNCTION
GLOBALFOUNDRIES	HYDROGEN FLUORIDE	ESSEX JUNCTION
GLOBALFOUNDRIES	HYDROGEN CHLORIDE	ESSEX JUNCTION
GLOBALFOUNDRIES	HYDROGEN PEROXIDE	ESSEX JUNCTION
GLOBALFOUNDRIES	BORON TRICHLORIDE	ESSEX JUNCTION
GLOBALFOUNDRIES	FORMALDEHYDE	ESSEX JUNCTION
VERIZON WIRELESS: ESSEX JUNCTION	SULFURIC ACID	ESSEX JUNCTION
VERIZON WIRELESS: ESSEX JUNCTION	SULFURIC ACID	ESSEX JUNCTION
USPS-ESSEX JCT.VT P&DC	SULFURIC ACID IN BATTERIES	ESSEX JUNCTION
ESSEX JUNCTION, VT POP 1	SULFURIC ACID	ESSEX JUNCTION
ESSEX HANNAFORD	REFRIGERANT GAS R-134A	ESSEX
ESSEX HANNAFORD	REFRIGERANT R507	ESSEX
ESSEX JUNCTION, VT POP 2	SULFURIC ACID	ESSEX JUNCTION
GREEN MOUNTAIN POWER CORPORATION - ESSEX PLANT #19	SULFURIC ACID	ESSEX JUNCTION
HUBER+SUHNER, INC.	SULFURIC ACID	ESSEX
VERIZON ESSEX JCT CO (VT474206)	LEAD ACID BATTERIES	ESSEX JUNCTION
VERIZON SLC-96 HUT ON POLE 82 ON (VT4742039)	LEAD ACID BATTERIES	ESSEX JUNCTION

VILLAGE OF ESSEX JUNCTION PUBLIC WORKS	DIESEL FUEL	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION WASTEWATER FACILITY	SULFIDE CHEMETS REAGENT*	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION WASTEWATER FACILITY	AMMONIUM MOLYBDATE REAGENT*	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION WASTEWATER FACILITY	HYDROCHLORIC ACID DILUTIONS*	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION WASTEWATER FACILITY	FLUORIDE REAGENT*	ESSEX JUNCTION
VILLAGE OF ESSEX JUNCTION WASTEWATER FACILITY	FERROUS CHLORIDE SOLUTION	ESSEX JUNCTION
TOWN OF ESSEX	GASOLINE	ESSEX
TOWN OF ESSEX PUBLIC WORKS	DIESEL FUEL	ESSEX

Source: Vermont Emergency Management, Essex and Essex Junction Public Works, and Essex Junction Fire Dept.

* Public Works officials indicate that these chemicals are stored in minute quantities.

3.3 Previous FEMA-Declared Natural Disasters and Snow Emergencies

3.3.1 Public Assistance

Since 1990 Essex and Essex Junction have received public assistance funding from FEMA for the following natural disasters:

Table 3-5 Essex and Essex Junction, FEMA-declared disasters and snow emergencies, 1990-2016.

Date (FEMA ID#)	Type of Event	Total Repair Estimates
January 1996 (DR 1101)	flooding	\$88,341 (Town of Essex)
January 1998 (DR 1201)	ice storm	\$63,056 (Town of Essex) \$22,287 (Essex Junction)
April 2001 (EM 3167)	snow emergency	\$21,076 (Town of Essex) \$10,404 (Essex Junction)
August 2004 (DR 1559)	flooding	\$136,032 (Town of Essex)
December 2010 (DR 1951)	Severe storm	\$44,854 (Town of Essex) \$1,329 (Essex Junction)
June 2011 (DR 1995)	Flooding	\$70,669 (Town of Essex)
June 2013 (DR4120)	Flooding	\$260,650 (Town of Essex)
August 2013 (DR 4140)	Flooding	\$21,923 (Town of Essex)
January 2015 (DR 4163)	Ice storm	\$5,114 (Town of Essex)

Sources: Vermont Department of Housing & Community Affairs; Vermont Agency of Transportation. Dollar value figures represent the total estimated repair costs for damages suffered to municipal resources. This table does not include damage claims submitted to FEMA by non-municipal organizations or by private individuals or businesses.

The Town of Essex and the Village of Essex Junction were reimbursed at a rate of 75 percent by FEMA for the estimated repair costs. Funds provided in response to these natural disasters were used as follows:

- January 1996: Funds were used for debris removal, immediate repair of washed out gravel roads, replacement of culverts, clearing of channels, and ditching. Costs were incurred for gravel, pipe, culverts, equipment rental, labor, Town equipment to repair damaged sections of numerous Town gravel roads. Some of the roads involved were Brigham Hill Road, Osgood Hill Road, Sleepy Hollow Road, Indian Brook Road, Lost Nation Road, Hanley Lane, Saxon Hill and Weed Road. Most of the worst problems occurred on Brigham Hill Road near the Colchester Town Line and on Osgood Hill Road
- January 1998: Widespread debris removal, tree cutting and road clearing from effects of ice storm.
- April 2001: Increased contractual costs for snow removal
- August 2004: Significant (several hundred feet) washout of gravel road surface of Pettingill Road, Curve Hill and Lost Nation Road. Other roads damaged, although to a lesser degree, included: Lamore Road, Discovery Road, McGee Road and Chapin Road. Minor spot damage as well on portions of Brigham Hill Road, Brigham Hill Lane and Old Stage Road.
- December 2010: Money was used for identifying and removing debris along town roads, replacing damaged fencing on a ball field, repairing a building at the Highway Garage Complex in Essex, and to repair traffic signals on Essex Way near Lang Farm Road.
- June 2011: Money was used to repair erosion to Osgood Hill Road and associated ditches, to repair erosion damage on Discovery Road, Lost Nation Road, Sleepy Hollow Road and Catella Road, to repair erosion damage to McGee Road and associated stone-lined ditch, to replace a washed-out box culvert on Doubleday Lane, to repair erosion and inundation flood damage along Pettingill Road, and to repair erosion damage and replace a culvert on Saxon Hill Road.
- June 2013: Money was used to repair road and ditch erosion on Sawmill Road, Osgood Hill Road and Old Pump Road, repair to the foundation of the Essex Free Library caused by flooding, to repair road washout and upsize a culvert along Weed Road, to repair road erosion, replace rip rap and repair ditching along Naylor Road, to repair road and ditch erosion and replace culverts along Sleepy Hollow Road and Essex Highlands Road, to repair road and ditch erosion, replace culverts and reestablish rip rap along Catella Road, to replace a wooden foot bridge and a culvert on the Lang Farm Foot/Bike path, to repair road erosion on Saxon Hill Road, and to repair the road shoulder and rock embankment on Upper Weed Road.
- August 2013: Money was used to repair road, culvert and ditch washout along Lost Nation Road and Essex Highlands Road.
- January 2015: Money was used for town-wide debris removal.

A variety of mitigation and reconstruction efforts were implemented with disaster relief funds as a result of the January 1996 flood and later declared emergencies. Needs highlighted by this event (which were met) included increased culvert pipe sizes, emergency overflow pipes and the establishment of improved drainage along roadways.

A previous mitigation project was implemented along Brigham Hill Road in 1998. The project included increased culvert sizing, ditching and reconstruction. The project has reduced the

potential for erosion/re-occurrence. Additional stone -lining of ditches on grades greater than 4% was completed as a result of the August 2004 flooding.

As a result of the drought of August 1999, the affected residents have discussed connection to municipal water, where feasible. Some have drilled new wells.

Essex and Essex Junction always seek to “right-size” culverts and improve ditches when repairing or replacing infrastructure after a disaster. When funds allow, replacement infrastructure is installed that is better suited to the hydrological conditions of the affected areas. This mitigates risk from future events.

See *Figure 3.1.* to see locations where repairs funded in part with FEMA Public Assistance took place for disasters between 2001 and 2015. As the map shows, damage has tended to be concentrated in upland areas. Note that some Debris Removal and Protective Measures locations are shown at the location of the municipal office. This indicates assistance was at various locations throughout the municipality, not that damages were incurred at the office.

3.3.2 Individual Assistance funds

As noted in Section 3.3 of the County Plan, due to privacy concerns, the individual homes or businesses which received Individual Assistance funds in connection with the two Federal disasters in 2011 (Spring flooding and Tropical Storm Irene in September) are not public information. However, the names of the streets of such homes or businesses from which claims are filed is available as are the funds provided. With regards to the Town, individual claims were filed at residences or business located on the following streets. These streets are shown in *Figure 3.1.1.*

Table 3-6 Essex and Essex Junction, 2011 Individual Assistance claims by Street

Damaged Address Street	Damage Amount
SOUTH ST	\$3,841.37
VILLA DR	\$393.57
COLBERT ST	\$1,266.62
GREENFIELD RD	\$591.99
IRA ALLEN DR	\$409.97
OLD COLCHESTER ROAD	\$3,709.00
PEARL ST	\$354.21
PERRY DR	\$1,422.80
PINECREST DR	\$9,760.99
PIONEER ST	\$21,432.32
RICHARD ST	\$199.99
RIVENDELL DR	\$429.79
S HILL DR	\$631.33
SOUTH ST	\$6,336.71
SUNSET DR	\$231.45
VILLA DR	\$1,321.30
WILLIAMS ST	\$536.39

Source: FEMA

3.4 Future Events

Although estimating the risk of future events is far from an exact science, CCRPC staff used best available data and best professional judgment to conduct an updated Hazards Risk Estimate analysis, which was subsequently reviewed and revised by town officials in Fall 2015. This analysis assigns numerical values to a hazard's affected area, expected consequences, and probability. This quantification allows direct comparison of very different kinds of hazards and their effect on the county, and serves as a rough method of identifying which hazards hold the greatest risk. CCRPC staff applied the following scoring system:

Area Impacted, scored from 0-4, rates how much of the municipality's developed area would be impacted.

Consequences consists of the sum of estimated damages or severity for four items, each of which are scored on a scale of 0-3:

- Health and Safety Consequences
- Property Damage
- Environmental Damage
- Economic Disruption

Probability of Occurrence (scored 1-5) estimates an anticipated frequency of occurrence.

To arrive at the overall risk value, the sum of the Area and Consequence ratings was multiplied by the Probability rating. The highest possible score is 80.

As explained in detail in Section 3.4 of the Multi-Jurisdictional Plan, for the 2011 Plan, the following Hazards were considered to occur or have the potential to occur with sufficient frequency and/or severity for to be included in the Risk Estimation of this Plan:

Natural Hazards:

- Drought
- Flooding
- Fluvial erosion
- High winds
- Landslide
- Lightning
- Multi-structure urban fire
- Radiological (natural)
- Wildfire
- Winter storm

Technological Hazards:

- Gas service loss
- Hazardous materials incident
- Major transportation incident
- Military ordnance incident
- Power loss
- Radiological incident
- Sewer service loss
- Telecommunications failure
- Water service loss

Societal Hazards:

- Crime
- Civil disturbance
- Economic recession
- Epidemic
- Key employer loss
- Terrorism

For the 2016 update, the CCRPC and its All-Hazards Mitigation Plan Update Committee made slight changes to this list by consolidating some hazards or delineating hazards with more specificity as follows:

Natural Hazards:

- Flooding
- Fluvial erosion
- Severe Rainstorm
- Wildfire
- Winter storm
- Extreme temperatures

Technological Hazards:

- Hazardous materials incident
- Major transportation incident
- Multi-structure urban fire
- Natural gas service loss
- Pollution
- Power loss
- Sewer service loss
- Telecommunications failure
- Water service loss
- Other fuel service loss
- Invasive Species

Societal Hazards:

- Crime
- Civil disturbance
- Economic recession
- Epidemic
- Key employer loss
- Terrorism

3.4.1 Natural Hazards

For the 2011 Hazard and Risk Estimation analysis for Essex and Essex Junction, the following natural hazards received the highest risk ratings out of a possible high score of 80:

- Severe Winter Storm (55)
- Multi-structure Urban Fire (24)
- Flooding (20)
- High Winds (20)
- Fluvial Erosion (20)

For the 2017 update, the following natural hazards received the highest risk ratings out of a possible high score of 80 (see Table below):

- Winter Storm (55)
- Fluvial Erosion (20)
- Severe Rainstorm (20)
- Flooding (20)

While flooding and fluvial erosion are likely to have a significant impact over a smaller area, severe winter storms tend to affect the entire town and are more common, hence the higher rating.

Table 3-7 Natural hazards risk estimation matrix, Essex and Essex Junction

Risk Characteristic		Score	Winter Storm	Flooding	Severe Rainstorm	Fluvial Erosion	Wildfire	Extreme Temperatures
	0 = No developed area impacted	0					0	0
Area	1 = Less than 25% of developed area impacted	1		1		1		
Impacted	2 = Less than 50% of developed area impacted	2			2			
	3 = Less than 75% of developed area impacted	3						
	4 = Over 75% of developed area impacted	4	4					
Health and	0 = No health and safety impact	0					0	
Safety	1 = Few injuries or illnesses	1		1	1	1		1
Consequences	2 = Few fatalities but many injuries and illnesses	2	2					
	3 = Numerous fatalities	3						
Property	0 = No property damage	0						0
Damage	1 = Few properties destroyed or damaged	1		1	1	1	1	
	2 = Few destroyed but many damaged	2	2					
	2 = Few damaged and many destroyed	2						
	3 = Many properties destroyed and damaged	3						
Environmental	0 = Little or no environmental damage	0			0			0
Damage	1 = Resources damaged with short-term recovery	1	1	1		1	1	
	2 = Resources damaged with long-term recovery	2						
	3 = Resources destroyed beyond recovery	3						
Economic	0 = No economic impact	0						
Disruption	1 = Low direct and/or indirect costs	1		1	1	1	1	1
	2 = High direct and low indirect costs	2	2					
	2 = Low direct and high indirect costs	2						
	3 = High direct and high indirect costs	3						
	TOTAL SCORE		11	5	5	5	3	2
Probability of	1 = Unknown but rare occurrence	1						
Occurrence	2 = Unknown but anticipate an occurrence	2						
	3 = 100 years or less occurrence	3					3	
	4 = 25 years of less occurrence	4		4	4	4		4
	5 = Once a year or more occurrence	5	5					
	TOTAL RISK RATING		55	20	20	20	9	8

3.4.2 Technological Hazards

In the 2011 Hazard and Risk Estimation analysis for Essex and Essex Junction, the following technological hazards received the highest risk ratings out of a possible high score of 80:

- Power Loss (36)
- Telecommunications Failure (28)
- Major Transportation Incident (28)
- Hazardous Materials Incident (27)
- Water Service Loss (24)

For the 2017 update, the following technological hazards received the highest risk ratings out of a possible high score of 80 (see Table below):

- Water pollution (28)
- Major Transportation Incident (28)
- Power Loss (28)
- Hazardous Materials Incident (27)
- Multi-structure fire (24)

Essex and Essex Junction are both affected by the Lake Champlain TMDL, elevating concerns about water pollution in both municipalities. Transportation incident refers to accidents with a large number of vehicles, boat or rail incidents, or road infrastructure failure. Accidents involving few vehicles are a common occurrence, and tend not to rise to the level of hazard rated here. Although Essex does not contain any interstate or structurally deficient bridges, it does contain arterial roads and an active rail line, which increase the risk for both a major transportation incident and a hazardous materials incident. The VT 2A bridge between Essex Junction and Williston is a high traffic bridge; even temporary closure of this bridge would impede emergency responders coming from or going to neighboring communities. The presence of large amounts of chemicals at GLOBALFOUNDRIES also increases the risk of a hazardous materials incident. The State has recently installed new monitoring wells. Additionally, given the dense nature of Essex Junction and some parts of Essex, a multi-structure fire remains a concern.

Table 3-8 Technological hazards risk estimation matrix, Essex and Essex Junction

Risk Characteristic		Power Loss	Major Transportation Accident	Water Pollution	Hazardous Materials Incident	Multi-structure urban fire	Telecommunications Failure	Water Service Loss	Invasive Species	Gas Service Loss	Sewer Service Loss	Other Fuel Service Loss
	0 = No developed area impacted											
Area	1 = Less than 25% of developed area impacted		1	1	1	1			1			1
Impacted	2 = Less than 50% of developed area impacted	2					2	2		2	2	
	3 = Less than 75% of developed area impacted											
	4 = Over 75% of developed area impacted											
Health and Safety	0 = No health and safety impact								0			
	1 = Few injuries or illnesses			1	1	1	1		1	1		1
Consequences	2 = Few fatalities but many injuries and illnesses	2	2		2							
	3 = Numerous fatalities											
Property Damage	0 = No property damage						0	0	0			
	1 = Few properties destroyed or damaged	1	1	1						1	1	1
	2 = Few destroyed but many damaged				2	2						
	2 = Few damaged and many destroyed											
	3 = Many properties destroyed and damaged											
Environmental Damage	0 = Little or no environmental damage	0				0	0	0		0		0
	1 = Resources damaged with short-term recovery		1								1	
	2 = Resources damaged with long-term recovery			2	2				2			
	3 = Resources destroyed beyond recovery											
Economic Disruption	0 = No economic impact										1	
	1 = Low direct and/or indirect costs											
	2 = High direct and low indirect costs	2	2	2	2	2	2	2	2	2		2
	3 = Low direct and high indirect costs											
	4 = High direct and high indirect costs											
	TOTAL SCORE	7	7	7	9	6	5	5	5	6	6	5
Probability of Occurrence	1 = Unknown but rare occurrence											1
	2 = Unknown but anticipate an occurrence										2	
	3 = 100 years or less occurrence				3					3		
	4 = 25 years of less occurrence	4	4	4		4	4	4	4			
	5 = Once a year or more occurrence											
	TOTAL RISK RATING	28	28	28	27	24	20	20	20	18	12	5

3.4.3 Societal Hazards

In the 2011 Hazard and Risk Estimation analysis for Essex and Essex Junction, the following societal hazards received the highest risk ratings out of a possible high score of 80:

- Key Employer Loss (28)
- Epidemic (21)
- Economic Recession (21)

For the 2017 update, the following societal hazards received the highest risk ratings out of a possible high score of 80 (see Table below):

- Key Employer Loss (28)
- Epidemic (21)
- Economic Recession (21)

As one of the largest private employers in the state, GLOBALFOUNDRIES' presence in Essex Junction is important to both communities, as well as to the region. GLOBALFOUNDRIES, formerly IBM, cut employment from around 8,500 in 2001, to about 5,000 jobs in 2009. The economic impacts of these job losses are felt in reduced business for local firms, reduced property values, and lower tax receipts for local government. The uncertainty surrounding the future of GLOBALFOUNDRIES is a source of significant worry for both municipalities. The closure of GLOBALFOUNDRIES would have profound economic impacts. It would be difficult to find new businesses to fill the facility, and it is unclear how facility closure would affect ongoing remediation of contaminated groundwater.

Therefore, economic recession is highly ranked for both its direct impacts and its secondary effects on health, safety, and the environment. In a recession, property owners may not be able to maintain their properties, which are then more vulnerable to natural hazards. Crime also tends to increase in recessions.

The likelihood of an epidemic is difficult to gauge, but its consequences could be severe.

Table 3-9 Societal hazards risk estimation matrix, Essex and Essex Junction

Risk Characteristic		Score	Key Employer Crisis	Epidemic	Economic Recession	Crime	Terrorism	Civil Disturbance
Area Impacted	0 = No developed area impacted	0						
	1 = Less than 25% of developed area impacted	1			1	1	1	
	2 = Less than 50% of developed area impacted	2	2	2				
	3 = Less than 75% of developed area impacted	3			3			
	4 = Over 75% of developed area impacted	4						
Health and Safety Consequences	0 = No health and safety impact	0	0					
	1 = Few injuries or illnesses	1		1	1		1	
	2 = Few fatalities but many injuries and illnesses	2		2		2		
	3 = Numerous fatalities	3						
Property Damage	0 = No property damage	0	0	0	0			
	1 = Few properties destroyed or damaged	1			1		1	
	2 = Few destroyed but many damaged	2				2		
	2 = Few damaged and many destroyed	2						
	3 = Many properties destroyed and damaged	3						
Environmental Damage	0 = Little or no environmental damage	0		0		0	0	0
	1 = Resources damaged with short-term recovery	1		1				
	2 = Resources damaged with long-term recovery	2	2					
	3 = Resources destroyed beyond recovery	3						
Economic Disruption	0 = No economic impact	0						
	1 = Low direct and/or indirect costs	1			1		1	
	2 = High direct and low indirect costs	2		2				
	3 = Low direct and high indirect costs	2	3	3			3	
	4 = High direct and high indirect costs	3						
TOTAL SCORE			7	7	7	4	8	4
Probability of Occurrence	1 = Unknown but rare occurrence	1						
	2 = Unknown but anticipate an occurrence	2				2		
	3 = 100 years or less occurrence	3		3	3			3
	4 = 25 years of less occurrence	4	4		4			
	5 = Once a year or more occurrence	5						
TOTAL RISK RATING			28	21	21	16	16	12

3.4.4 Hazard Summary

According to the risk estimation analysis, the three highest rated hazards by type for Essex and Essex Junction are:

Natural Hazards

- Winter Storm (55)
- Fluvial Erosion (20)
- Severe Rainstorm (20)
- Flooding (20)

Technological Hazards

- Water pollution (28)
- Major Transportation Incident (28)
- Power Loss (28)

Societal Hazards

- Key Employer Loss (28)
- Epidemic (21)
- Economic Recession (21)

It should be noted that the highest-rated natural hazard on the list—severe winter storm—could be the cause of the highest-rated technological hazards, power loss and telecommunications failure. Winter storms are the highest rated hazard, due in large part to their widespread nature and frequent occurrence. Essex and Essex Junction have a combined Winter Operations Plan that is updated annually. This plan serves to lay out policy, train road crews and inform the public about plowing and other winter operations in the town and village.

The loss of GLOBALFOUNDRIES as a key employer would have severe economic impacts for the community, as well as for the region and the state. GLOBALFOUNDRIES also stores substantial quantities of fuels and extremely hazardous substances.

Since Essex has more developed urban areas than some other municipalities, its risk for major fire is correspondingly larger. Although it occurs infrequently, water service loss would impair firefighting capabilities.

SECTION 4: VULNERABILITY ASSESSMENT

As discussed in Section 4 of the County Plan, typical vulnerabilities from the County’s common hazards consist primarily of:

- Damage to public infrastructure especially roads and culverts;
- Temporary closures of roads and bridges including from debris;
- Temporary loss of power and/or telecommunications
- Temporary isolation of vulnerable individuals such as the elderly or those in poverty.

More specifically, these vulnerabilities typically occur in association with the Profiled Natural Hazards as follows:

Table 4 -1 Essex and Essex Junction: Natural Hazards and Typical Vulnerabilities

Hazard	Typical vulnerabilities	Occasional additional vulnerability
Severe Winter Storm	-temporary closures of roads and bridges including from debris; -temporary loss of power and/or telecommunications, and -temporary isolation of vulnerable individuals	-budget impacts from debris cleanup
Flooding	-temporary closures of roads and bridges including from debris; -temporary loss of power and/or telecommunications, and -temporary isolation of vulnerable individuals -damage to public infrastructure	-budget impacts from road/bridge closures and repairs to public infrastructure -damages to individuals’ properties and businesses
Fluvial Erosion	-temporary closures of roads and bridges including from debris; -temporary loss of power and/or telecommunications, and -temporary isolation of vulnerable individuals -damage to public infrastructure	-budget impacts from road/bridge closures and repairs to public infrastructure -damages to individuals’ properties and businesses
Severe Rainstorm	-temporary closures of roads and bridges including from debris; -temporary loss of power and/or telecommunications, and -temporary isolation of vulnerable individuals -damage to public infrastructure	-budget impacts from road/bridge closures and repairs to public infrastructure -damages to individuals’ properties and businesses
Extreme Temperatures	-damage to public infrastructure -loss of water service	-budget impacts due to needed repairs
Wildfire	-damage to private property	

Relative to the County as a whole the Town of Essex and the Village of Essex Junction have a higher vulnerability to:

- Flooding due to the presence of the Winooski River

Vulnerabilities with regard to Technological Hazards are harder to project as these incidents occur with less frequency and less predictability.

Table 4-2 Essex and Essex Junction: Technological Hazards and typical vulnerabilities

Hazard	Typical vulnerabilities	Occasional additional vulnerability
Major Transportation Incident	-temporary closures of transportation infrastructure -injuries, deaths	-if major event, potential long term closure of infrastructure.
Power Loss	-temporary loss of electrical service -temporary impacts to vulnerable individuals -damage to public infrastructure	-if extended event, damage to perishable goods or business income. -if extensive loss, potential budget impacts to service providers.
Hazardous Materials Incident	-temporary closures of roads and bridges during cleanup.	-if large event, potential high cleanup costs. -injuries to persons
Water Service Loss	-temporary loss of service -temporary impacts to vulnerable individuals	-if extensive loss, potential budget impacts to service providers.
Gas Service Loss	-temporary loss of service -temporary impacts to vulnerable individuals	-if extensive loss, potential budget impacts to service providers.
Telecommunications Failure	-temporary loss of service -temporary impacts to vulnerable individuals	-if extensive loss, potential budget impacts to service providers.
Other Fuel Service Loss	-temporary loss of service -temporary impacts to vulnerable individuals	-if extensive loss, potential budget

		impacts to service providers.
Sewer Service Loss	-temporary loss of service -temporary impacts to vulnerable individuals	-if extensive loss, potential budget impacts to service providers.
Water Pollution	-ongoing budgetary impacts due to permit requirements.	-if repeat events, impacts to tourism-based businesses
Invasive Species	-small but ongoing cost to monitoring level of occurrence	-unknown at this point.

Relative to the County as a whole the Town of Essex and the Village of Essex Junction have a slightly higher vulnerability to:

- Water pollution due to the municipalities being MS-4 communities.
- Major Transportation Incident due to the transit of a railroad line

With regard to Societal Hazards, vulnerabilities are typically more dispersed among individuals and societal sectors compared to the natural environment and to technology which is fixed.

Table 4-3 Essex & Essex Junction: Societal Hazards and typical vulnerabilities

Hazard	Typical vulnerabilities	Occasional additional vulnerability
Crime	-increased demands on police services and social services	-injuries -deaths
Epidemic	-temporary closures of schools, businesses, places of assembly -increased demand on medical services	-if an epidemic is widespread and long-lasting, impact could be severe
Key Employer Loss	-loss of economic activity -loss of portion of tax base -increased demands on social services	-effects increased if employer is of significant size
Economic Recession	-loss of economic activity -increased demands on social services -some loss of tax revenue	-effects increased if event is of extended duration
Civil Disturbance	-injuries to persons	-budget impacts to police services

	-damage to public and private property	depending upon severity of event -deaths
Terrorism	-injuries to persons -damage to public and private property	-budget impacts to police services depending upon severity of event -deaths

Relative to the County as a whole there are insufficient data to conclude whether the Town and Village are more vulnerable to one of the six Societal Hazards noted above.

With regard to the vulnerability of critical facilities, infrastructure and vulnerable populations, quantitative and locational data for the Town are available as follows.

4.1 Critical Facilities

The Center for Disaster Management and Humanitarian Assistance defines critical facilities as: “Those structures critical to the operation of a community and the key installations of the economic sector.” Figure 1.4 shows the geographic distribution of some critical facilities and utilities. Table 4-1 identifies critical facilities in Essex and Essex Junction. This list does not contain critical facilities designated as hazardous materials and petroleum storage sites, which are shown in Section 3.2.5. This list includes all critical facilities, not only the facilities located in designated hazard areas.

Table 4-4 Critical facilities in Essex and Essex Junction

Facility Type	Number of Facilities
Veterinary Hospital / Clinic	4
Education Facility	8
College / University	1
EMS Station	1
Fire Station	2
Emergency Shelters	10
Emergency Operations Center	1
Energy	4
Government and Military	5
Information and Communications	2
Police Station	1
Mail and Shipping	2
Public Attractions and Landmark Buildings	1
Transportation Facilities	2

Source: VCGI

Two of these facilities in Essex Junction—both associated with Green Mountain Power—are located within the 100-year floodplain and the mapped River Corridor.

4.2 Infrastructure

4.2.1 Town Highways

The following is a statistical overview of roads in the Town of Essex and Village of Essex Junction. These tables show the range of road types within the municipalities, from state highways to unimproved unpaved roads. The different road types have different hazard vulnerabilities. Unpaved roads are more vulnerable to being washed out in a flood or heavy storm, while traffic incidents are more likely to occur on large, arterial roads.

Municipal highways, bridges and dams are well mapped in Chittenden County. The following three tables show the diversity of municipal highways and road surface in Essex or Essex Junction.

The Vermont Agency of Transportation divides municipal (town) highways into various classes as follows:

Class 1 town highways are subject to concurrent responsibility and jurisdiction between the municipality and VTrans. Class 1 town highways are state highways in which a municipality has assumed responsibility for most of the day to day maintenance (pot hole patching, crack filling, etc.). The state is still responsible for scheduled surface maintenance or resurfacing. In Chittenden County Class 1 highways are generally paved.

Class 2 town highways are primarily the responsibility of the municipality. The state is responsible for center line pavement markings if the municipality notifies VTrans of the need. The municipality designates highways as Class 2 with approval from VTrans. These are generally speaking the busier roads in a given town second to Class 1. In Chittenden County, most Class 2 highways are generally paved although in the more isolated areas these are gravel roads.

Class 3 town highways are the responsibility of and designated by the municipality. These are to be maintained to an acceptable standard and open to travel during all seasons. In Chittenden County, Class 3 roads are both paved or gravel.

Class 4 town highways are all other highways and the responsibility of the municipality. However, pursuant to Vermont State Statutes, municipalities are not responsible for maintenance of Class 4 town highways. These are generally closed during the winter and minimally maintained and almost exclusively dirt.

Table 4-5 Town highway mileage by class, Essex and Essex Junction

Municipality	Class 1	Class 2	Class 3	Class 4	State Hwy	Fed Hwy	Inter-state	Total 1, 2, 3, State Hwy
Essex Junction	4.009	1.906	27.740		1.961			35.289
Essex Town outside Village		10.83	63.785	3.400	22.312			96.927
Total	4.009	12.710	91.755	3.400	24.273			132.747

Source: Essex Junction and Essex Town data from Town and Village Depts. of Public Works

Table 4-6 Town highway mileage by surface type, Essex and Essex Junction

Municipality	Paved	Gravel	Soil or Graded	Unimproved	Impassable	Unknown	Total
Essex Junction	34.367	0	0	0	0	0	34.367
Essex Town outside Village	72.957	19.42	1.07	1.95	0.88	0.57	96.847
Total	107.324	19.42	1.07	1.95	0.88	0.57	131.218

Municipality	Total Known	Total Unpaved	%Paved	%Unpaved
Essex Junction	34.367	0	100%	0%*
Essex Town outside Village	96.277	23.32	75.8%	24.2%
Total	130.644	23.32	82.2%	17.8%

Source: TransRDS GIS data – surface class and AOTmiles

* Essex Junction Public Works officials indicate that no unpaved roads remain in the Village.

See Figure 3.2 for locations of paved vs. gravel and/or soil roads.

4.2.2 Bridges, Culverts, and Dams

There are a variety of bridges, culverts and dams located in the municipalities. The following bridges are contained in an inventory maintained by VCGI, VTrans and the CCRPC. A GIS intersection was performed to determine which bridges are located in the designated flood hazard area (aka Special Flood Hazard Area or 100-year floodplain.) and /or the River Corridor Protection Area (aka Fluvial Erosion Hazard Area).

Table 4-7 Bridges located in SFHA and RCPA, Essex and Essex Junction

# of Structures in RCPA (FEH)	# of Insufficient Structures in RCPA	# of Structures in River Corridor	# of Insufficient Structures in RC	# of Structures in SFHA	# of Insufficient Structures in SFHA
29	14	28	11	33	13
A structures could be a bridge, culvert or arch. Data came from ANR DMS. A structure is insufficient if its % bankfull width is 50% or less.					

As noted in Section 4 of the County Plan, a large portion of the County's stream have had detailed Phase II Stream Geomorphic Assessments conducted. With regards to Essex and Essex Junction, studies identify specific stream reaches where fluvial erosion is a concern as well as where infrastructure, primarily culverts, as noted in the table below is at risk

Table 4-8 Culverts with a geomorphic compatibility rating of “Mostly Incompatible” or “Incompatible,” Essex and Essex Junction

Bankfull Width	Compatibility Score	Location	Road Name	Stream Name
30.00	5	Just below M07/M08 reach break at Rt. 128 crossing.	RTE. 128	Alder Bk
26.67	6	.4 Miles NE Osgood Hill Rd.	HANLEY LN	Abbey Brook
34.31	7	Near Lowes and Rite Aid	SUSIE WILSON RD	Sunderland Brook
10.29	8	Near Warner Avenue and Rt. 15 intersection	WARNER AV	Sunderland Brook
52.94	8	.1 Mi From end of Rd.	SUSIE WILSON RD	Indian Brook
30.77	8	.2 Mi E VT-2A	LAMORE RD	Unnamed
41.74	9		SUSIE WILSON BYP	Indian Brook
43.89	9	Just after Essex corners	JERICO RD	Alder Brook
53.33	9	Driveway of House #71 off Osgood Hill rd.	DW off Osgood Hill Rd	Unnamed
11.67	9	Driveway of House #178 off VT-128	DW off Browns River Rd	Unnamed
59.38	10		PINECREST DR	Indian Brook
54.55	10		BRICKYARD RD	Indian Brook
47.00	10		SUSIE WILSON RD	Indian Brook
26.67	10	Upper Access Road to parking area at Indian Brook Park	Upper Access Road at Indian Brook Park	Indian Brook
30.00	10	At Alder crossing of Rt. 15 in Essex Center	JERICO RD	Alder Bk
30.77	10	.1 Miles S West Sleepy Hollow rd.	BROWNS RIVER RD	Unnamed
30.77	10	Junction with Osgood Hill Rd.	CATELLA RD	Unnamed
26.67	10	.1 Miles W Catella Rd.	OSGOOD HILL RD	Abbey Brook
36.36	10	Right before mailbox #15	GRAY WY	Unnamed
40.00	10		Fairgrounds Access Road	Indian Brook

Mostly incompatible $5 < GC < 10$

% Bankfull Width + Approach Angle scores < 2

Structure mostly incompatible with current form and process, with a moderate to high risk of structure failure. Re-design and replacement planning should be initiated to improve geomorphic compatibility.

Fully incompatible $0 < GC < 5$

% Bankfull Width + Approach Angle scores < 2 AND Sediment Continuity + Erosion and Armoring scores < 2

Structure fully incompatible with channel and high risk of failure. Re-design and replacement should be performed as soon as possible to improve geomorphic compatibility.

Information on dams is available from two sources: a database of dams regulated by the Vermont Department of Environmental Conservation and the National Dam Inventory maintain by the U.S. Army Corps of Engineers. Information from the DEC is as follows:

Table 4-9 Dams under the jurisdiction of VT Department of Environmental Conservation

Dam Name	State ID	Location (Town)	Hazard Class	Owner
Indian Brook Reservoir	69.01	Essex	High	Town of Essex
IBM Lagoon	69.06	Essex	Low	Private
<i>Dams under the jurisdiction of VT Department of Environmental Conservation (DEC) pursuant to 10 VSA Chapter 43 §1081 and subject to 10 VSA Chapter 43 §1082 Authorization (i.e. dams capable of impounding more than 500,000 cubic feet of water or other liquid.</i>				

The National Dam Inventory shows seven dams located in the municipalities:

Table 4-10 National Dam Inventory Data

Name	Owner	River	Description	Maximum Storage (acre/feet)	Hazard Potential
Essex No. 19 (Essex Junction) Also known as Hubbell’s Falls Dam.	Green Mountain Power Corp.	Winooski	Large concrete gravity dam, built in 1917 for, and currently used for, hydroelectric purposes.	10,500	High-Failure or a mistake in operation will probably cause loss of life.
Indian Brook Reservoir (Essex)	Town of Essex	Indian Brook	Concrete gravity dam built in 1957 for water supply, now used for recreation	1,157	Significant-no probable loss of human life but can cause significant economic or environmental damage and disrupt lifeline concerns. ¹
Essex-2	No data recorded.	Browns River	No data recorded.	No data recorded	Significant-no probable loss of human life but can cause significant economic or environmental damage and disrupt lifeline concerns.
Saxon Hill Reservoir (North)	No data recorded.	Winooski River	Used for water supply in the past. No other data recorded.	0	No hazard rating.
Saxon Hill Reservoir (South)	No data recorded.	Winooski River	No data recorded.	0	No hazard rating.
Essex Town Reservoir	No data recorded.	Winooski River	No data recorded.	0	No hazard rating.
Essex School Reservoir	No data recorded.		No data recorded.	0	No hazard rating.

Source: National Dam Inventory, 2005

¹ Town of Essex indicates that the hazard potential for this dam is High – failure will probably cause loss of life.

4.2.3 Water, Wastewater and Natural Gas Service Areas

Water service and wastewater service lines extend through all of Essex Junction and to most of the denser housing and commercial developments in Essex, through Essex Center and along VT

15 towards Jericho. Natural gas distribution covers most of the water service area but does not extend east of Irene Avenue along VT 128 or east of the Saxon Hill Road/VT15 intersection. Homes in the northern half of Essex and along its eastern border are serviced by private or community septic and well systems. Much of the western area of the Town is also served by onsite septic systems (cf. Figure 1.4)

4.2.4 Electric Power Transmission Lines and Telecommunications Land Lines

Several VELCO high tension power transmission lines run through the jurisdictions (see Map 4-1). One line runs from west to east about ½ half-mile from, and paralleling, the Winooski River, while two others run south-north through both jurisdictions. Two substations are located in Essex Junction while one is located in Essex. Electrical distribution lines and telecommunication land lines are on elevated poles along the street grid. Most subdivisions built since the 1970's have buried power and telephone lines along the street grid (cf. Figure 1.4)

4.3 Estimating Potential Losses in Designated Hazard Areas.

A simple GIS intersection (cf. Figure 2.1) of esite data with the FIRM floodplain data indicates the following with regards to structures located in mapped flood hazard areas in Essex and Essex Junction:

- There are a total of 7,427 structures.
- There are 7 residences and 10 commercial/industrial structures are located within the 100-year floodplain.
- Assuming a 2014 median grand list value, the estimated potential loss due to a major flood event inundating the floodplain is \$14,112,204.

A simple GIS intersection (cf. Figure 2.1) of esite data with the 2016 River Corridor Protection Area data indicates the following with regards to structures located in river corridor areas in Essex and Essex Junction:

- There are a total of 7,427 structures.
- There are 15 residences and 6 commercial/industrial structures within the RCPA.
- The estimated potential loss due to an event in a river corridor is \$7,802,563.

At this time, a more detailed analysis of potential losses to structures, infrastructure, and agricultural lands cannot be made. Such an analysis would require individual site visits and analysis conducted by both river geomorphologists and structural engineers which is beyond the capacity of the CCRPC due to funding limitations.

4.4 Vulnerable Populations

Like most of the County’s rural communities, census data more detailed than the town boundaries is not available to see if there are concentrations of either elderly populations or low-income populations. In other words, the town’s boundaries form one single census tract. Demographic information on the relative percentages of vulnerable populations is as follows:

Table 4-11 Vulnerable populations, Essex and Essex Junction

	Essex and Essex Junction	Chittenden County	Vermont	National
Percent Minority (non-white) ¹	4.8%	7.7%	4.8%	26.7%
Children <18 in poverty ¹	6.9%	11.1%	14.8%	21.6%
Families w/children in poverty ¹	7.8%	10.5%	13.4%	17.8%
Families w/ female householder, no husband present w/children in poverty ¹	18.3%	37.0%	37.4%	40%
Population, age 65+ in poverty ¹	3.4%	6.5%	7.5%	13.4%

¹*US Census Bureau, 2010-2014 5-Year Estimates, American Community Survey*

Given the coarseness of the available data, CCRPC is not able to determine specific locations with a concentration of vulnerable individuals within individual municipalities. However, a useful analysis known as a Social Vulnerability Analysis has been prepared by the Vermont Department of Health. Data for the Town is shown in Figure 4.1.

The Social Vulnerability Index (SVI) draws together 16 different measures of vulnerability in three different themes: socioeconomic, demographic, and housing/transportation. The 16 individual measures include poverty, unemployment, per capita income, educational attainment, health insurance, children/elderly, single parent households, disability, minority, limited English, location of apartment buildings, mobile homes, crowding, no vehicle access, and population living in group quarters. The measures are combined to create relative vulnerability index. For every vulnerability measure, census tracts above the 90th percentile, or the most vulnerable 10%, are assigned a flag. The vulnerability index is created by counting the total number of flags in each census tract. It is important to remember that this Social Vulnerability Index is just a first step in screening for populations that may be more or less vulnerable to a variety of hazard. Depending on the situation, different measures could be more or less important and should be looked at more closely. These data are NOT saying that one census tract is more vulnerable than another. Rather it is saying that there is a higher concentration of various vulnerable populations living within a tract and seeks to identify the conditions that make a population vulnerable.

4.5 Land Use and Development Trends Related to Mitigation

As noted at the introduction of this appendix, land use in Essex Junction is heavily commercial and dense residential. Essex is primarily residential and commercial around Essex Center, with large lot rural and open land throughout the rest of the town. An analysis of GIS data shows the following percentages for land use and the percentages of land allocated to each zoning district for the two jurisdictions.

Table 4-12 Structures compared to zoning, Essex and Essex Junction

Essex and Essex Junction Structures		Essex and Essex Junction Zoning	
Residential	88.60%	Agriculture - Residential	31.50%
Commercial	6.02%	Center	0.60%
Industrial	0.90%	Conservation	23.37%
Institutional / Infrastructure	1.04%	Floodplain	11.57%
Mass Assembly	0.38%	Historic Preservation - Design Control	0.05%
Leisure / Recreation	0.04%	Industrial	4.30%
Natural Resources	0.44%	Low Density Residential	5.90%
		Medium Density Residential	12.48%
		High Density Residential	0.05%
		Mixed Use	0.31%
		Mixed Use - Planned Unit Development	2.16%
		Mixed Use Commercial	0.12%
		Open Recreation	4.02%
		Residential - Business	0.06%
		Resource Preservation District - Industrial	2.99%
		Retail - Business	0.51%

Source: 2015 e911 Data and 2013 Town of Richmond Zoning Regulations, Note: The structure categories relate to the Land Based Classification System (LBCS) used in the 2011 AHMP not E-911 site types. E-911 site types were assigned to each LBCS category to create synergy between the 2011 AHMP and 2017 AHMP.

4.5.1 Conserved or Undevelopable Parcels

There are a few conserved parcels in the municipalities. In Essex Junction, the Winooski Valley Park District (WVPD) owns land along the Winooski River overlook adjacent to Route 15. In Essex and Essex Junction, a closed State-owned nursery, known as the Tree Farm, is located near Route 2-A. The nursery has been converted to open space recreational uses, primarily soccer fields. The Town of Essex manages in coordination with a developer a Town Forest near Route 15. The Winooski Valley Park District and the Town of Essex protect several parcels surrounding the Indian Brook Reservoir. The Town of Essex owns and manages the Indian Brook Reservoir. The Town has an agricultural lands tax stabilization program. Neither the Town nor the Village collects dedicated tax revenue through an Open Space or Conservation fund.

Table 4-13 Conserved Land, Essex and Essex Junction

	Acres	Acres of Public Land	Percent Public	Acres of Conserved Land	Percent Conserved	Total Public & Conserved	Percent Conserved Land
Essex	22,255.79	962.71	4%	524.99	2%	1,487.74	7%
Essex Junction	2,973.90	79.70	3%	12.75	0%	92.47	3%

Source: VLT Data and ANR Public Lands

Additionally, as noted below in Table 5.1, Essex’s zoning bylaws include a Floodplain Overlay District and Essex Junction’s Land Development code contains a Flood Plain District, both of which preclude the construction of new homes or businesses and effectively act as conserved lands.

4.5.2 Recent and Future Development

At present and for the foreseeable future, the development pattern is expected to continue: steady growth of single family homes, apartments and condominiums within permitted subdivisions within the sewer and water service areas of the Essex and Essex Junction coupled with similar growth rates in the construction of randomly placed single-family homes on large lots in the outlying portions of Essex, outside the sewer core area.

At this time, the only way CCRPC has to predict future development is by analysis of municipal zoning bylaws. As Essex and Essex Junction both participate in the NFIP, zoning bylaws heavily regulate development in designated flood hazard areas. As a result, little to no development is likely to take place in hazard areas. These zoning requirements mitigate flood hazards to future structures. Additionally, the Town and Village also regulate development near other waterbodies and wetlands. As a result, little to no development is likely to take place in flood hazard areas or river corridor protection areas. These zoning requirements effectively mitigate damages from Flood and Fluvial Erosion hazards to future structures.

As shown in Figure 4.2, from 2011 through 2014, the municipalities have seen 123 housing units (in single family and multi-family structures) and 23 new commercial/industrial buildings constructed. One housing unit was constructed in a River Corridor. Otherwise, none of these units or structures were constructed in the Special Flood Hazard Area nor in the River Corridor Protection Area.

As best can be ascertained based upon data maintained by the Chittenden County RPC and the Town of Essex and Village of Essex Junction, since the adoption of the last municipal AHMP in 2011, development activity in the Town has not significantly increased vulnerability. Additionally, through at least 2021, there is no known or projected development of new buildings or infrastructure anticipated to be constructed in areas known to be particularly vulnerable to Natural Hazards.

SECTION 5: MITIGATION STRATEGY

The Town considered a range of mitigation actions across the categories of Planning and Regulations, Structure and Infrastructure Projects, Natural Systems Protection, and Education and Awareness Programs. As is demonstrated in the discussion that follows the Town carries out numerous efforts as part of its day-to-day operations that fit within these categories and address and serve to mitigate the impacts of various hazards. The section concludes within an analysis of which vulnerabilities need additional attention and therefore stipulates discrete tasks to be carried out by the Town during the 5-year period this Plan is in effect to address these vulnerabilities.

5.1 Existing 2016 Essex Town Plan and Village of Essex Junction 2014 Comprehensive Plan Goals, Policies, Objectives and Tasks That Support Hazard Mitigation

These tasks are described in the 2014 Essex Junction Municipal Plan and the 2016 Essex Town Plan. The following selected excerpts illustrate how mitigation is formally promoted and supported through the Town Plan and Comprehensive Plan.

2016 Essex Town Plan

Economic Development

2c. Infrastructure, in the form of roads, bridges, trails, and sewer and water lines, is maintained and improved.

Action 2.3: Advocate for upgrades to VT Route 117

Transportation

Action 3.3: Design and construct a new signalized intersection at Sand Hill Road and VT Route 15

Action 3.4: Design and construct improved access at VT Route 2A/Susie Wilson Bypass and the Circumferential Highway off-ramp

Flood Resilience

6a. New development in floodplains, fluvial erosion hazard areas, and land adjacent to streams, wetlands, and upland forests is avoided.

6b. Flood damage and fluvial erosion are reduced by protecting and restoring vulnerable areas.

6c. Flood emergency preparedness and response is achieved.

General Policy 6: Land shall be conserved, and development avoided, in particularly vulnerable areas, such as floodplains and river corridors.

Action 6.1: Adopt updated Public Works Specifications

Action 6.2: Construct flow restoration improvements within the watersheds of Indian Brook and Sunderland Brook, which have impaired water quality

Action 6.3: Reduce erosion from existing road and development sources in the Alder Brook watershed between VT Route 15 and VT Route 117

Action 6.4: Evaluate standards in planning and zoning documents for steep slopes, wetlands, and highly erodible areas

Action 6.5: Stabilize stream banks, cultivate plants in buffers, and protect channels and road ditches in critical fluvial areas

Action 6.6: Re-evaluate elements of the draft Conservation Subdivision Regulations

Resource Protection: Natural, Scenic, Historic and Archeological

Action 7.1: Start a Conservation Fund

Action 7.2: Start an invasive species management program

Action 7.5: Continue to improve stormwater quality in accordance with mandated state and federal permits

Local Government Services

Action 9.15: Increase roster of paid on-call firefighters

Action 9.17: Replace tanker trucks with larger capacity pumper/tanker

Action 9.18: Replace AWD Reel Truck with AWD Engine for rural residences

Action 9.19: Add aerial truck to fleet to meet needs of the community

Action 9.21: Update ISO review for Town

Action 9.22: Renovate Fire Station to current National Fire Protection Association standards

Action 9.40: Prepare final design plans and specifications and fund water line improvements in the Susie Wilson Road Corridor and Fort Ethan Allen area to increase fire flow and pressure

Action 9.44: Implement Impaired Streams Flow Restoration Plans involving construction of new stormwater treatment facilities

Action 9.45: Resolution of all expired stormwater permits in the Town's impaired watersheds

Education

Action 10.10: Invest in school building projects that promote student safety and learning, community usage, and energy efficiency

Village of Essex Junction 2014 Comprehensive Plan

Priority Goals for the Next 5 Years

Objective 5.6: Consider reinstating funding to the land acquisition fund.

Open Space/Recreation/Environmental

Objective 4.1: Continue to enforce stormwater treatment standards in the Land Development code to improve water quality in impaired waters and to minimize non-point source water pollution from new development.

Objective 4.2: Require retention of vegetation or effective re-vegetation of areas vulnerable to erosion.

Goal 6: Avoid new development in floodplains, fluvial erosion hazard areas, and land adjacent to streams, wetlands, and upland forests; eliminate the exacerbation of flooding and

fluvial erosion; encourage protection and restoration of these areas; and plan for flood emergency preparedness and response.

Objective 6.1: Continue to enforce the flood plain regulations to protect flood prone areas and minimize fluvial erosion.

Objective 6.2: Monitor the fluvial erosion hazard area south of Cascade Street that is not currently regulated by the flood plain regulations to determine if additional protections area needed.

Objective 6.3: Monitor all of the fluvial erosion areas to see how best to accommodate fluvial equilibrium and natural erosion processes while minimizing undue damage to property.

Objective 6.4: Plan culvert replacements for any undersized culverts in conjunction with roadway improvement.

Objective 6.5: Review the Hazard Mitigation Plan on a regulation basis and follow-up on action steps.

Objective 6.6: Continue annual certification of the Emergency Operations Plan.

Utilities/Facilities

Goal 1: Provide a Village infrastructure system that adequately ensures the availability of potable water, disburse storm and ground water runoff and disposes of sanitary wastes in a manner which ensures community health and is environmentally sound.

Objective 1.1: Maintain Public Works Specifications utilizing prudent and reasonable technology to ensure adequate infrastructure systems. Include adequate designs to allow for peak usage and control peak flows.

Objective 1.2: Implement asset management plans through capital projects that upgrade existing water, stormwater and sanitary sewer systems to insure long term rate stability.

Objective 1.7: Continue to identify existing areas where deficiencies in the systems occur and could potentially have a detrimental effect on safety, health or the environment.

Objective 1.9: Implement stormwater discharge standards to be included in the Land Development Code revisions.

Goal 4: Continue to provide all Village segments with the best fire protection.

Objective 4.1: Actively recruit volunteers for the Fire Department, and consider the need for a new fire station to assist in recruitment and retention efforts.

Objective 4.2: Consider establishing a limited full-time Fire Department.

Transportation:

Objective 2.2: Review all development proposals to minimize traffic and pedestrian safety concerns.

5.2 Existing Essex and Essex Junction Actions that Support Hazard Mitigation

The following table illustrates how mitigation activities and plans are carried out by various municipal departments, and whether such capabilities are adequate to address hazard vulnerabilities and whether the department, if needed, has the ability to improve policies and programs and programs to unmitigated vulnerabilities.

Table 5-1 Existing municipal capabilities address hazard mitigation, Essex and Essex Junction

Types of Programs & Policies	Description / Details	1) Adequacy of municipal capabilities to address hazards 2) and ability to expand upon or improve policies & programs
Highway Services	Essex Public Works Department, Essex Junction Public Works Department	1) Generally adequate with regards to mitigating the impacts of common hazards. 2) However, the Public Works Departments, through the strategies noted below are taking on a stronger role to mitigate against damages caused by Severe Rainstorm, Fluvial Erosion and Water Pollution.
Highway personnel	11.5 FTE field personnel (Essex) 5 FTE field personnel (Essex Jct.)	1) Generally adequate with regards to mitigating the impacts of common hazards. 2) However, the Public Works Department, through the strategies noted below are taking on a stronger role to mitigate against damages caused by Severe Rainstorm, Fluvial Erosion and Water Pollution.
Water / Sewer Department	Essex Public Works Department, Essex Junction Public Works Department	1) Generally adequate with regards to mitigating the impacts of common hazards. 2) However, the Public Works Departments, through the strategies noted below are taking on a stronger role to mitigate against damages caused by Severe Rainstorm, Fluvial Erosion and Water Pollution.
Water / Sewer Personnel	2.95 FTE water personnel (Essex) 2.95 FTE sewer personnel (Essex) 1.5 FTE water personnel (Essex Jct.) 1.5 FTE sanitation personnel (Essex Jct.) 4.5 FTE WWT personnel (Essex Jct.)	1) Generally adequate with regards to mitigating the impacts of common hazards. 2) No need to expand upon or improve policies & programs with regard to hazards under its purview.

Planning and Zoning personnel	2 FTE planners (Essex) 1 FTE zoning administrator (Essex) 2FTE planning/zoning (Essex Jct.)	1) Generally adequate with regards to mitigating the impacts of common hazards. 2) No need to expand upon or improve policies & programs with regard to hazards under its purview.
Residential Building Code / Inspection	No local building code.	1) Generally adequate with regards to mitigating the impacts of common hazards. New construction must obtain a zoning permit. 2) No need to expand upon or improve policies & programs with regard to hazards under its purview. 3) Note that commercial properties open to the public and all multi-family buildings of 3 units are more must be inspected and permitted by the Vermont Division of Fire Safety.
Town / Municipal Comprehensive Plan	2016 (Essex) 2014 (Essex Junction)	1) As noted at the start of Section 5, several elements of the municipal Comprehensive Plans promote Hazard Mitigation. 2) The Town is currently updating its Plan and will be referencing this 2017 AHMP accordingly.
Zoning Bylaws and Subdivision Regulations	2008 (Essex) 2007 (Essex Junction)	1) Generally adequate with regards to mitigating the impacts of common hazards.. 2) No need, at this time, to expand upon or improve policies & programs with regard to hazards under its purview.
Hazard Specific Zoning (slope, wetland, conservation, industrial, etc.)	Flood Plain, Open Space, Conservation, Open Recreation, Industrial	1) Generally adequate with regards to mitigating the impacts of common hazards.. 2) No need, at this time, to expand upon current flood hazard bylaws. 3) Over the next five years, Town may consider adoption of River Corridor or River Corridor Protection Area zoning regulations.
Participation in National Flood Insurance Program (NFIP) and Floodplain/ Flood Hazard Area Ordinance	Yes / Yes	1) New DFIRMS adopted in 2011. The Town's Administrative Officer is responsible for assuring compliance by landowners with the NFIP in both municipalities. The Zoning Boards of Adjustment review and adjudicate applications for development within the floodplain. 2) No need, at this time, to expand upon NFIP participation.
Open Space Plans; Conservation Funds	None	1) The Town and Village may conserve land in the future

The following table illustrates how Emergency Preparedness, Response & Recovery actions are carried out in the Town.

Table 5-2 Existing municipal emergency services & plans, Essex and Essex Junction

Type of Existing Protection	Description /Details/Comments
Emergency Services	Emergency response personnel may have overlapping responsibilities with other town response organizations.
Police Services	Essex Police Department, serves both Town and Village.
Police Department Personnel	26.2 Paid FTE Officers, 2 Paid FTE Admin, 4 FTE Dispatchers
Fire Services	Essex Town VFD Essex Junction VFD
Fire Department Personnel	40-45 Volunteers (Essex Junction VFD), 35 Volunteers (Essex VFD)
Fire Department Mutual Aid Agreements	Essex, Essex Junction, Westford
EMS Services	Essex Rescue
EMS Personnel	4 full-time employees; 5 part-time employees; 77 volunteers
EMS Mutual Aid Agreements	various through VT EMS District #3
Emergency Plans	
Local Emergency Operations Plan (LEOP)	2016
Primary Shelter	Essex Alliance Church
Replacement Power, backup generator	No
Secondary Shelter	Champlain Valley Exposition Fairgrounds, Essex High School
Replacement Power, backup generator	Champlain Valley has a generator

5.3 Essex and Essex Junction All-Hazards Mitigation Goals

The following goals were first approved by the Town and Village in their 2005 and 2011 AHMPs and approved by Town and Village officials during the development of this 2017 annex.

- 1) Reduce at a minimum, and prevent to the maximum extent possible, the loss of life and injury resulting from all hazards.
- 2) Mitigate financial losses and environmental degradation incurred by municipal, educational, residential, commercial, industrial and agricultural establishments due to various hazards.
- 3) Maintain and increase awareness amongst the town's residents and businesses of the damages caused by previous and potential future hazard events as identified specifically in this Local All-Hazards Mitigation Plan and as identified generally in the *Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan*.

- 4) Recognize the linkages between the relative frequency and severity of disaster events and the design, development, use and maintenance of infrastructure such as roads, utilities and stormwater management and the planning and development of various land uses.
- 5) Maintain existing municipal plans, programs, regulations, bylaws and ordinances that directly or indirectly support hazard mitigation.
- 6) Consider formal incorporation of this Local All-Hazards Mitigation Plan into the municipal comprehensive plan as described in 24 VSA, Section 4403(5), as well as incorporation of proposed new mitigation actions into the municipality's/town's bylaws, regulations and ordinances, including, but not limited to, zoning bylaws and subdivision regulations and building codes.
- 7) Consider formal incorporation of this Local All-Hazards Mitigation Plan, particularly the recommended mitigation actions, into the municipal/town operating and capital plans & programs especially, but not limited to, as they relate to public facilities and infrastructure, utilities, highways and emergency services.

With regards to a more formal process by which the Town and Village will integrate the requirements of this mitigation plan into the Town and Village Comprehensive Plans, as required by Vermont law, municipalities must update their Comprehensive Plans every eight years. During any update process undertaken while this Plan is in effect, the Town and Village will review the recommended Actions detailed below to see if formal incorporation within the Comprehensive Plan (or any Plan implementation tasks) is warranted. Note that the Village will be required to update its Plan in 2019 and the Town will be required to update its plan in 2024.

Additionally, as the CCRPC is tasked with also reviewing and approving each such municipal comprehensive plan for consistency with various requirements in state statute and consistency with the Chittenden County Regional Plan (aka the ECOS 2013 Plan). This review includes a detailed staff critique with recommendations for improvement. This CCRPC review provides another opportunity to formally integrate elements of this local AHMP into the Town's Comprehensive Plan.

With regards to a more formal process by which the Town and Village will integrate the requirements of this mitigation plan while developing the Town and Village annual capital improvement plans/budgets, from 2016-2021, the Town and Village will review the recommended Actions detailed below to see if formal incorporation within these annual capital plans is warranted prior to annual review and voting by Town residents. Additionally, CCRPC staff can assist the town with drafting grant applications to fund mitigation projects.

5.4 Mitigation Actions

The table below records the strategies from the 2011 Plan and progress on their implementation. This table also encapsulates the Town and Village's decision making with regards to which Actions to continue, which to establish as new actions and which to discontinue. During the development of this Municipal AHMP and its parent Multi-Jurisdictional AHMP, FEMA staff indicated to the CCRPC a need to separate out or remove strategies which are more properly considered to be Preparedness, Response or Recovery strategies rather than Mitigation.

Additionally, upon revisiting and reviewing the 2011 actions and devising action for this 2017 local AHMP, CCRPC and municipal staff thought it would be best to focus on known and likely actions with a high likelihood of implementation versus consideration of more expansive but largely aspirational strategies.

Table 5-3 Progress on the actions of the 2011 Essex and Essex Junction All-Hazards Mitigation Plan

Action Primary Responsible Entity	Task	Brief Description	Progress since 2011 and recommendations for 2017 Plan
#1 Complete fluvial geomorphology assessment and develop strategies in response to identified risk			
TBD, determined by funding.	River Corridor Management Plans	Where Phase I and II assessments are complete, develop a River Corridor Management Plan.	A River Corridor Management Plan has been completed for the Browns River. Project identification is available for Indian Brook. Additionally, a Flow Restoration Plan is in place for the Indian and Sunderland Brooks. COMPLETED, REMOVE FROM 2017 PLAN.
Town Manager, Planners	Fluvial Erosion Hazard Mitigation Implementation	Implement strategies from above referenced Corridor Management Plan to mitigate losses from identified fluvial erosion hazards.	Essex: <ul style="list-style-type: none"> Near Margaret Street, a failed storm drain system draining into Alder Brook was replaced to minimize erosion from the outfall The town is working to address erosion on a small tributary to Alder Brook near Fern Hollow Road INCLUDE ALDER BROOK TRIBUTARY WORK IN 2017 PLAN.
Town Manager, Town Planner	Flood Insurance Rating Map Updates	Review draft FIRM data. Develop strategies to mitigate losses from identified flood hazards.	The FIRM data have been reviewed. A project was implemented on Woods End Road to reduce the risk for flooding. Essex Junction has joined NFIP. COMPLETED, REMOVE FROM 2017 PLAN.
#2 Evaluate capabilities of existing road and stormwater management infrastructure			
Road Foreman	Infrastructure Assessment for Stormwater Vulnerability	Assess the vulnerability and operational capability of municipal roads, culverts and stormwater infrastructure.	Essex developed a 2014 Highway Transportation Improvement Plan to identify road problems and prioritize repairs. Essex also repaired failed portions of its municipal storm drainage system on Londonderry Lane in 2016. Essex Junction has been involved in creating a long-term maintenance and upgrade plan for all underground water, sewer and stormwater infrastructure. A catch basin was removed from Hillcrest Road and nature drainage was restored. <u>ASSESSMENT IS NOT CONSIDERED MITIGATION. REMOVE FROM NEW PLAN</u>
Road Foreman	Infrastructure Assessment for Fluvial Erosion/Landslide Vulnerability	Assess the vulnerability and operational capability of municipal roads, culverts, bridges and other infrastructure to fluvial erosion.	Development is now prohibited on steep slopes in Essex and Essex Junction. Limited analysis has been completed in the Alder Brook and Browns River watersheds. After a FEMA-declared disaster in 2103, repairs occurred in the Browns River watershed. <u>ASSESSMENT IS NOT CONSIDERED MITIGATION. REMOVE FROM NEW PLAN</u>

Road Foreman	Culvert Upgrades	Upgrade culverts and ditching along roads to mitigate against repeated damages from stormwater or spring snowmelt.	Essex annually replaces 15 to 20 failing metal culverts. Projects undertaken in Essex include: <ul style="list-style-type: none"> •Box culvert south of Doubleday Lane was replaced with a system to enhance stormwater infiltration •Monitoring is ongoing for the Dual culverts on a tributary to the Browns River near Old Stage Road •On Weed Road, a culvert was upsized, nearby embankments were strengthened and upstream ditches were stone lined in responses to flooding in 2013 •A culvert on Indian Brook under Lost Nation Road was replaced in 2016 CONTINUE FOR 2017 PLAN
Road Foreman	Continued Monitoring of Vulnerable Infrastructure	Monitor bridges and culverts with erosion and scouring concerns.	Monitoring is ongoing. Projects undertaken in Essex include: <ul style="list-style-type: none"> •Monitoring is ongoing for the Dual culverts on a tributary to the Browns River near Old Stage Road MONITORING IS NOT CONSIDERED MITIGATION. REMOVE FROM NEW PLAN
Road Foreman	Road Improvement	Consider paving certain road sections to lower overall maintenance costs, improve snow plowing speeds and improve overall capability of roads to handle current and projected traffic volumes.	The Town of Essex Selectboard has a long-standing public works specification that all new roads shall be paved and a policy not to pave any existing gravel roads. As roads are repaired or new paved roads are built, necessary drainage improvements are completed. CONTINUE FOR 2017 PLAN
Road Foreman	Erosion/Landslide Mitigation	Undertake erosion or landslide mitigation projects where roads regularly incur damage from adjacent rivers/streams and hillsides.	The Foster Road Municipal Park erosion mitigation project has been completed. A significant eroded area has been restored and the topography has been revised to reduce the potential for further erosion. On Osgood Hill, Essex used 2013 FEMA disaster money and a Vermont Rural Roads Grant to stone line the ditch and upsize some culverts. The ditch erosion has been fixed. RENAME AS DRAINAGE IMPROVEMENTS FOR 2017 PLAN

5.4.1 Current Capabilities and Need for Mitigation Actions

The Town Comprehensive Plan’s policies and programs that support hazard mitigation and the progress noted above demonstrate the variety of policies and actions forming the foundation of this All Hazards Mitigation Plan. As detailed in the Table below, generally, the Town considers its existing capabilities, regulatory structure and programs as adequate to address its vulnerabilities however continuation of existing mitigation actions or the implementation of new actions are warranted for the 5-year period this Plan is in effect.

Table 5-4 Town of Essex and Village of Essex Junction: Capabilities to address vulnerabilities from natural hazards

Hazard	Adequacy of Municipal Capabilities to address associated vulnerabilities (Excellent, Good, Average, Below Average)	Additional expansion or improvement in policies & programs needed to address hazard given long-term vulnerability
Severe Winter Storm	Excellent	No
Flooding	Excellent	Yes, see actions below.
Fluvial Erosion	Good	Yes, see actions below
Severe Rainstorm	Good	Yes, see actions below.
Extreme Temperatures	Good	No, rare occurrence and extent, impact & vulnerabilities are limited.
Wildfire	Excellent	No, rare occurrence and extent, impact & vulnerabilities are limited.

Table 5-5 Town of Essex and Village of Essex Junction: Capabilities to address vulnerabilities from technological hazards

Hazard	Adequacy of Municipal Capabilities to address vulnerabilities (Excellent, Average, Below Average)	Additional expansion or improvement needed to address hazard given long-term vulnerability
Major Transportation Incident	Good + State agencies provide support	No, rare occurrence and extent, impact & vulnerabilities are limited.
Power Loss	Average. Private utilities are primarily responsible	No given that events are limited in duration and vulnerabilities are short-lived.
Hazardous Materials Incident	Good + State agencies provide support	No, rare occurrence and extent, impact & vulnerabilities are limited.
Water Service Loss	Excellent.	No, rare occurrence and extent, impact & vulnerabilities are limited.
Gas Service Loss	Average. Private utility is primarily responsible.	No, rare occurrence and extent, impact & vulnerabilities are limited.
Telecommunications Failure	Private utilities are primarily responsible	No, rare occurrence and extent, impact & vulnerabilities are limited.
Other Fuel Service Loss	Private businesses are primarily responsible	No, rare occurrence and extent, impact & vulnerabilities are limited.

Sewer Service Loss	Excellent.	No, rare occurrence and extent, impact & vulnerabilities are limited.
Water Pollution	Good	Yes, see actions below
Invasive Species	Average	No, rare occurrence and extent, impact & vulnerabilities are limited.

Table 5-6 Town of Essex and Village of Essex Junction: Capabilities to address vulnerabilities from societal hazards

Hazard	Adequacy of Municipal Capabilities to address vulnerabilities (Excellent, Average, Below Average)	Additional expansion or improvement in policies & programs needed to address hazard given long-term vulnerability
Crime	Good +State agencies provide support.	No. Municipality participates in programs lead by regional and state entities.
Economic Recession	Good +State Agencies provide support	No Diversity of county economy mitigates vulnerabilities. The Town considers its municipal plan as also supportive of the goal of economic diversification.
Terrorism	Good +State & Federal agencies provide support	No, rare occurrence.
Civil Disturbance	Good + State agencies provide support	No, rare occurrence
Epidemic	Average +State & Federal agencies provide support	No, rare occurrence. The Town’s abilities to mitigate an epidemic are limited The Town relies on state and school efforts related to epidemic preparedness, prevention and mitigation, and medical facilities and services in neighboring communities for response.
Key Employer Loss	Good +State agencies provide support	No. Diversity of employers in municipality mitigates vulnerabilities.

Note that this Plan does not recommend a discrete mitigation action regarding “future development.” Our justification for this is as follows:

- The municipality’s regulations, programming and staffing have prevented and will prevent new buildings and infrastructure being constructed in areas vulnerable to hazards.

As documented in detail in section 4.6.2, despite active residential and commercial development, no structures and infrastructure subject to municipal regulation, have been constructed in either the Special Flood Hazard Areas or mapped River Corridor Protection Areas.

- For the next five years, there are NO known or anticipated plans for the construction of municipal infrastructure in areas vulnerable to hazards.
- There is no evidence that unwise or poorly regulated development in the municipality has been a significant contributor to putting people or property in harm's way.

Therefore, the reader will note that the proposed Mitigation Actions for the next five years represent a much more focused and achievable list of actions focused on those hazards (e.g. Severe Rainstorm, Flooding, Fluvial Erosion, Water Pollution, etc.) that cause more frequent if less dramatic damages. It is these more mundane damages of erosion along road beds, damaged small culverts and the ongoing struggle to maintain and improve water quality (which cost the municipality and its taxpayers both time and money) that deserve the most attention rather than hazards that could hypothetically cause damage but which are rare and wherein the benefit-to-cost ratio for potential mitigation actions is weak (e.g. Major Transportation Incident, Hazardous Material Incident, Terrorism). No new discrete action is recommended with regards to Education & Awareness as the Town does not have adequate funds or staff to undertake such an effort nor is such an effort warranted given the identified vulnerabilities. **Lastly, it is also worthwhile to note that in comparison to the 2011 Plan the priorities for this 2017 Plan have not changed. The hazards and vulnerabilities remain the same as well. Indeed, the only real change is that there is a more heightened awareness due to the severity of recent disasters starting in 2011 to the present.**

5.4.2 Specific Mitigation Actions

The Town and Village plan to conduct the following mitigation actions during the 5 year period this Plan is in effect.

CATEGORY A: Improve capabilities of existing road and stormwater management infrastructure

Hazards Addressed: Severe Rainstorm, Flooding, Fluvial Erosion and Water Pollution

Vulnerabilities Addressed: Damage to new/existing public infrastructure and buildings; temporary closures of roads and bridges including from debris; temporary loss of power and/or telecommunications and temporary isolation of vulnerable individuals such as the elderly or those in poverty.

Status: Ongoing

Lead Responsible Entities: Town and Village Public Works Department

Potential Partner Entities: VT ANR; Vermont Agency of Transportation (VTrans); CCRPC

Timeframe: **Month 2017** through March 5, 2022

Funding Requirements and Sources: Various Federal and State grants; municipal operating funds only if sufficient. Contingent on available resources and funding.

Rationale/Cost-Benefit Review: These areas suffer low-level but consistent damage during heavy rains and snowmelt. Mitigating these problems would reduce short and long term maintenance costs and improve the flow of traffic for personal and commercial purposes during damage events.

Specific Identified Actions:

Action A-1: Stormwater Management

Essex is putting a proposal out for bid to replace failed portions of the municipal storm drainage system on Londonderry Lane. The pipes will be upsized. The highway department is working with the town's GIS staff to map and assess all culverts, and a comprehensive town wide hydraulic analysis on all culverts will be completed to comply with new state road requirements.

Action A-2: Plan for Repair of Vulnerable Infrastructure

Seek funds to develop cost estimates, plans and ideally construction funds to address various bridges and culvert locations that have erosion and scouring concerns. In Essex, Lamore Road segments are still being monitored and are an ongoing unaddressed concern. Culverts must continue to be monitored and possibly replaced on Osgood Hill. The town plans a major culvert replacement on Indian Brook under Lost Nation Road. The town plans to continue annually replacing 15 to 20 failing metal culverts and the Village anticipates at least 5 culverts annually.

Action A-3: Erosion Mitigation

Both municipalities should undertake erosion mitigation projects at various locations where municipal roads regularly incur damage from adjacent rivers/streams. Specific locations for projects in the future include those listed above.

Action A-4: Fluvial Erosion Hazard Mitigation Implementation

Essex is working to address erosion on a small tributary to Alder Brook near Fern Hollow Road.

CATEGORY B: Operate an effective Stormwater Management System

Hazards Addressed: Severe Rainstorm, Water Pollution

Vulnerabilities Addressed: Damage to public infrastructure; Temporary road and bridge closure and Budgetary impacts

Status: Ongoing

Primary Responsible Entity: Essex Public Works Director and Stormwater Coordinator; Essex Junction Public Works Department

Timeframe: Month 2017 through March 5, 2022

Funding Requirements and Sources: FEMA or other hazard mitigation grants; FHWA grants; VTrans grants; Municipal Operating and Capital budgets only if sufficient

Rationale / Cost-Benefit Review: Operation of municipal stormwater management systems and implementation of the Indian Brook Flow Restoration Plan and the Sunderland Brook Flow Restoration Plan will assure that the Town remains in compliance with its MS4 permit and that various programs and projects will be implemented to better detain, infiltrate and treat runoff during severe rainstorm events. This will act to reduce overall water levels and velocity. The project will also reduce pollutant and phosphorus loads into local streams and Lake Champlain.

Specific Identified Actions:

Action B-1: Mitigate impacts of runoff such as excessive flow, sediment load and excessive phosphorus discharge.

The Town will conduct the following projects on an annual basis:

- street sweeping;
- catch basin cleaning;
- ditch improvements;
- review of land development proposals to assure proper stormwater management, and the Town and Village may also update their Low Impact Development bylaws

Action B-2: Begin implementation of Flow Restoration Plan for Indian Brook and Sunderland Brook .

Flow Restoration Plans were filed in late 2016 with the State’s Agency of Natural Resources. These plans are part of the town’s obligations under its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Stormwater Sewer Systems (MS4) permit. In keeping with the details of the Plan, the town will seek to implement the Best Management Practices (i.e., new projects and retrofits) identified in detail in the Plan such as bump-outs, green gutters, pond retrofits, infiltration basins. The projects will be completed over the next 20 years. At this time it is not known which exact projects will be implemented in the next five years.

Grants were just secured (Jan. 2017) for the following projects and will be implemented in 2017 and 2018:

Indian Brook FRP:

Village (2): Brickyard/Mansfield gravel wetlands retrofit; Main Street / Fairview Drive gravel wetlands retrofit;

Town (1): Sydney Drive infiltration basin

Action B-3: Develop Phosphorus Control Plan

Develop and begin to implement plans to reduce overall loading of phosphorus from within municipal boundaries that is eventually discharged into Lake Champlain. The exact nature and scope of these plans are not known at this time but MS4 permitted municipalities will be required to develop these plans as part of new revisions to their permits triggered by issuance of the new Lake Champlain Total Maximum Daily Load

5.4.3 Prioritization of Mitigation Strategies

The above mitigation actions were listed in order of priority. Descriptions of specific projects, where available, are listed in Section 5.4.2 and in Table 5-3 below. Because of the difficulties in quantifying benefits and costs, it was necessary to utilize a simple “Action Evaluation and Prioritization Matrix” in order to effect a simple prioritization of the mitigation actions identified by the jurisdiction. The following list identifies the questions (criteria) considered in the matrix so as to establish an order of priority. Each of the following criteria was rated according to a numeric score of “1” (indicating poor), “2” (indicating below average or unknown), “3” (indicating good), “4” (indicating above average), or “5” (excellent).

- Does the action respond to a significant (i.e. likely or high risk) hazard?
- What is the likelihood of securing funding for the action?
- Does the action protect threatened infrastructure?
- Can the action be implemented quickly?
- Is the action socially and politically acceptable?
- Is the action technically feasible?
- Is the action administratively realistic given capabilities of responsible parties?
- Does the action offer reasonable benefit compared to its cost of implementation?
- Is the action environmentally sound and/or improve ecological functions?

The ranking of these criteria is largely based on best available information and best judgment, as many projects are not fully scoped out at this time. The highest possible score is 45.

It is anticipated that, as municipalities begin to implement the goals and actions of their Mitigation Strategies, they will undertake their own analysis in order to determine whether or not the benefits justify the cost of the project. Also, all proposed FEMA mitigation projects will undergo a benefit-cost analysis using a FEMA BCA template and approved methodology.

Based on feedback from FEMA, CCRPC Staff have concluded that several strategies previously identified in 2011 by the Town and the Village as mitigation strategies are more accurately classified as preparedness, response and recovery strategies. These strategies are not intended to mitigate against the hazards identified in Section 3, and should not be evaluated as such. As such, these strategies are not included in the prioritization below. However, they are discussed at the end of the plan to serve as a record of the strategies being undertaken by the Town and Village in order to prepare for, respond to and recover from damage caused by those hazards.

Other than the reclassification of some strategies as non-mitigation strategies, there have not been significant changes in the prioritization of strategies between 2011 and now, with one notable exception. Strategies related to landslide assessment have been removed from the plan. CCRPC and municipal staff, in consultation with FEMA, have concluded that landslides are not a discrete threat in Chittenden County and are adequately captured in the plan’s discussion of fluvial erosion. Additionally, further work on the development of a Vermont-specific landslide risk estimation protocol has not progressed making landslide-specific strategies inappropriate at this time for inclusion in the County plan and its annexes.

Note that these priorities are within categories as this is more appropriate rather than ranking project that address different hazards.

Table 5-7 Essex and Essex Junction action evaluation and prioritization matrix

Mitigation Category & Actions	Responds to significant (likely or high risk) hazard	Likelihood of funding	Protect threatened infrastructure	Implemented quickly	Socially / Politically acceptable	Technically Feasible	Administratively Realistic	Reasonable cost to benefit	Environmentally sound	TOTAL SCORE
CATEGORY A: Improve capabilities of existing road and stormwater management infrastructure										
Action A-1: Stormwater Management	5	5	5	5	4	5	5	5	5	44
Action A-2: Plan for Repair of Vulnerable Infrastructure	4	3	5	3	4	4	3	3	5	34
Action A-3: Erosion Mitigation	5	3	5	3	4	5	4	5	5	39
Action A-4: Fluvial Erosion Hazard Mitigation Implementation	3	3	5	3	4	4	3	3	5	33
CATEGORY B: Implement Flow Restoration Projects										
Action B-1: Mitigate impacts of runoff such as excessive flow, sediment load and excessive	4	4	5	4	5	5	5	4	5	41
Action B-2: Begin implementation of Flow Restoration Plans for Indian Brook and Sunderland Brook.	4	4	4	4	5	5	5	4	5	40
Action B-3: Develop Phosphorus Control Plan	4	3	3	4	4	5	4	3	5	35
5 = Excellent; 4=Good; 3=Average; 2=Below Average or Unknown; 1=Poor										

5.5 Implementation and Monitoring of Mitigation Strategies

The following Table is intended to aid municipal officials in implementing their mitigation actions and to facilitate the annual monitoring & evaluation of the plan as outlined in Section 1.7.4 above.

Table 5-8 Town of Essex and Village of Essex Junction Mitigation Actions: Implementation Monitoring Worksheet

CATEGORY A: Improve capabilities of existing road and stormwater management infrastructure to address identified vulnerable infrastructure to mitigate Severe Rainstorm, Flooding, Fluvial Erosion and Water Pollution and their associated vulnerabilities of: <ul style="list-style-type: none"> • Damage to new/existing public infrastructure and buildings • Temporary road and bridge closure • Budgetary impacts • Temporary loss of power and/or telecommunications • Temporary isolation of vulnerable individuals 	
Action (Primary Responsible Entity)	Report on Progress since Plan adoption <i>See Section 5.4 for details on locations identified during Plan development.</i>
<u>Action A-1: Stormwater Management</u> (Town and Village Public Works)	-note any grants or funding source investigated -note any grants applied for/obtained -note progress on stormwater management projects
<u>Action A-2: Plan for Repair of Vulnerable Infrastructure</u> (Town and Village Public Works)	-note progress on repairs and upgrades
<u>Action A-3: Erosion Mitigation</u> (Town and Village Public Works)	-note progress on erosion mitigation projects
<u>Action A-4: Fluvial Erosion Hazard Mitigation Implementation</u> (Town and Village Public Works, DEC)	-note progress of FEH mitigation projects
CATEGORY B: Operate an effective Stormwater Management System to mitigate Severe Rainstorm and Water Pollution and their associated vulnerabilities of: <ul style="list-style-type: none"> • Damage to new/existing public infrastructure and buildings • Temporary road and bridge closure • Budgetary impacts 	
Action (Primary Responsible Entity)	Report on Progress since Plan adoption <i>See Section 5.4 for details on locations identified during Plan development.</i>
<u>Action B-1: Mitigate impacts of runoff such as excessive flow, sediment load and excessive phosphorus discharge.</u> (Town & Village Public Works)	-annual # basins cleaned -annual # street miles swept -note any progress on improvements to zoning bylaws to reduce excess flow, sediment loading or excess phosphorus discharge

<u>Action B-2: Begin implementation of Flow Restoration Plans for Indian Brook and Sunderland Brook</u> (Essex Public Works Director)	-project types and locations and year constructed/installed
<u>Action B-3: Develop Phosphorus Control Plan</u> (Town & Village Public Works)	-progress on development of plan and filing to State

5.6 Implementation of Preparedness, Response and Recovery Strategies

Based on feedback from FEMA, CCRPC Staff have concluded that several strategies previously identified in 2011 by the Town of Essex and Village of Essex Junction as mitigation strategies are more accurately classified as preparedness, response and recovery strategies. These strategies are not intended to mitigate against the hazards identified in Section 3, and should not be evaluated as such. Rather, they are included here to serve as a record of the strategies being undertaken by the Town in order to prepare for, respond to and recover from damage caused by those hazards. The table below records the strategies from the 2011 Plan and progress that has been made towards them.

Table 5-9 Town of Essex and Village of Essex Junction: Progress on Preparedness, Response and Recovery Strategies since 2011

Action Primary Responsible Entity	Task	Brief Description	Progress
#1 Maintain Sufficient Emergency Service Capabilities to Address Likely Terrorism Threats			
Police Chief; Essex Junction and Essex Volunteer Fire Chiefs	Maintain and Improve Capabilities	Maintain adequate levels of planning, staffing, training and equipment to mitigate against terrorism threats. Coordinate planning and training activities with State resources and with those of other Chittenden County municipalities.	Maintaining a sufficient number of volunteers is a challenge for both departments, especially for calls during business hours. The Essex Junction Fire Department feels prepared for such an issue, but the Essex Fire Department is concerned about their ability to act as first responders. The Essex Fire Department is also concerned about having the correct equipment and an adequate water supply to meet the needs of the growing number of larger and taller buildings in the town. The Essex Police Chief feels that there are sufficient levels of planning and personnel to address a terrorist threat. The department hopes to hire more officers.
Police Chief; Essex Junction and Essex Volunteer Fire Chiefs	Maintain Data and Mobile Technology	Continue to review and update data, and continue to implement mobile technology so that data can be readily accessed in the field in the case of an emergency.	The Essex Junction Fire Department received a grant from the VDEMHS to provide all personnel with digital portable radios. The Department recently bought 4 iPads equipped with cellular data capabilities so that personnel can quickly look up data and pre-plans when responding to calls.









			<p>The Essex Fire Department recently upgraded to a cloud system for their data and files. They do not have mobile access at this time, but could easily convert to mobile access.</p> <p>All police vehicles are now equipped with GPS units with current position information available to dispatchers and supervisors.</p> <p>Carrier service is available to Essex and Essex Junction municipal personnel during emergencies, with radio backup. However, coverage is not consistent and data service is not available in all parts of Essex Town. Narrow radio banding requirements can also cause radio deficiencies.</p> <p>In 2014 the Essex Police Department updated their devices for accessing mobile data.</p>
#2 Maintain and improve capabilities of existing and potential public shelters			
Emergency Management Director	Confirm Existing Shelter Capability	Confirm capabilities of existing shelters, maintain and improve upon if needed.	The Essex Alliance Church serves as the primary shelter, but does not have a generator. The church is moving to a new building in Williston, and it is unclear whether their current building will stay as a shelter. If the church is no longer available as the primary shelter, that role will be assumed by either the Champlain Valley Expo or the Essex High School. However, while personnel at the Alliance Church have received Red Cross training, personnel at the school and expo have not. This would need to be remedied.
Emergency Management Director	Investigate Alternate Shelters	Investigate capabilities of other buildings sufficient to serve as smaller shelters.	The Essex Junction Village Office, local schools and the Champlain Valley Expo are all available for use as secondary shelters, depending on their event schedules. None of the possible secondary shelters have generators.
#3 Ensure town and school emergency plans are fully coordinated; maintain operation of a School Safety Committee.			
Essex Fire Chief, Essex Junction Fire Chief, Emergency Management Director	Joint Study of Staffing Needs	Conduct a joint study of the firefighting staff needed to maintain adequate service in the growing communities.	Both departments evaluate their staffing needs often and express the need for more members. Any discussion of staff changes will involve the Town and Village Manager. There are no plans for more full-time staff in the Essex Junction or Essex Fire Departments due to budgetary constraints.
#4 Examine current and future staffing needs for fire departments to ensure adequate fire protection in the Town and Village.			
Emergency Management Director, Fire Chief, Police Chief	Evacuation and Sheltering Exercises	Conduct evacuation drills or exercises and evaluate performance.	Regular school-based drills are conducted and evaluated. No town-wide drills have been conducted.
Emergency Management Director, Fire Chief, Police Chief	Evacuation and Sheltering Plans	Review evacuation, sheltering, and relocation plans based on results of drills, exercises, and actual incidents.	Some progress has been made. For example, the town rarely opens CHMS as a shelter during disasters now because so few people use it. People are more likely to stay with relatives.

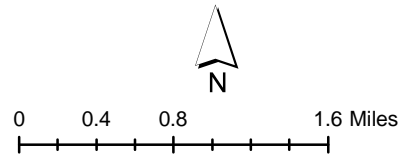
#5 Raise public awareness of hazards, hazard mitigation and disaster preparedness			
Police Department Chief; Essex Fire Chief, Essex Junction Fire Chief	School Programs	Continue school programs to raise student awareness of hazards, safety, preparedness and prevention.	<p>Both departments make annual presentations to elementary school students about fire safety. Fire extinguisher training is available for students at the Essex Center for Technology. The Essex Fire Department also holds a student art contest for their Fire Safety Calendar.</p> <p>The Essex Police Department gives school safety presentations, especially focused on preventing substance abuse.</p>

Figure 1.1 Geography

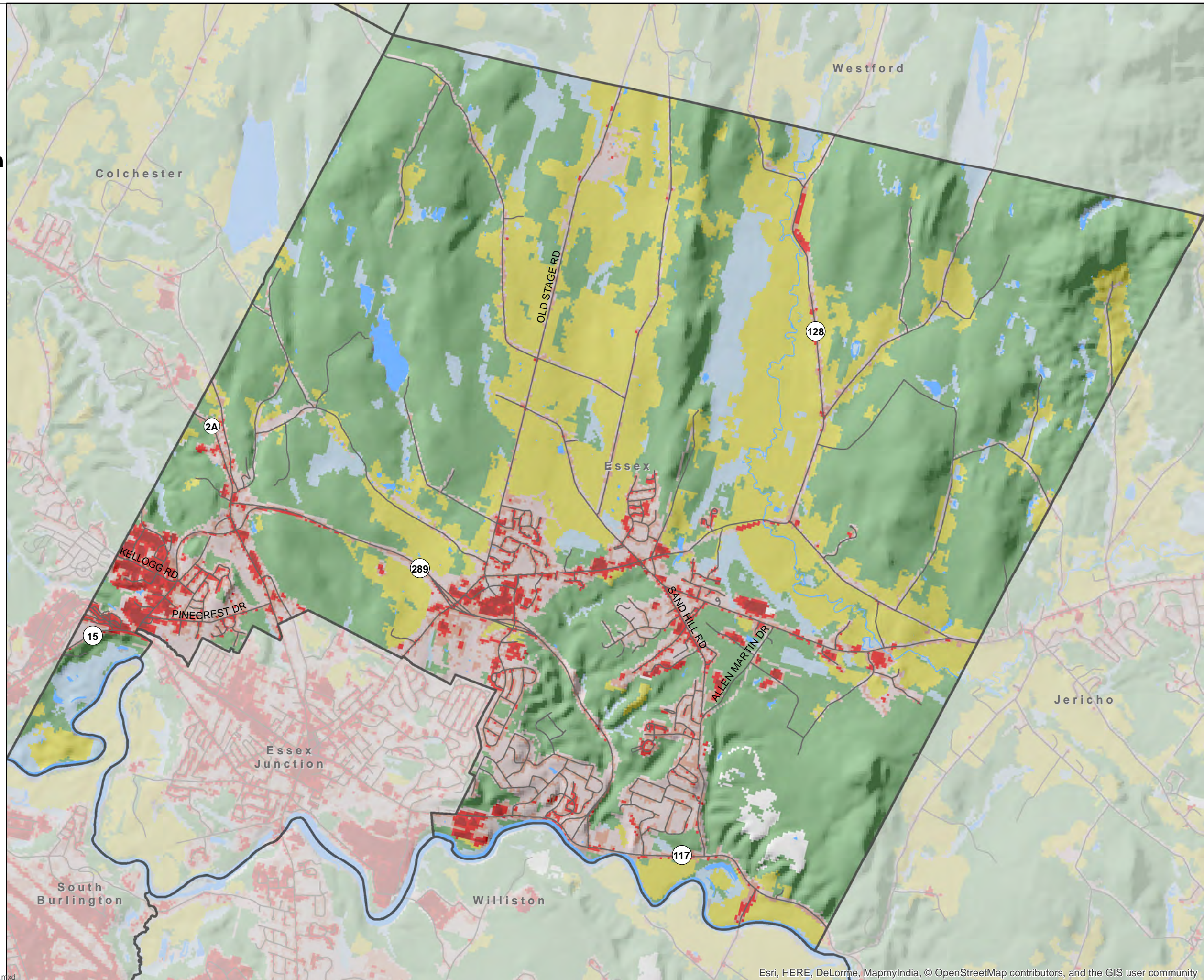
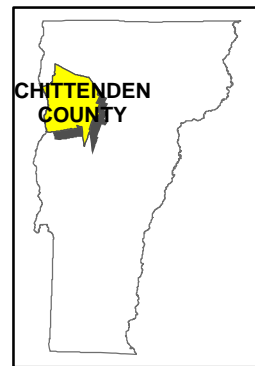
Essex, Vermont 2017 All-Hazards Mitigation Plan

Land Cover

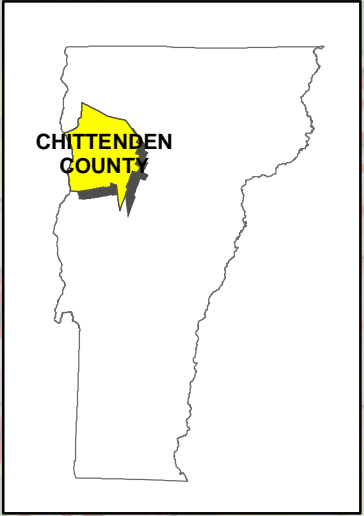
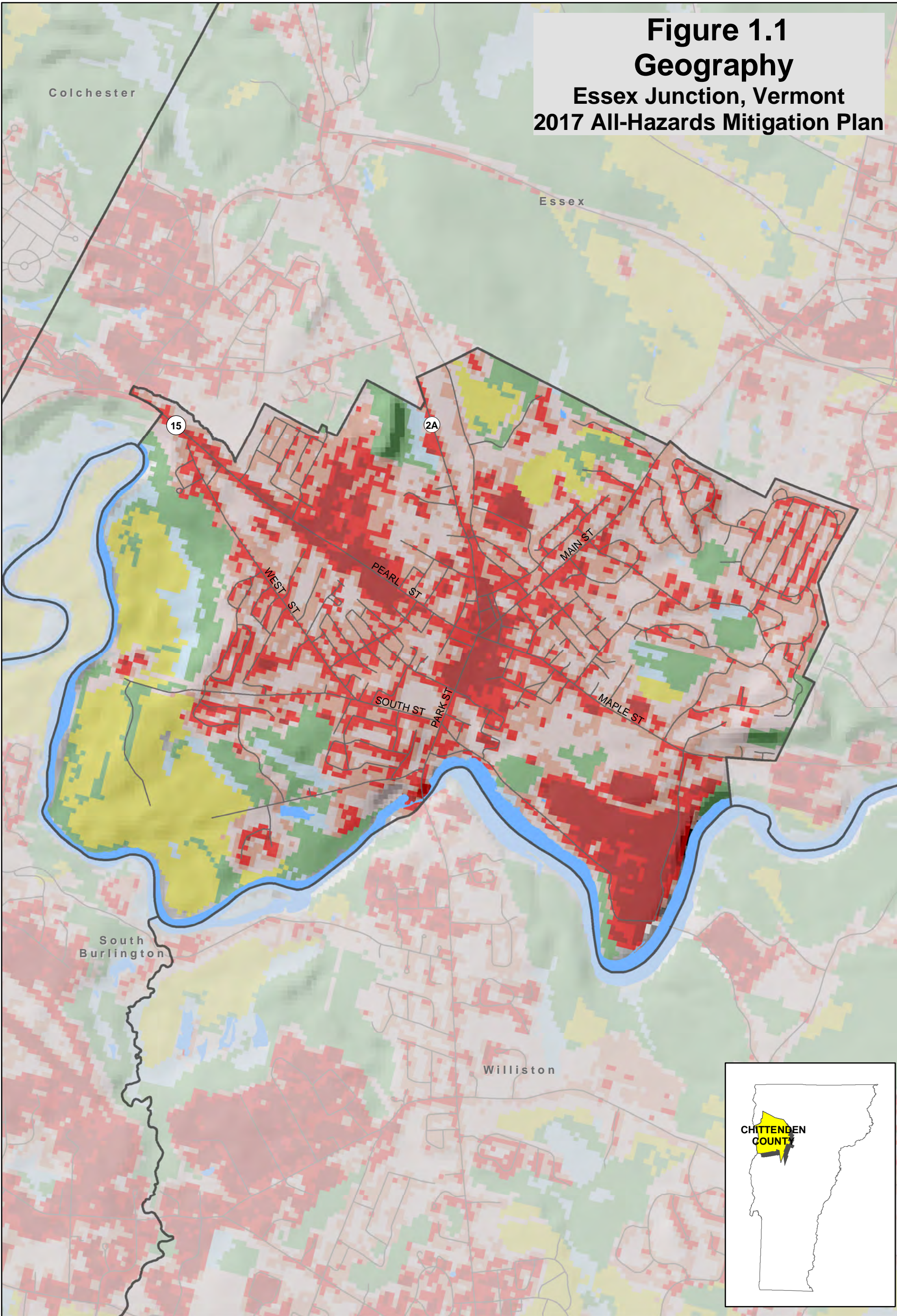
-  Developed, Open Space
-  Developed, Low Intensity
-  Developed, Medium Intensity
-  Developed, High Intensity
-  Barren Land
-  Forest
-  Pasture/Crops
-  Wetlands








DATA SOURCES:
Land Cover - NLCD, 2011
Hillshade - VCGI



**Figure 1.1
Geography**
Essex Junction, Vermont
2017 All-Hazards Mitigation Plan



Land Cover

- | | | | |
|---|-----------------------------|---|---------------|
|  | Developed, Open Space |  | Barren Land |
|  | Developed, Low Intensity |  | Forest |
|  | Developed, Medium Intensity |  | Pasture/Crops |
|  | Developed, High Intensity |  | Wetlands |

DATA SOURCES:
Land Cover - NLCD, 2011
Hillshade - VCGI

0 0.2 0.4 0.8 Miles

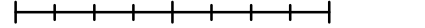





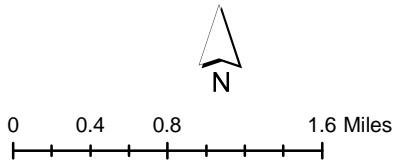



Figure 1.2 Housing and Employment

Essex, Vermont 2017 All-Hazards Mitigation Plan

-  Congregate Housing*
-  Mobile Home
-  Multi-family
-  Single Family
-  Employment Locations

*Congregate Housing includes:
Nursing Homes, Assisted Living
Residence, Therapeutic Community
Residence, and Level III Residential
Care Homes.



DATA SOURCES:
Mobile Home, Multi-family, Single-family- E911,2015
Employment Locations -CCRPC, 2013
Congregate Housing-VT Dept. Aging, Independent Living, 2015

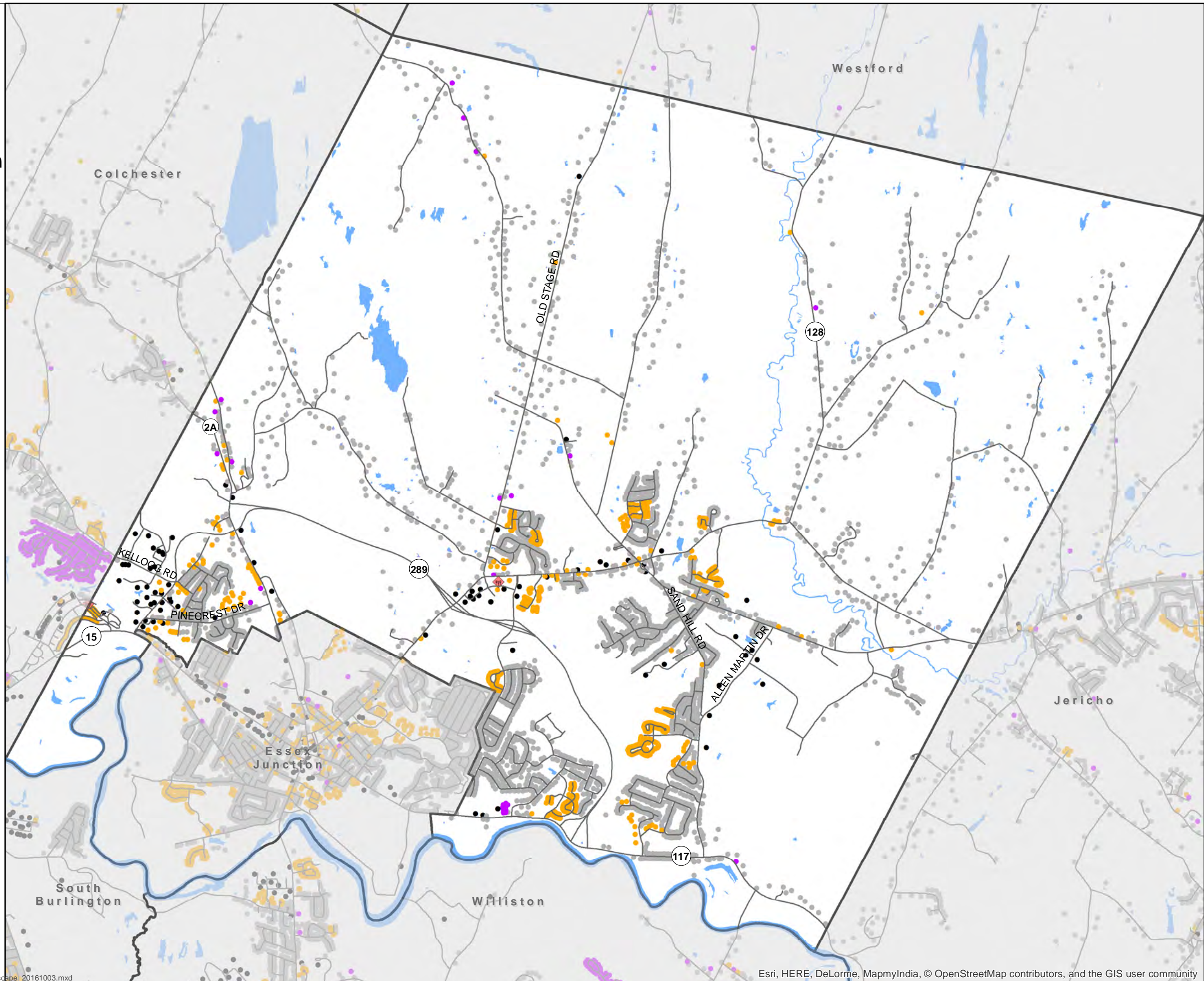
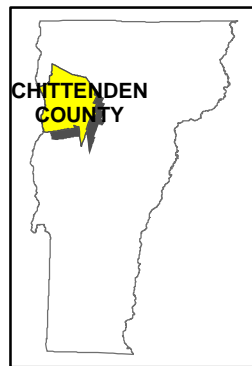
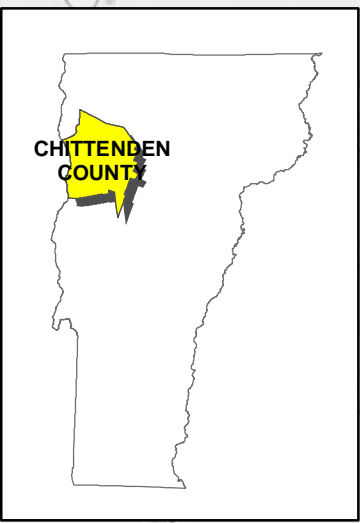
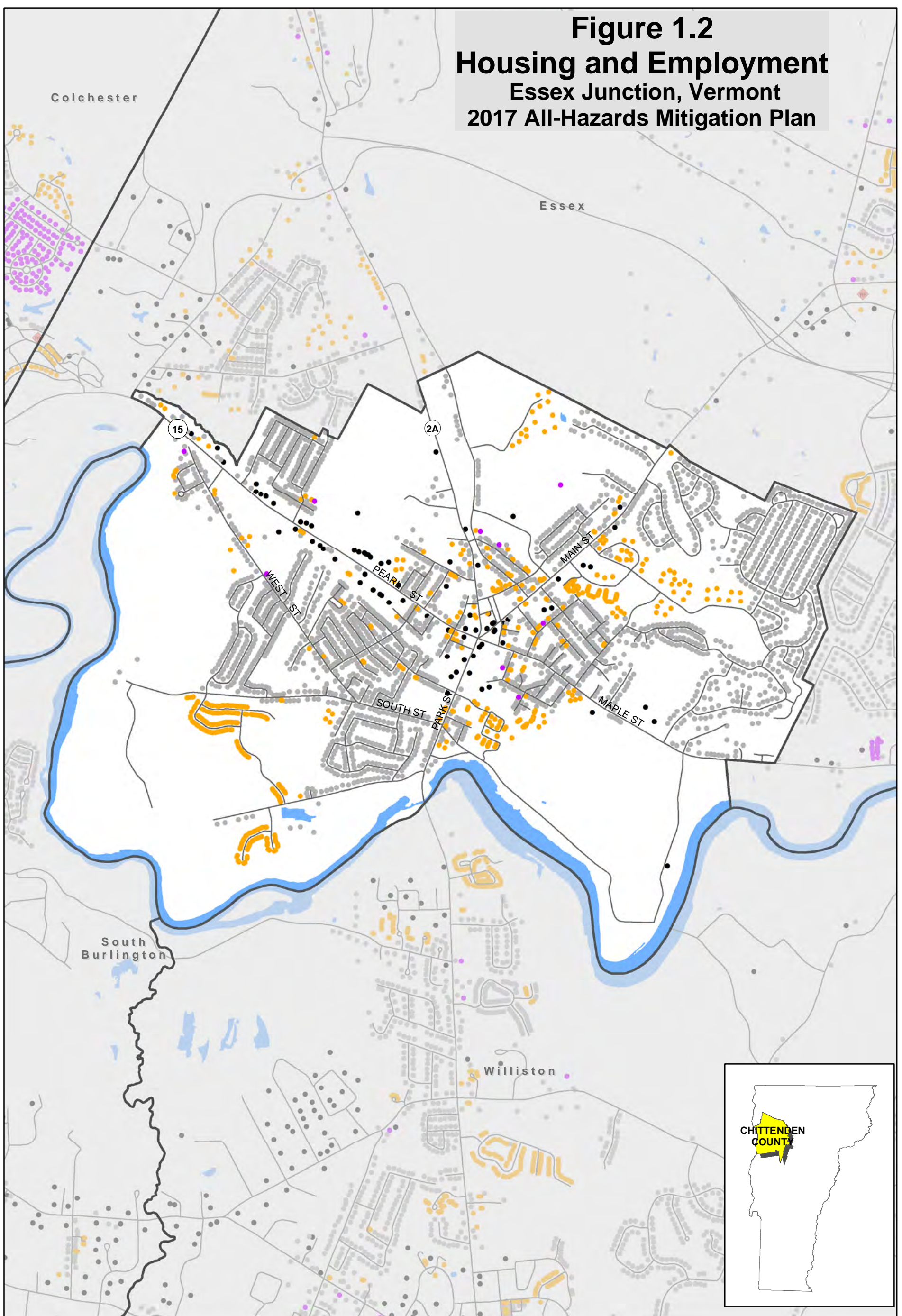


Figure 1.2 Housing and Employment Essex Junction, Vermont 2017 All-Hazards Mitigation Plan



Housing

- Mobile Home
- Multi-family
- Single Family
- ◆ Congregate Housing*

● Employment Locations

*Congregate Housing includes:
Nursing Homes, Assisted Living
Residence, Therapeutic Community
Residence, and Level III Residential
Care Homes.

DATA SOURCES:

Mobile Home, Multi-family, Single-family- E911, 2015
Employment Locations - CCRPC, 2013
Congregate Housing-VT Dept. Aging, Independent Living, 2015

0 0.2 0.4 0.8 Miles

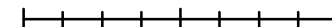
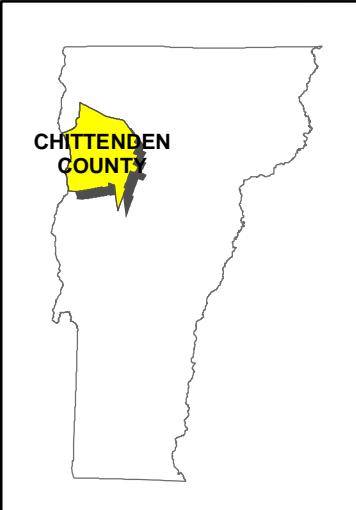
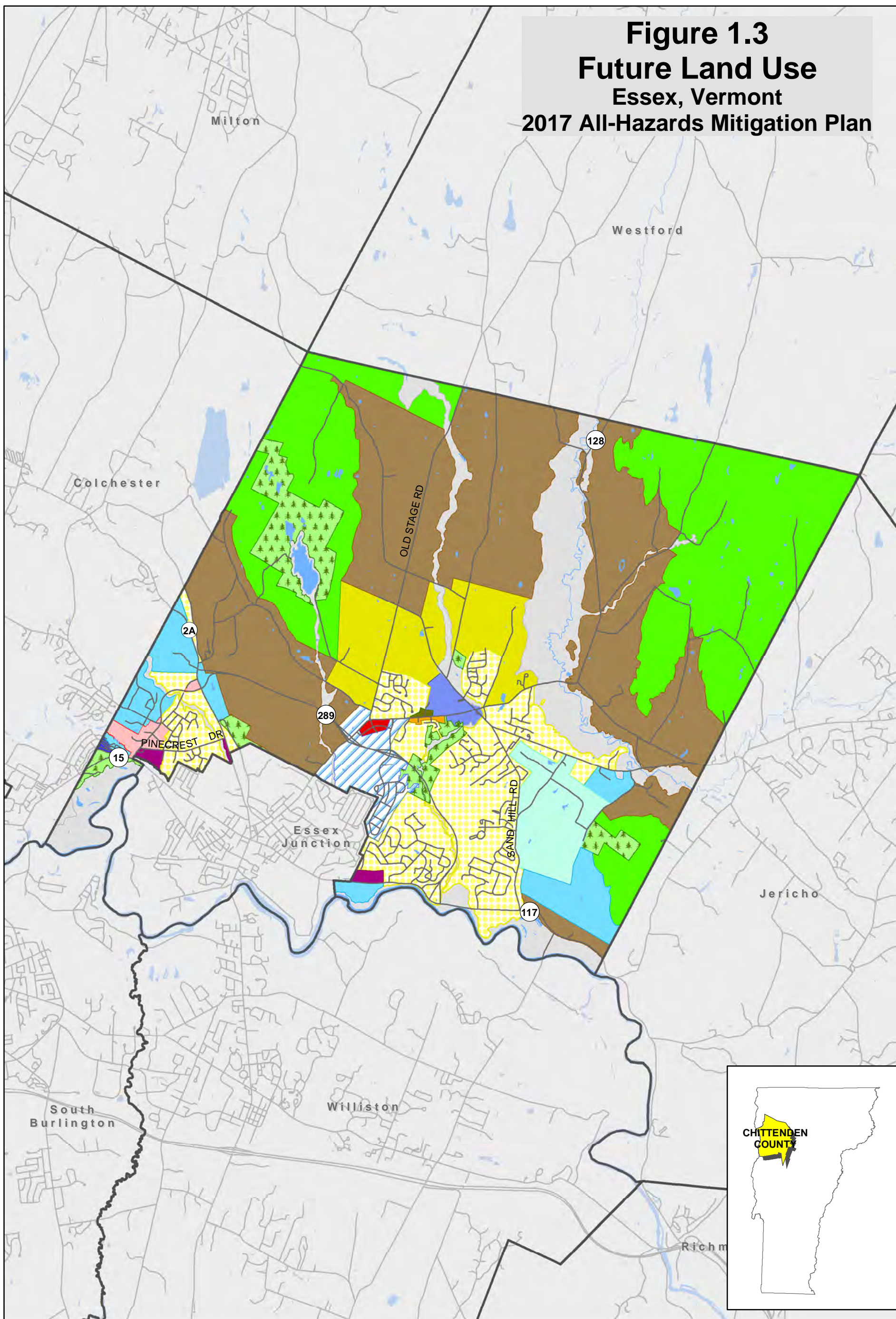


Figure 1.3 Future Land Use Essex, Vermont 2017 All-Hazards Mitigation Plan



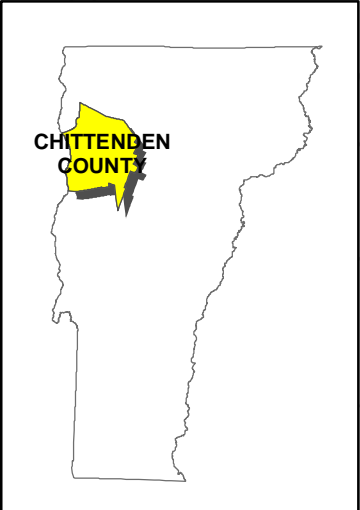
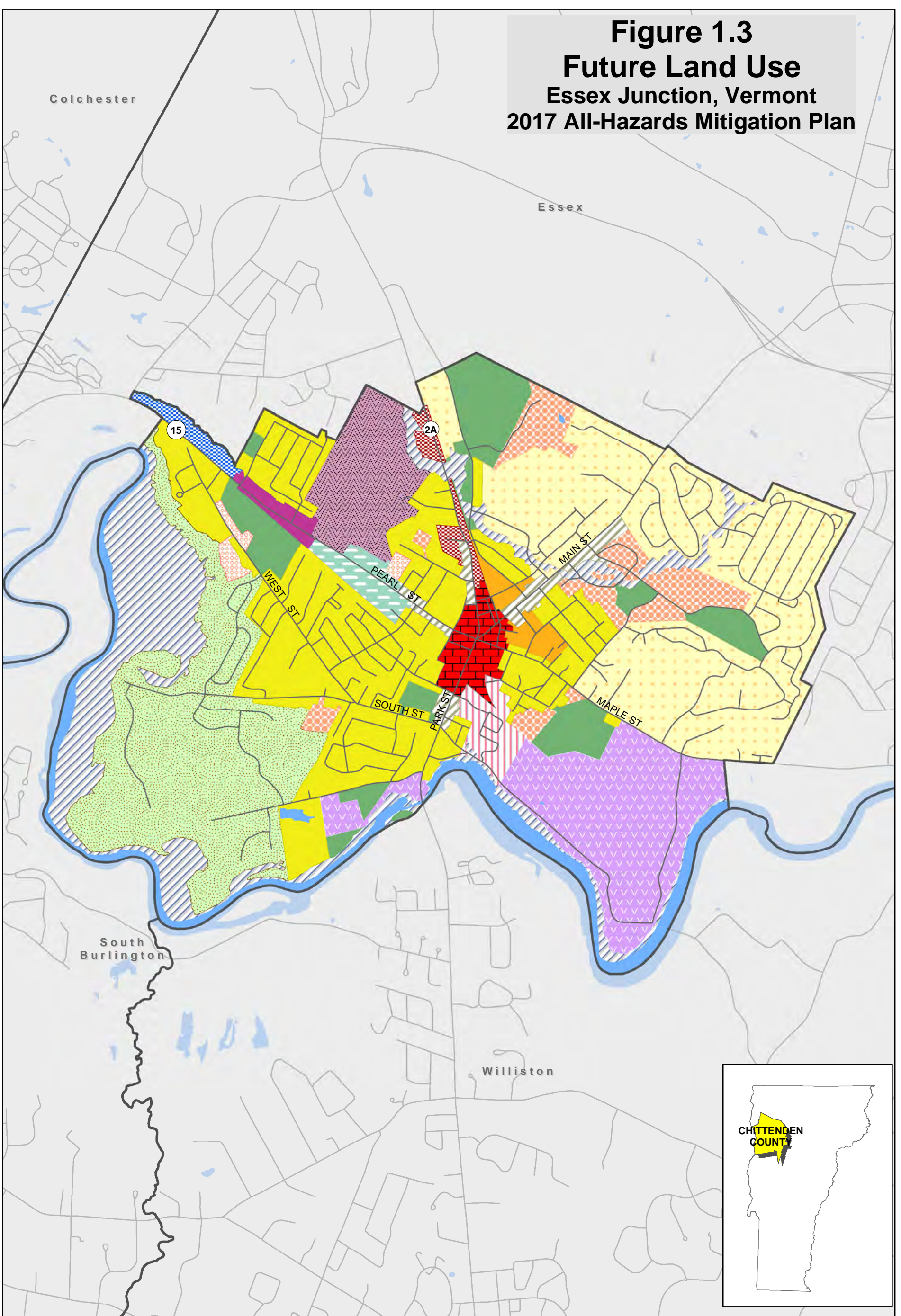
Zoning		Zoning		Zoning	
JURIS, DIST					
T_AR	(AR) AGRICULTURAL - RESIDENTIAL	T_CTR	(CTR) CENTER	T_O1	(O1) OPEN RECREATION
T_B1	(B1) RETAIL - BUSINESS	T_HP-DC	(HP-DC) HISTORIC PRESERVATION - DESIGN CONTROL	T_R1	(R1) LOW DENSITY RESIDENTIAL
T_C1	(C1) CONSERVATION	T_I1	(I1) INDUSTRIAL	T_R2	(R2) MEDIUM DENSITY RESIDENTIAL
T_C2	(C2) FLOODPLAIN	T_MXD	(MXD) MIXED USE	T_R3	(R3) HIGH DENSITY RESIDENTIAL
		T_MXD-PUD	(MXD-PUD) MIXED USE - PLANNED UNIT DEVELOPMENT	T_RB	(RB) RESIDENTIAL - BUSINESS
		T_MXDC	(MXDC) MIXED USE - COMMERCIAL	T_RPD-1	(RPD-1) RESOURCE PRESERVATION DISTRICT - INDUSTRIAL

DATA SOURCES:
Zoning, 2014

0 0.75 1.5 3 Miles

Document Path: D:\Projects\16\AHMP\Final_Towns\FutureLandUse\FutureLandUse_Essex_20161003.mxd

Figure 1.3
Future Land Use
Essex Junction, Vermont
2017 All-Hazards Mitigation Plan















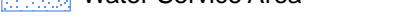


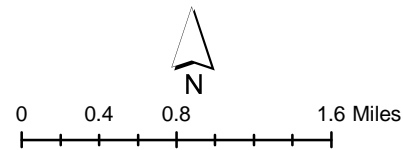
Zoning District				DATA SOURCES:	
	Residential 1		Multi-Family Residential 3		Residential-Office
	Residential 2		Multi-Family/Mixed Use 1		Mixed Commercial Use
	Multi-Family Residential 1		Multi-Family/Mixed Use 2		Highway-Arterial
	Multi-Family Residential 2		Village Center		Light Industrial
			Transit Oriented Development		Planned Exposition
					Planned Agriculture
					Open Space
					Floodplain

0 0.25 0.5 1 Miles

Document Path: D:\Projects\16\AHMP\Final_Towns\FutureLandUse\FutureLandUse_EssexJunction_20161003.mxd

Figure 1.4 Critical Facilities 2017 Essex, Vermont All-Hazards Mitigation Plan

-  School
-  College / University
-  Law Enforcement
-  Municipal Office
-  EMS
-  Fire
-  Water and Wastewater Treatment Facility
-  Emergency Shelter
-  Major Road
-  Vermont Gas Service Area
-  Sewer Service Area
-  Water Service Area
- Electric Utility**
-  Burlington Electric Dept.
-  Green Mountain Power
-  Vermont Electric Co-op



DATA SOURCES:
 Schools, Law Enforcement, Municipal Office, EMS, Fire,
 Wastewater Facility - Critical Facilities, 2014, CCRPC
 Electric Utility Franchise Areas - VCGI
 Vermont Gas data - VT Gas 2016

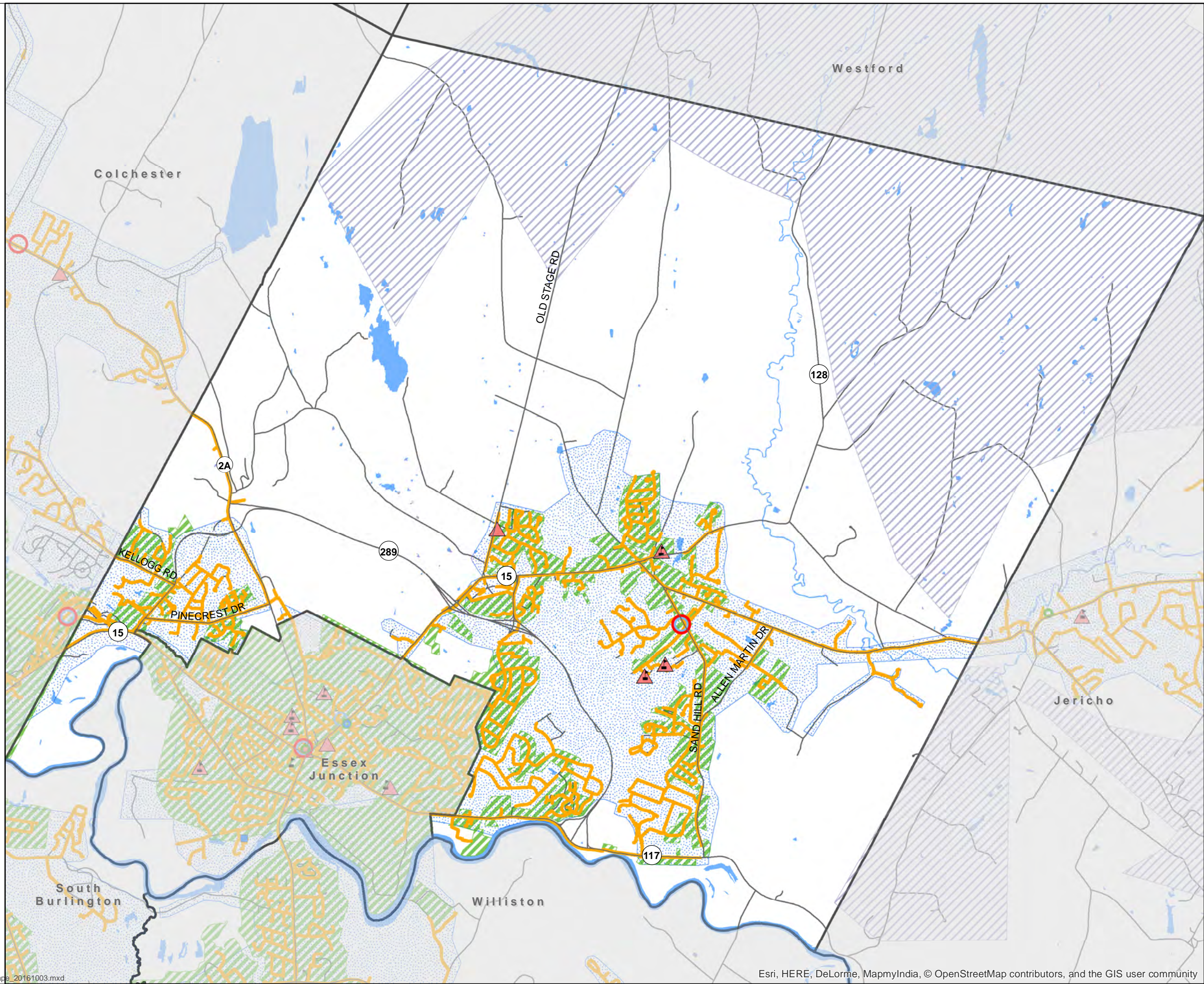
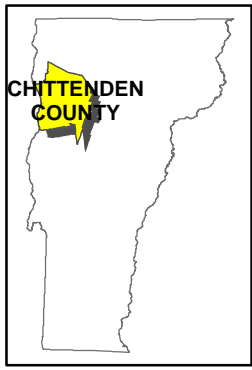
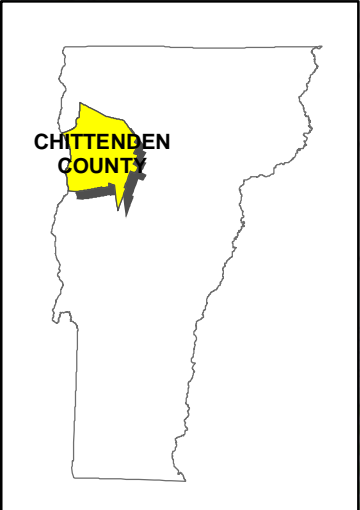
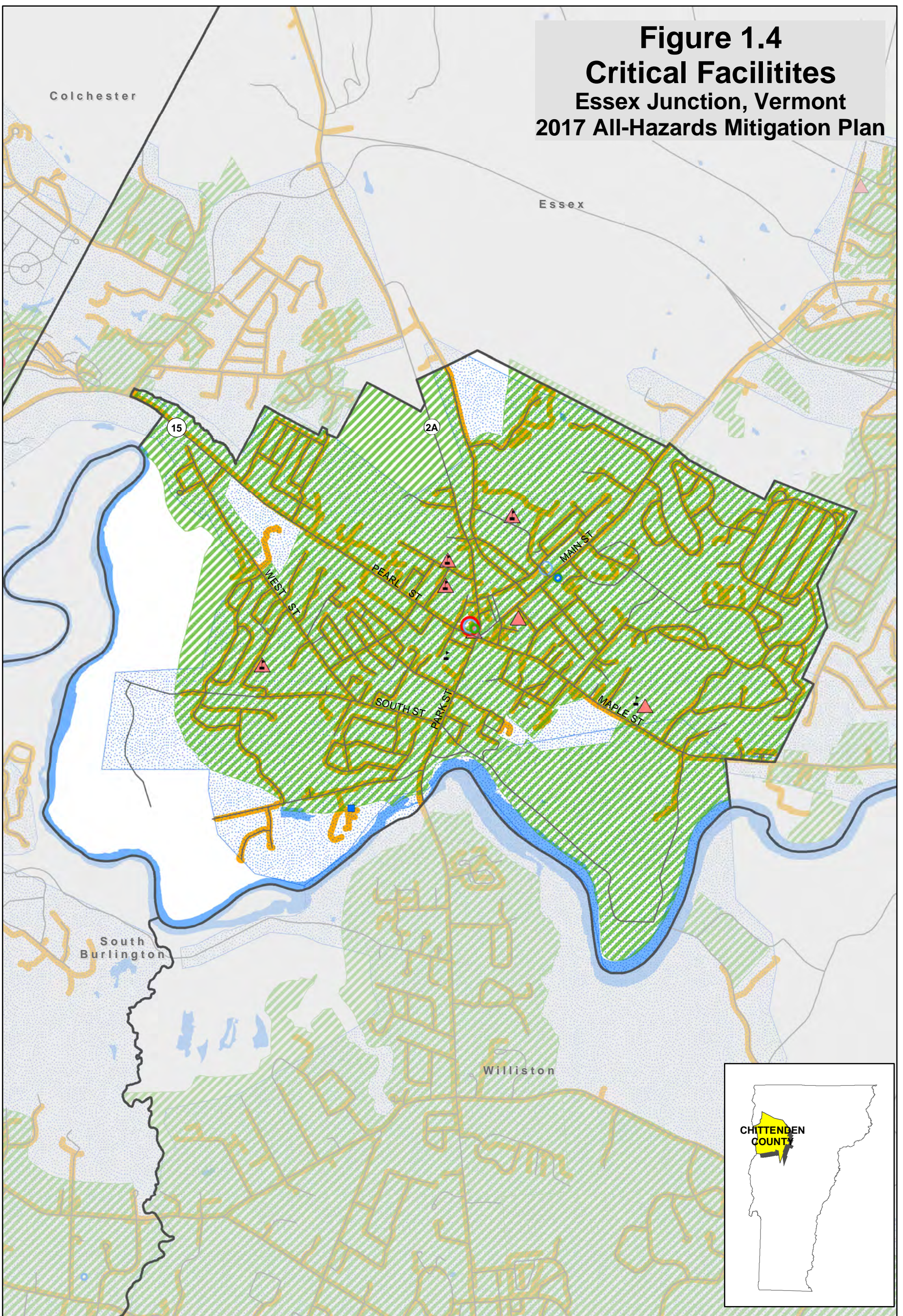


Figure 1.4
Critical Facilities
Essex Junction, Vermont
2017 All-Hazards Mitigation Plan



<ul style="list-style-type: none"> School College / University Law Enforcement Municipal Office EMS 	<ul style="list-style-type: none"> Fire Emergency Shelter Water and Wastewater Treatment Facility Vermont Gas Service Area Sewer Service Area Water Service Area 	<p>Electric Utility</p> <ul style="list-style-type: none"> Burlington Electric Dept. Green Mountain Power Vermont Electric Co-op
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DATA SOURCES:
 Schools, Law Enforcement, Municipal Office, EMS, Fire, Wastewater Facility - Critical Facilities, 2014, CCRPC
 Electric Utility Franchise Areas - VCGI
 Vermont Gas data - VT Gas 2016
 Water Service Area- CCRPC, 2016
 Sewer Service Area-CCRPC, 2012

0 0.2 0.4 0.8 Miles

N

Document Path: D:\Projects\16\AHMP\Final_Towns\CriticalFacilities\CriticalFacilitiesPortrait_20161003.mxd

Figure 2.1 River Corridors and Floodplains

Essex, Vermont
2017 All-Hazards Mitigation Plan

National Inventory of Dams

Dam Status

- In Service
- Breached

Geomorphically Incompatible Culvert

Compatibility

- ▲ Mostly Incompatible*
- ▲ Fully Incompatible**

- River Corridor Protection Area
- ANR River Corridor - January 2015

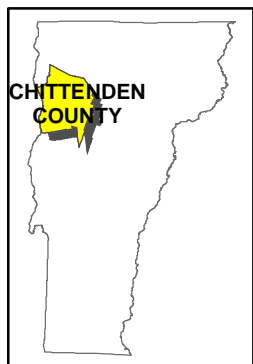
Digital Flood Insurance Rate Map

- Special Flood Hazard Area (100 Year Floodplain)
- View individual Municipal Regs for detail

*Mostly incompatible 5<GC<10
% Bankfull Width + Approach Angle scores < 2 Structure mostly incompatible with current form and process, with a moderate to high risk of structure failure. Re-design and replacement planning should be initiated to improve geomorphic compatibility.

**Fully incompatible 0<GC<5
% Bankfull Width + Approach Angle scores < 2 AND Sediment Continuity + Erosion and Armoring scores < 2 Structure fully incompatible with channel and high risk of failure. Re-design and replacement should be performed as soon as possible to improve geomorphic compatibility.

DATA SOURCES:
Dams data from US Army Corps of Engineers; Insufficient structures derived from ANR geomorphology inventories. River Corridor Protection Area equals a rivers meander belt (also known as Fluvial Erosion Hazard Area). River Corridor equals a rivers meander belt plus buffer extension. See Floodready.vermont.gov for more detail
FEMA DFIRM - developed in 2011 by FEMA consultant
Municipal Water Protection Buffers & Setbacks derived from municipal zoning regulations.



0 0.4 0.8 1.6 Miles

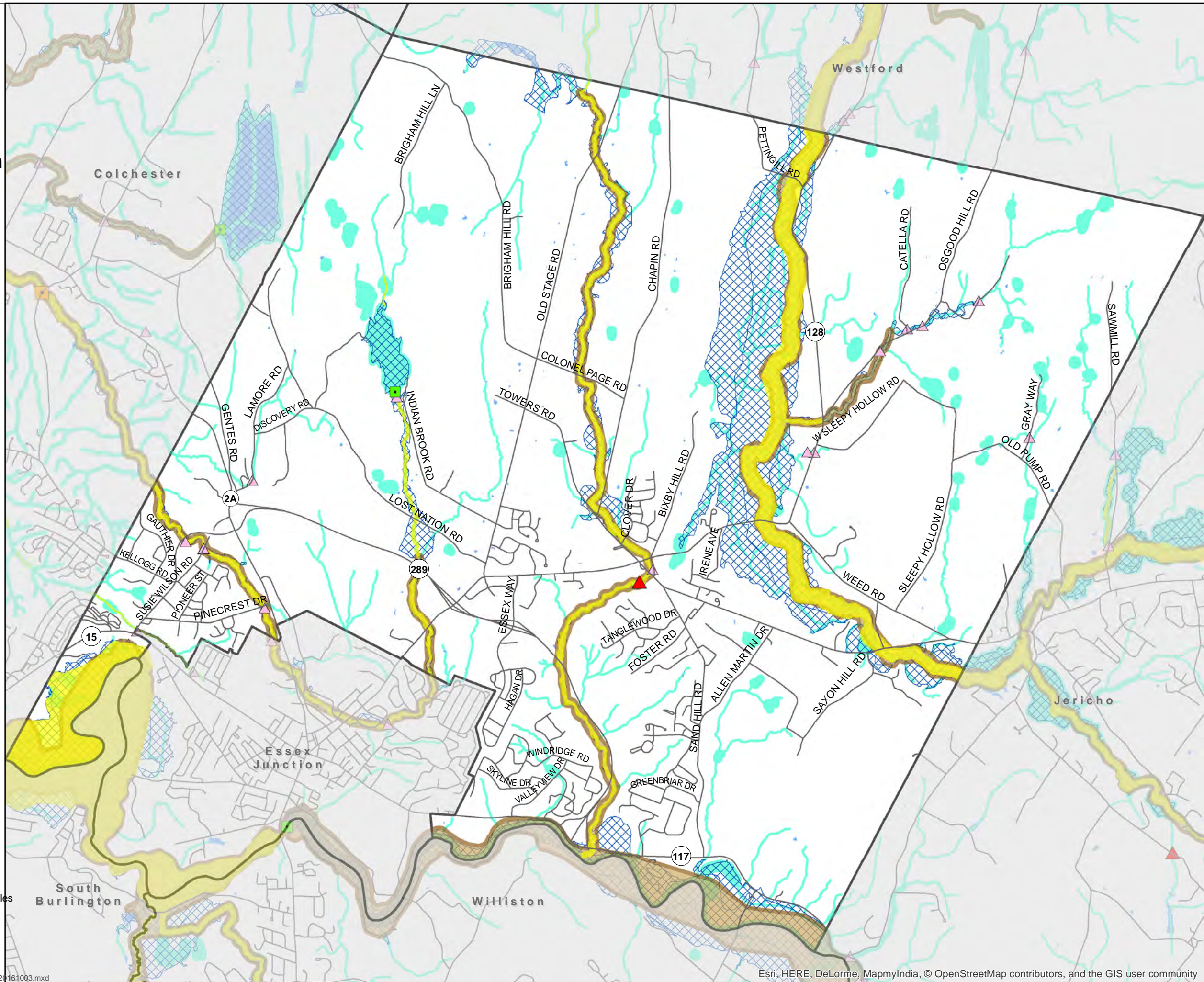
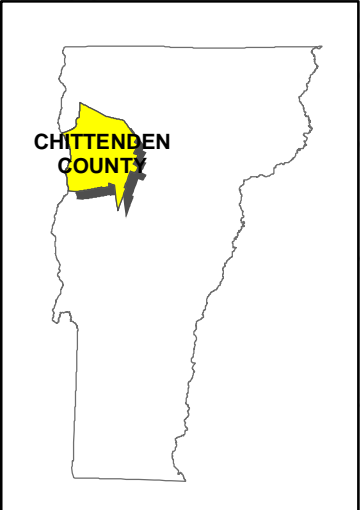
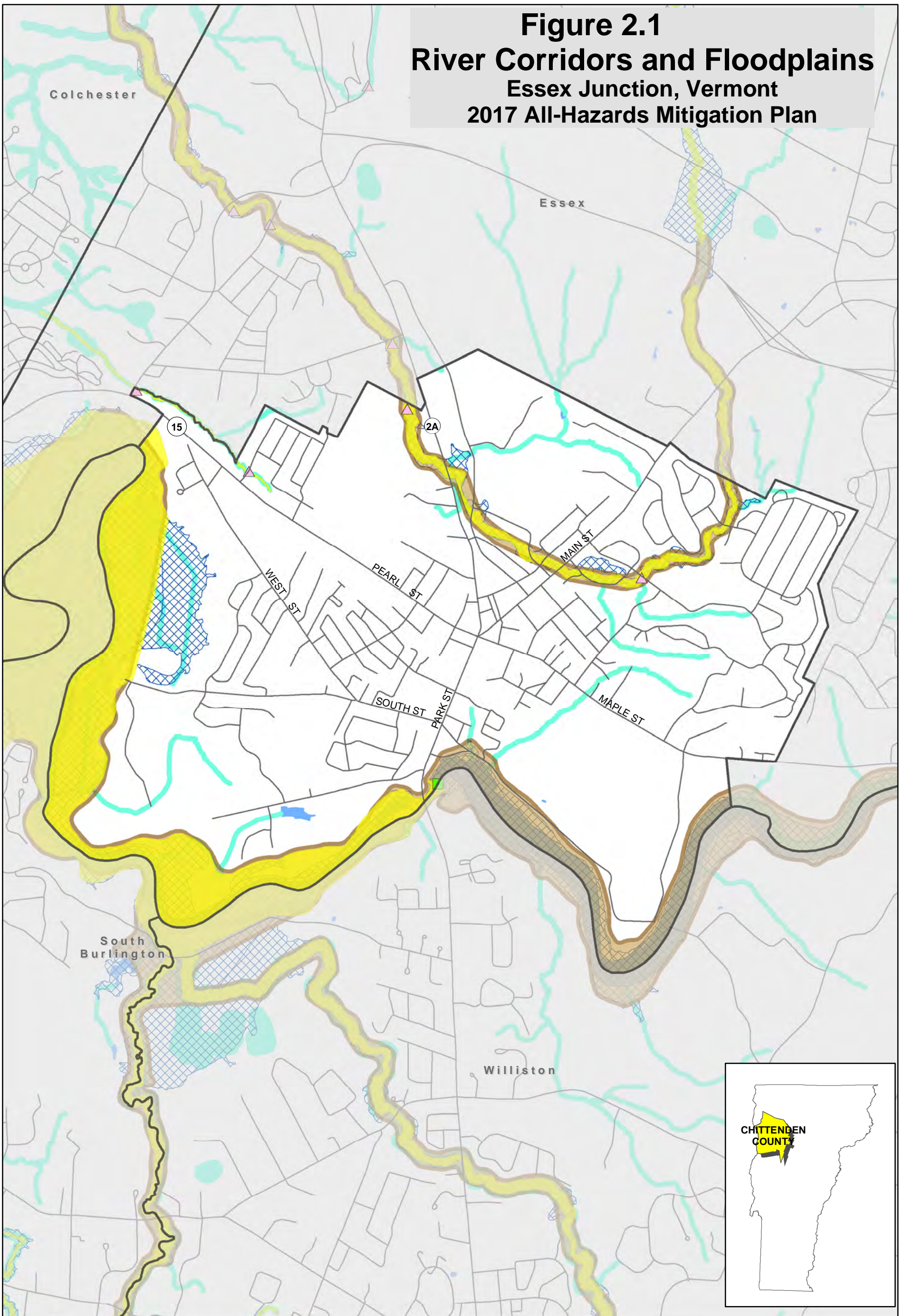


Figure 2.1 River Corridors and Floodplains Essex Junction, Vermont 2017 All-Hazards Mitigation Plan



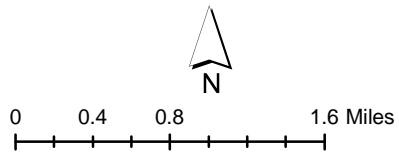
<p>National Inventory of Dams</p> <p>DamStatus</p> <ul style="list-style-type: none"> ■ In Service ■ Breached <p>Geomorphically Incompatible Culvert</p> <p>Compatibi</p> <ul style="list-style-type: none"> ▲ Mostly Incompatible* ▲ Fully Incompatible** 	<ul style="list-style-type: none"> River Corridor Protection Area ANR River Corridor - January 2015 	<p>Digital Flood Insurance Rate Map</p> <ul style="list-style-type: none"> Special Flood Hazard Area (100 Year Floodplain) View individual Municipal Regs for detail <p><small>*Mostly incompatible 5<GC<10 % Bankfull Width + Approach Angle scores < 2 Structure mostly incompatible with current form and process, with a moderate to high risk of structure failure. Re-design and replacement planning should be initiated to improve geomorphic compatibility.</small></p> <p><small>**Fully incompatible 0<GC<5 % Bankfull Width + Approach Angle scores < 2 AND Sediment Continuity + Erosion and Armoring scores < 2 Structure fully incompatible with channel and high risk of failure. Re-design and replacement should be performed as soon as possible to improve geomorphic compatibility.</small></p>	<p>DATA SOURCES: Dams data from US Army Corps of Engineers; Insufficient structures derived from ANR geomorphology inventories. River Corridor Protection Area equals a rivers meander belt (also known as Fluvial Erosion Hazard Area). River Corridor equals a rivers meander belt plus buffer extension. See Floodready.vermont.gov for more detail FEMA DFIRM - developed in 2011 by FEMA consultant Municipal Water Protection Buffers & Setbacks derived from municipal zoning regulations.</p> <p>0 0.2 0.4 0.8 Miles</p> <p style="text-align: right;">N</p> <p style="font-size: small;">Document Path: D:\Projects\16\AHMP\Final_Towns\RiverCorridor\RiverCorridor\Portrail_20161003.mxd</p>
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Figure 3.1 FEMA Public Assistance Projects 2017 Essex, Vermont All-Hazards Mitigation Plan

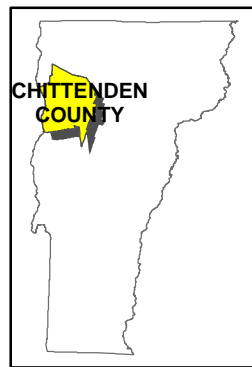
Public Assistance Category

- ✕ Debris Removal +
- Debris Removal +
- ◆ Protective Measures +
- ▲ Roads & Bridges
- Roads & Bridges
- Water Control Facilities (Stormwater Management)
- Public Buildings
- Public Utilities
- ✱ Recreational or Other
- Recreational or Other



Note*: Some Debris removal and protective measures locations are shown at the location of the municipal office. This indicates assistance was at various locations throughout the municipality not that damages were incurred at the office.

DATA SOURCES:
Public Assistance Project Locations-FEMA, 2015



Document Path:
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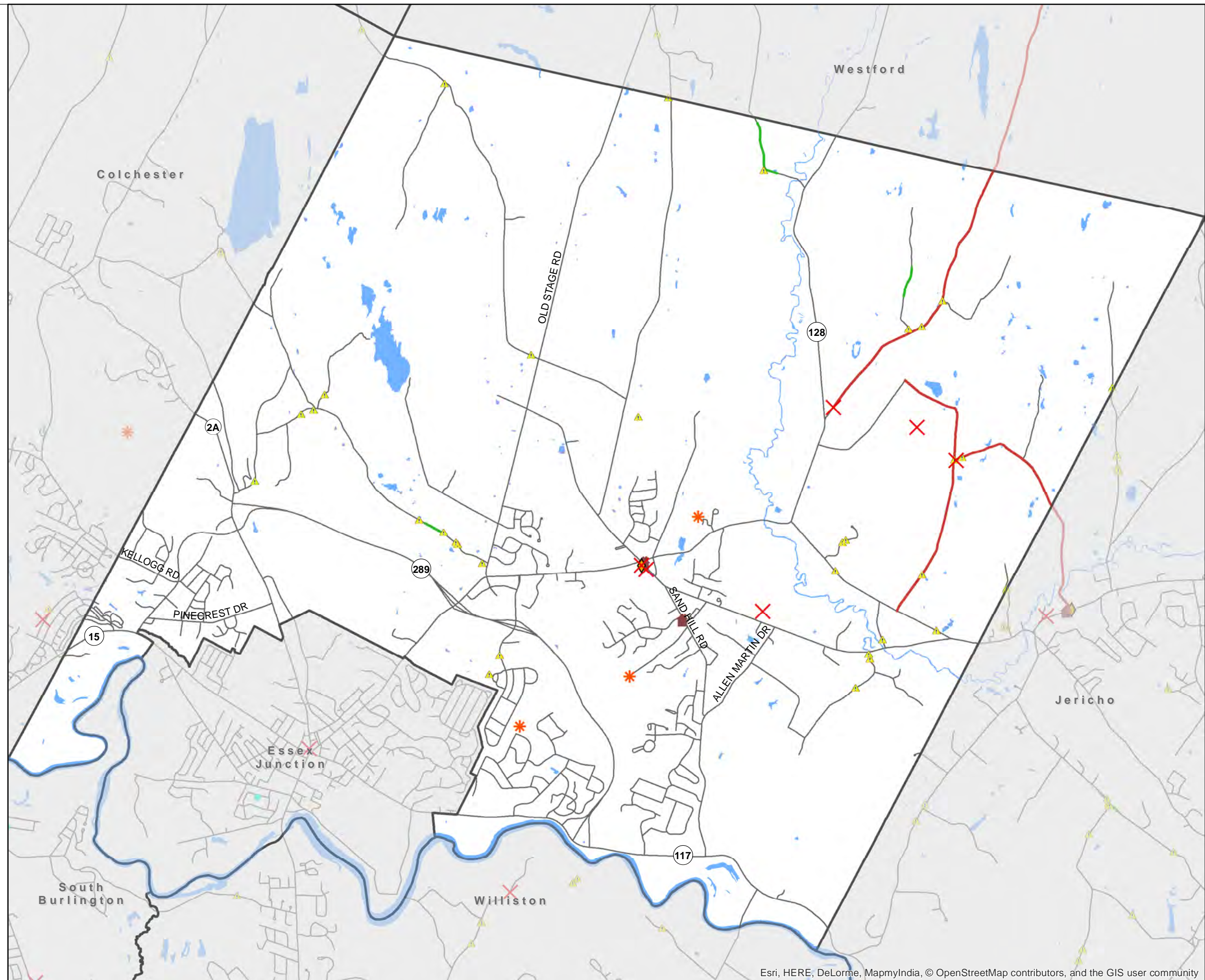
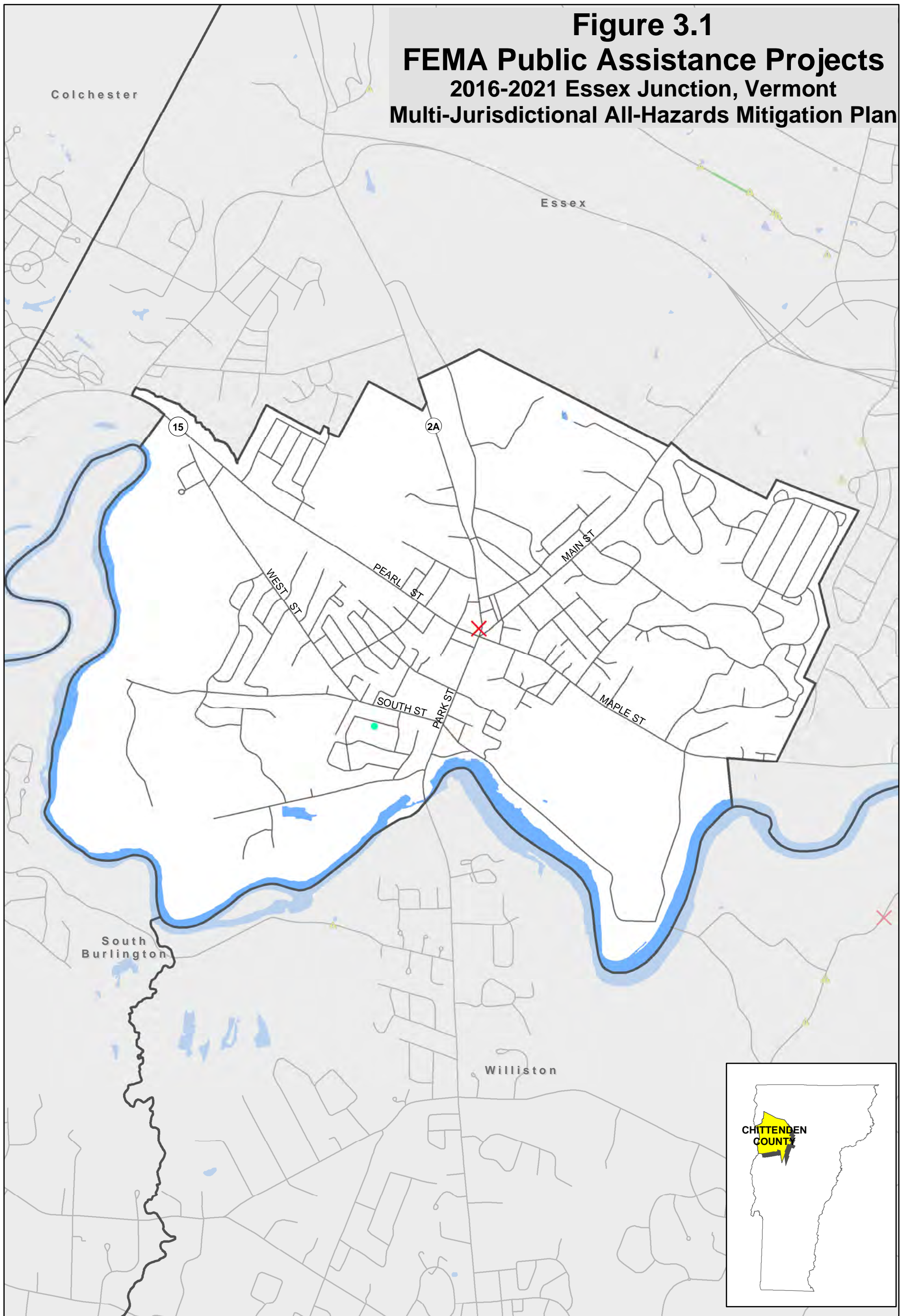


Figure 3.1 FEMA Public Assistance Projects 2016-2021 Essex Junction, Vermont Multi-Jurisdictional All-Hazards Mitigation Plan



Public Assistance Category

- | | | | |
|--|-----------------------|--|--|
| | Debris Removal | | Water Control Facilities (Stormwater Management) |
| | Debris Removal | | Protective Measures |
| | Roads & Bridges | | Public Buildings |
| | Recreational or Other | | Public Utilities |
| | Recreational or Other | | |

Note*: Some Debris removal and protective measures locations are shown at the location of the municipal office. This indicates assistance was at various locations throughout the municipality not that damages were incurred at the office.

Data Sources:
Public Assistance Project Locations-FEMA, 2015

0 0.2 0.4 0.8 Miles

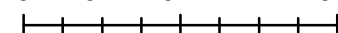


Figure 3.1.1 FEMA Individual Assistance Locations

Essex, Vermont
2017 All-Hazards Mitigation Plan

Number of Claims

June 2011 Disaster

- 1 - 2
- 3 - 4
- 5 - 6

September 2011 Disaster

- 1 - 2
- 3 - 4



0 0.4 0.8 1.6 Miles

DATA SOURCES:
Individual Assistance Claims Locations-FEMA, 2015

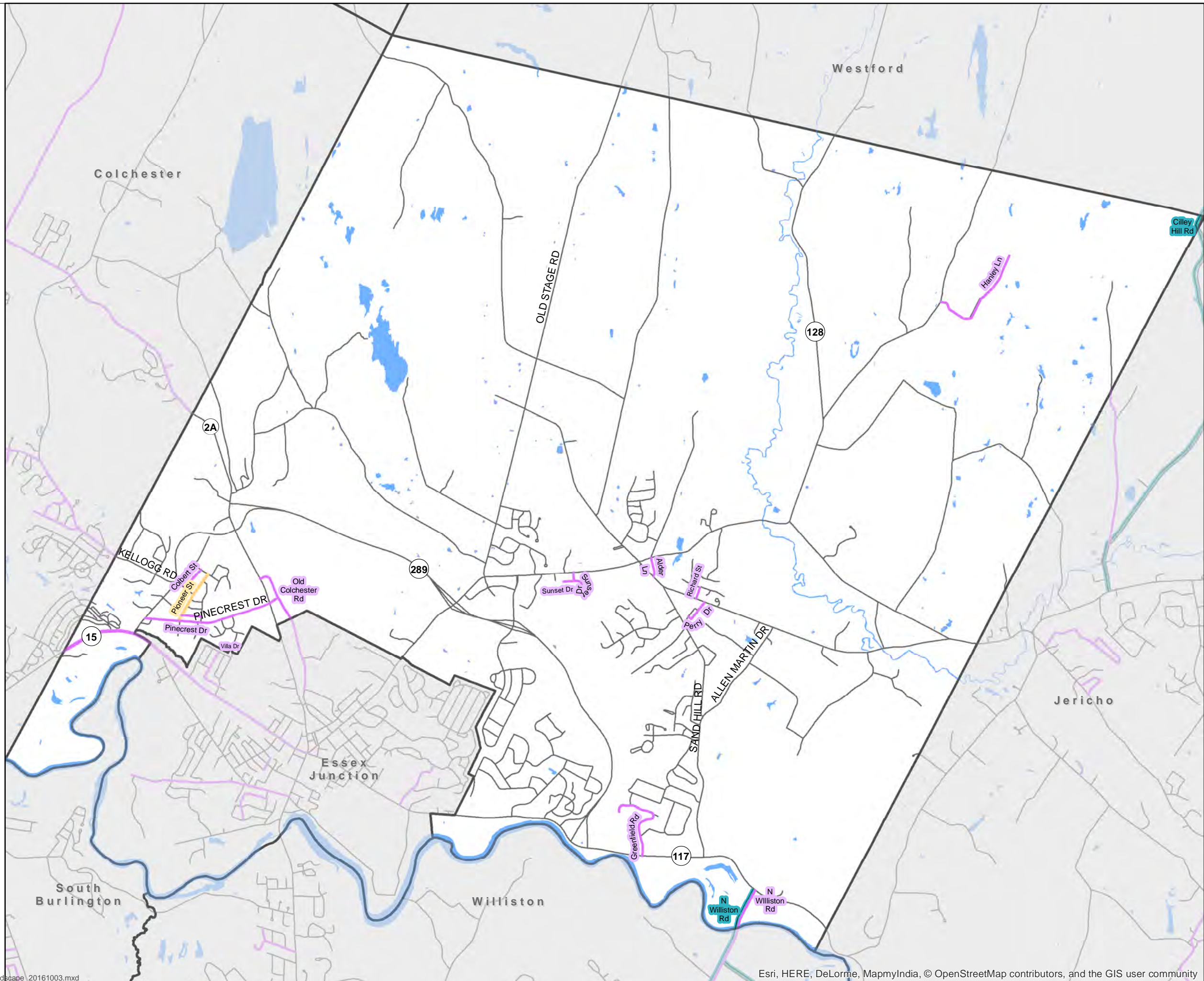
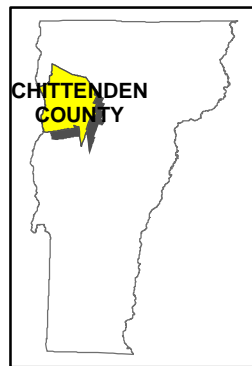
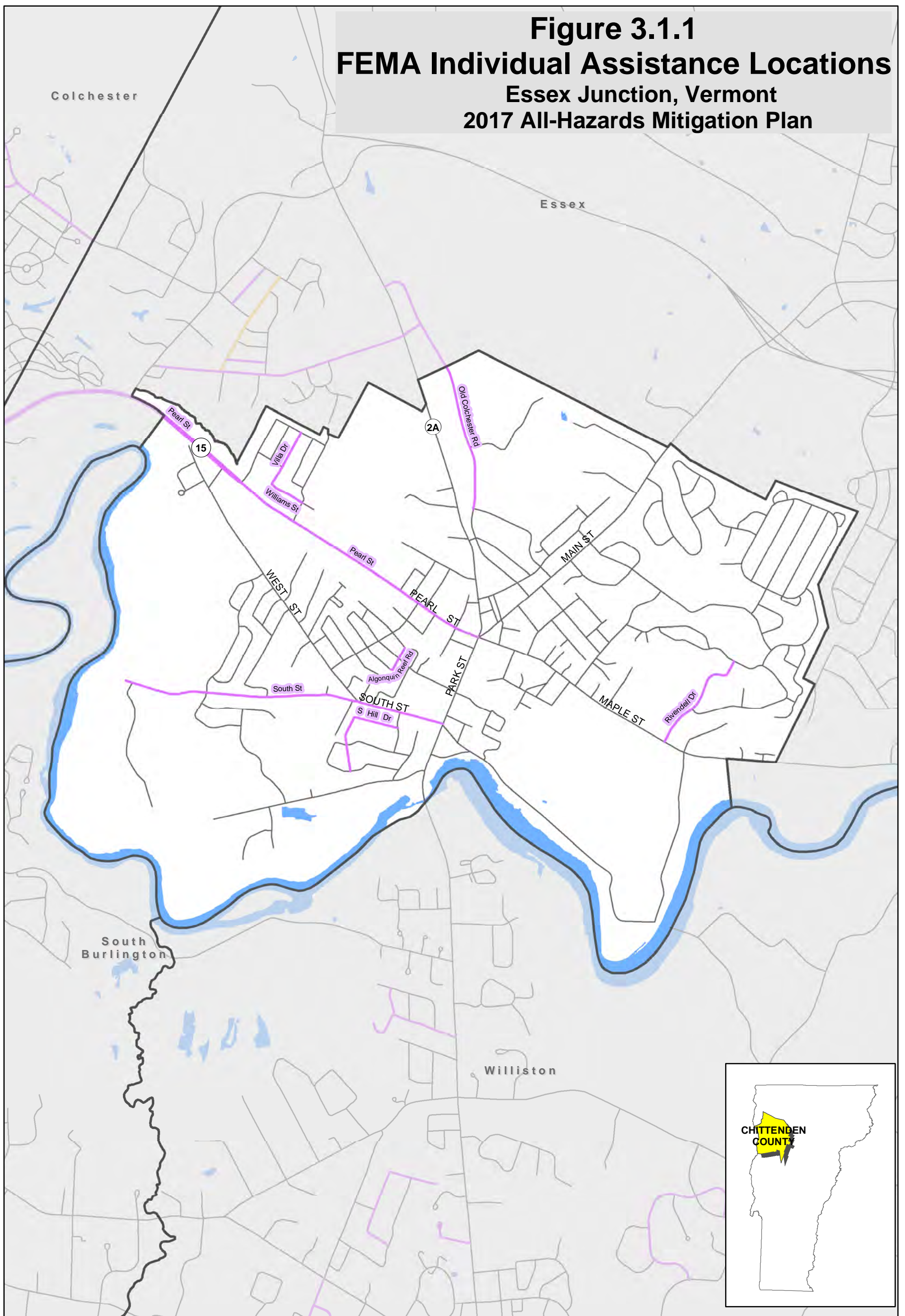


Figure 3.1.1 FEMA Individual Assistance Locations Essex Junction, Vermont 2017 All-Hazards Mitigation Plan



Number of Claims

June 2011 Disaster	September 2011 Disaster
1 - 2	1 - 2
3 - 4	3 - 4
5 - 6	








DATA SOURCES:
Individual Assistance Claims Locations-FEMA, 2015

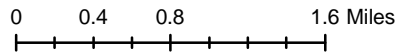
0 0.2 0.4 0.8 Miles



Figure 3.2 Stormwater Management

Essex, Vermont 2017 All-Hazards Mitigation Plan

-  Paved Road
-  Gravel or Class 4 Road
-  Hydrologically Connected Road Segment
-  Stream Centerline
-  Stormwater Pipe
-  Stormwater Impaired Watershed
-  Municipal Separate Storm Sewer System General Permit



DATA SOURCES:
 Hydrologically Connected Roads - ANR, 2016
 Paved, Gravel & Class 4 Roads - VTrans
 MS4 area - ANR
 Priority Surface Waters - 2014 List of Priority Surface Waters; ANR

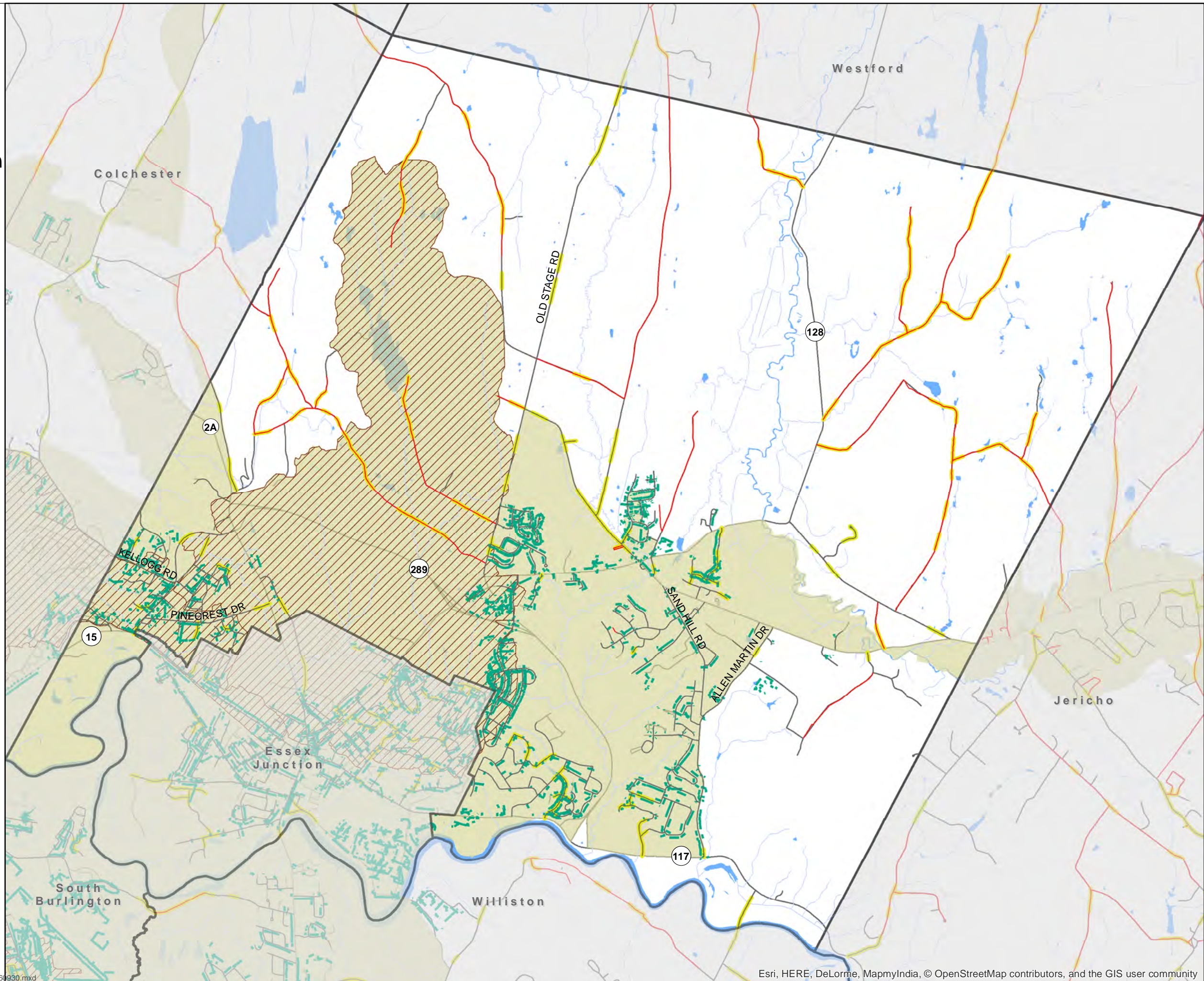
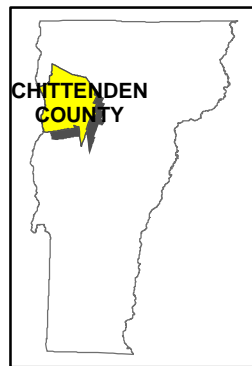
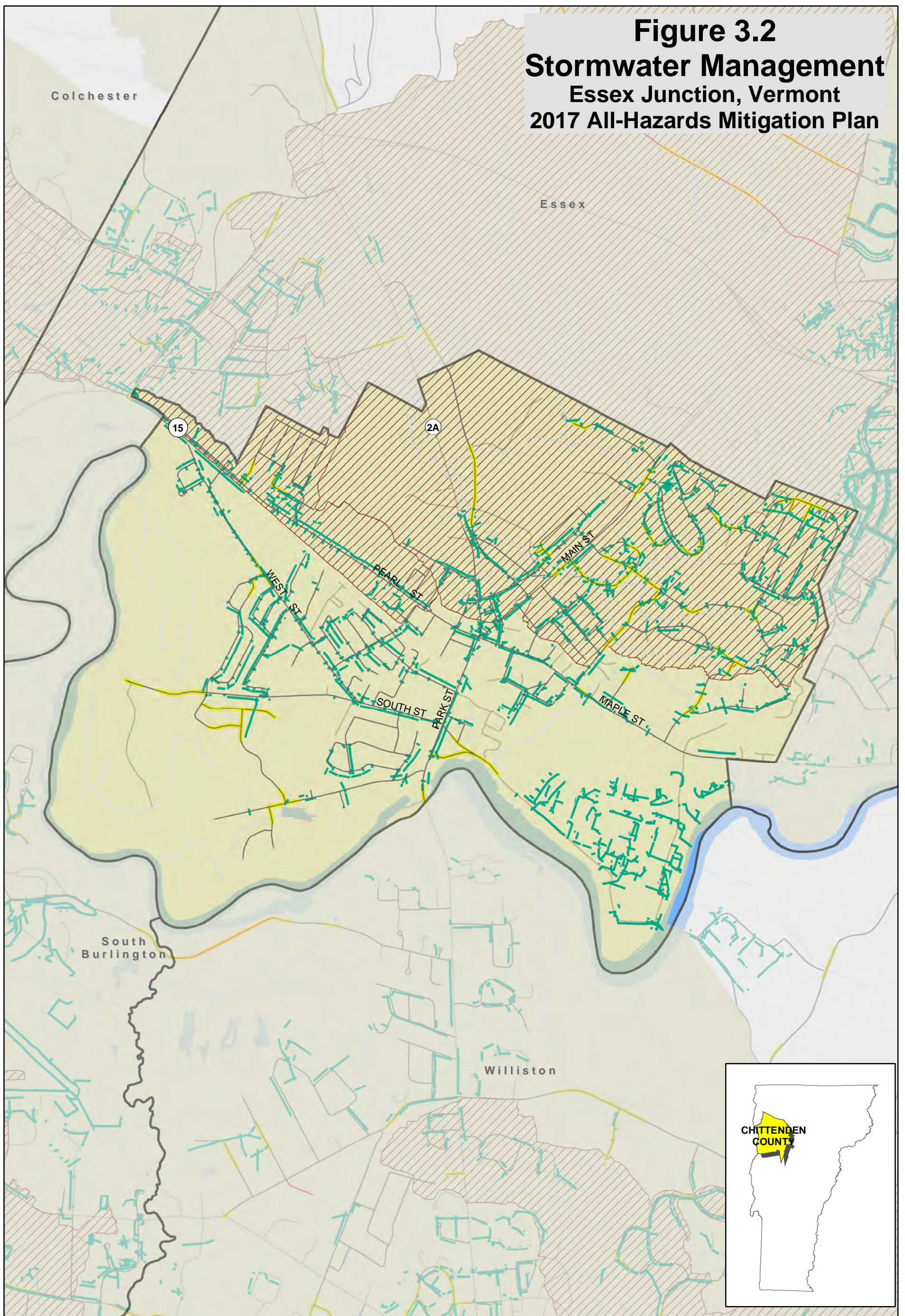









Figure 3.2
Stormwater Management
Essex Junction, Vermont
2017 All-Hazards Mitigation Plan



-  Stormwater Pipe
-  Paved Road
-  Gravel or Class 4 Road
-  Hydrologically Connected Road Segment

-  Stream Centerline
-  Stormwater Impaired Watershed
-  Municipal Separate Storm Sewer System General Permit

DATA SOURCES:
 Hydrologically Connected Roads - ANR, 2016
 Paved, Gravel & Class 4 Roads - VTrans
 MS4 area - ANR
 Priority Surface Waters - 2014 List of Priority Surface Waters; ANR

0 0.2 0.4 0.8 Miles

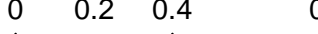



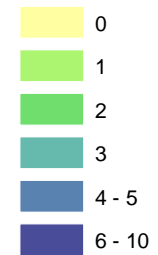

Figure 4.1 Vulnerable Populations

Essex, Vermont 2017 All-Hazards Mitigation Plan

 Census Tract Boundary**

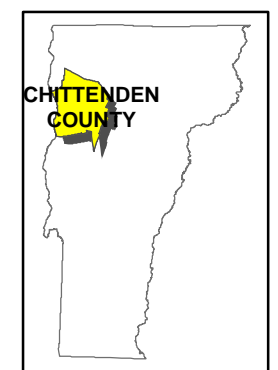
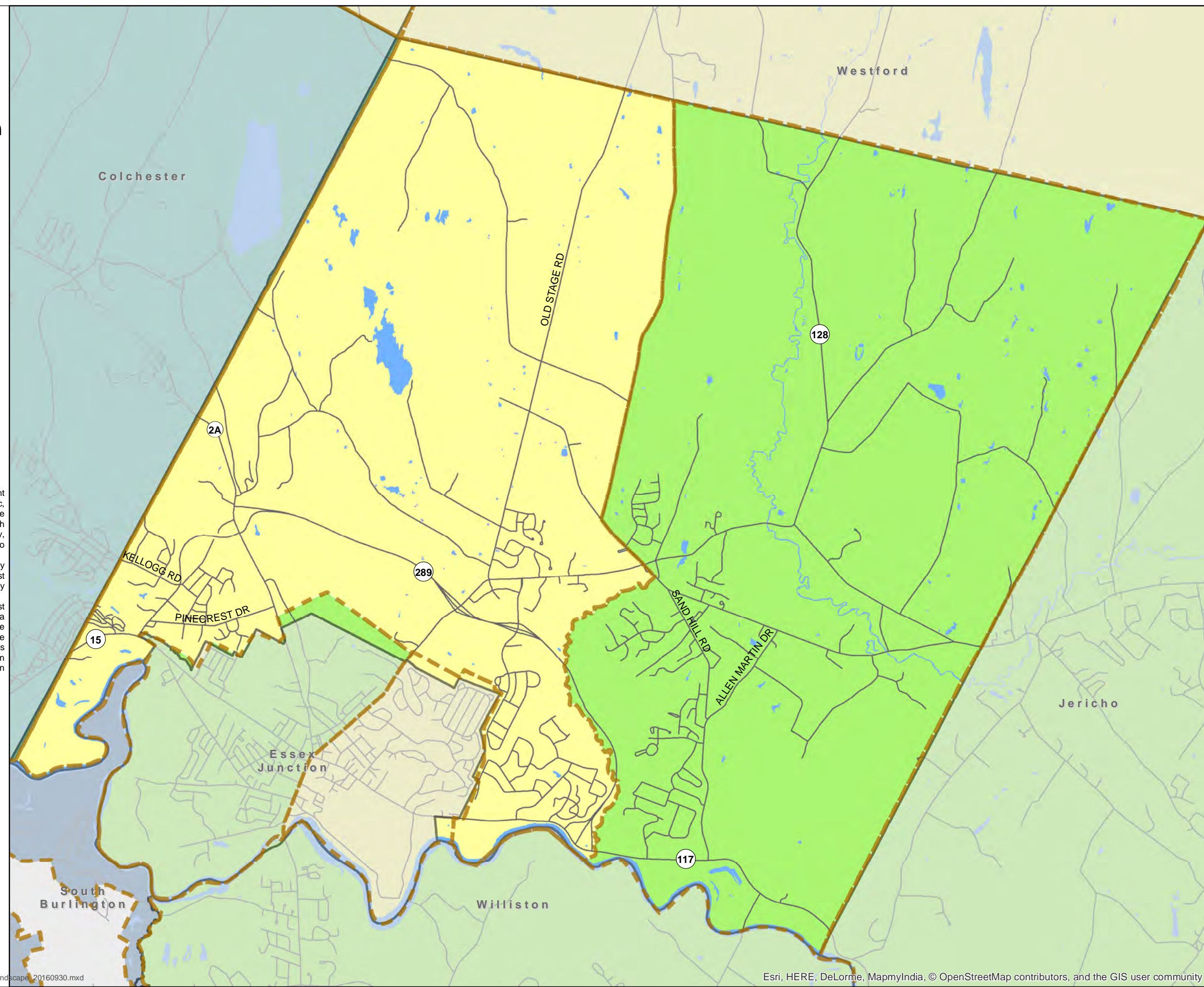
Social Vulnerability Index

Score by Census Tract



**Westford, Underhill, and Bolton are contained within one census tract. St. George and Hinesburg share the same census tract boundary. Huntington and Buels Gore also consist of one tract. All the other municipalities are broken down by one or more tracts. More urban communities have many more tracts as the optimal population for tract is 4,000 people. The minimum population threshold is 1,200 and the maximum is 8,000.

Note: The Social Vulnerability Index (SVI) draws together 16 different measures of vulnerability in three different themes: socioeconomic, demographic, and housing/transportation. The 16 individual measures include poverty, unemployment, per capita income, educational attainment, health insurance, children/elderly, single parent households, disability, minority, limited English, location of apartment buildings, mobile homes, crowding, no vehicle access, and population living in group quarters. The measures are combined to create relative vulnerability index. For every vulnerability measure, census tracts above the 90th percentile, or the most vulnerable 10%, are assigned a flag. The vulnerability index is created by counting the total number of flags in each census tract. It is important to remember that this Social Vulnerability Index is just a first step in screening for populations that may be more or less vulnerable to a variety of hazard. Depending on the situation, different measures could be more or less important and should be looked at more closely. These data are NOT saying that one census tract is more vulnerable than another. Rather it is saying that there is a higher concentration of various vulnerable population living within a tract and seeks to identify the conditions that make a population vulnerable.



DATA SOURCES:
Social Vulnerability Index, VDH, 2015
Census Tracts, US Census

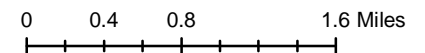
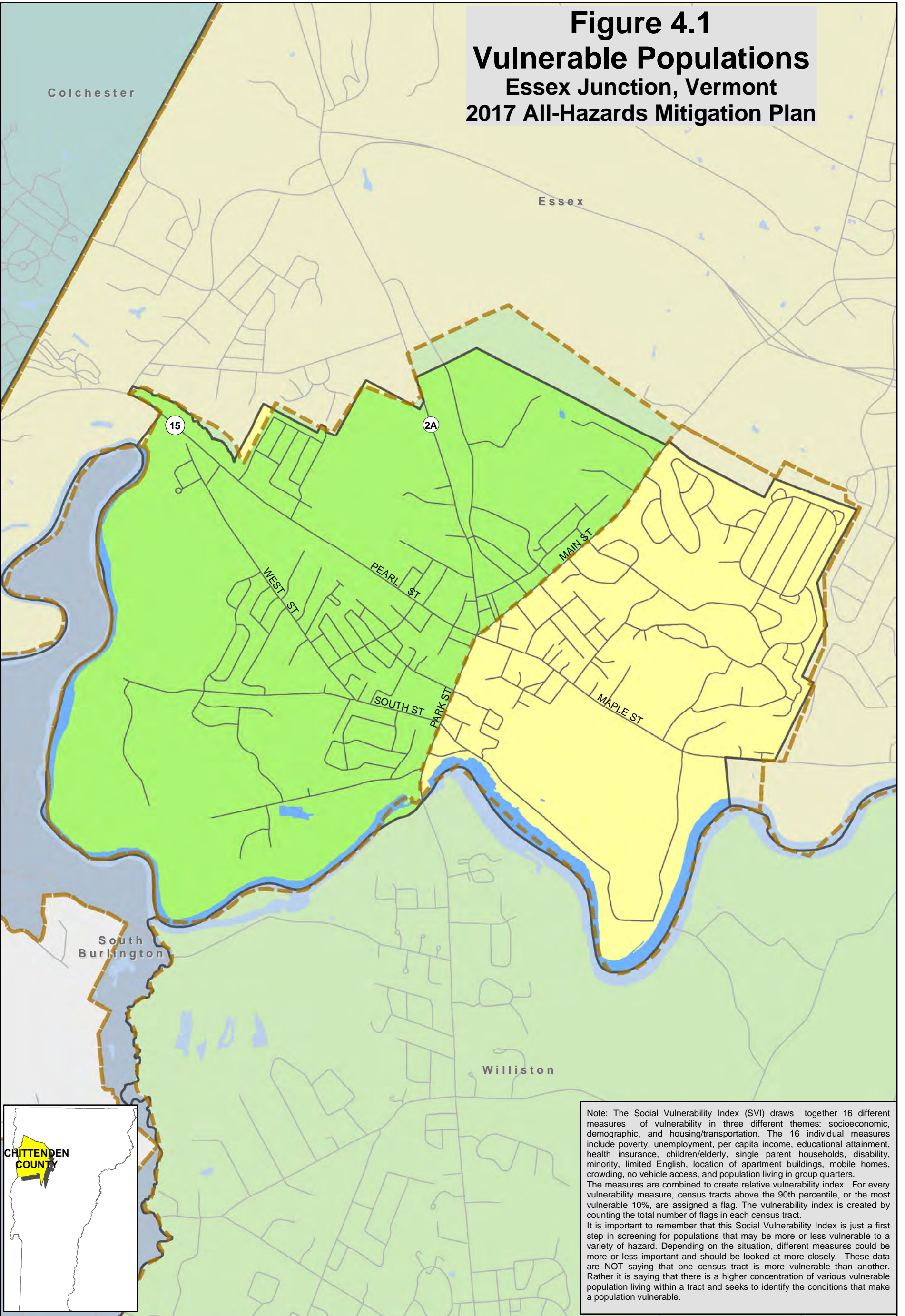
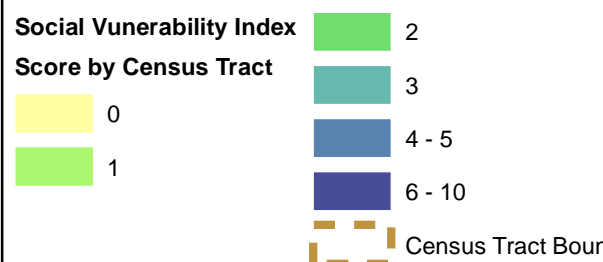


Figure 4.1 Vulnerable Populations Essex Junction, Vermont 2017 All-Hazards Mitigation Plan



Note: The Social Vulnerability Index (SVI) draws together 16 different measures of vulnerability in three different themes: socioeconomic, demographic, and housing/transportation. The 16 individual measures include poverty, unemployment, per capita income, educational attainment, health insurance, children/elderly, single parent households, disability, minority, limited English, location of apartment buildings, mobile homes, crowding, no vehicle access, and population living in group quarters. The measures are combined to create relative vulnerability index. For every vulnerability measure, census tracts above the 90th percentile, or the most vulnerable 10%, are assigned a flag. The vulnerability index is created by counting the total number of flags in each census tract. It is important to remember that this Social Vulnerability Index is just a first step in screening for populations that may be more or less vulnerable to a variety of hazard. Depending on the situation, different measures could be more or less important and should be looked at more closely. These data are NOT saying that one census tract is more vulnerable than another. Rather it is saying that there is a higher concentration of various vulnerable population living within a tract and seeks to identify the conditions that make a population vulnerable.



**Westford, Underhill, and Bolton are contained within one census tract. St. George and Hinesburg share the same census tract boundary. Huntington and Buels Gore also consist of one tract. All the other municipalities are broken down by one or more tracts. More urban communities have many more tracts as the optimal population for tract is 4,000 people. The minimum population threshold is 1,200 and the maximum is 8,000.

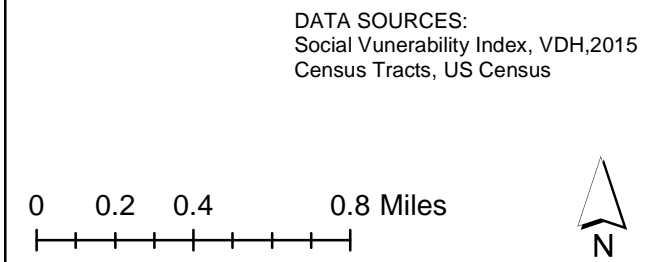


Figure 4.2 Land Development Trends

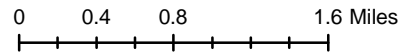
2017 Essex, Vermont All-Hazards Mitigation Plan

Year Built for Residential and Non-residential Development

- Built 2010 or earlier
- Built 2011-2014

Digital Flood Insurance Rate Map

- Special Flood Hazard Area (100 Year Floodplain)
- River Corridor Protection Area (FEH)



DATA SOURCES:
 Housing Units - CCRPC, 2014
 CI Data-CCRPC, 2014
 Special Flood Hazard Area - developed in 2011 by FEMA
 River Corridor equals a rivers meander belt plus buffer extension. See Floodready.vermont.gov for more detail.

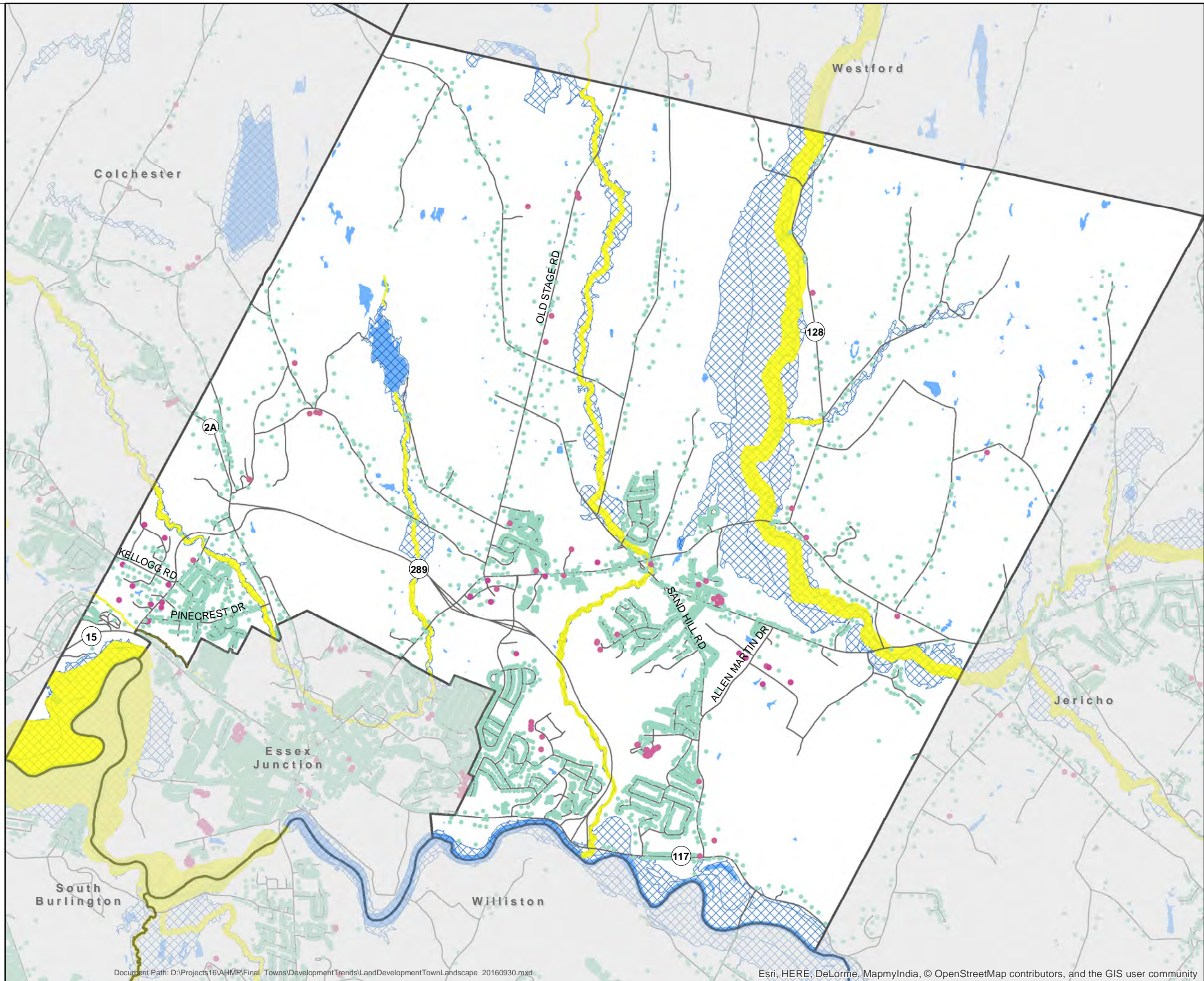
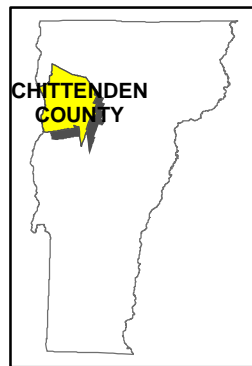
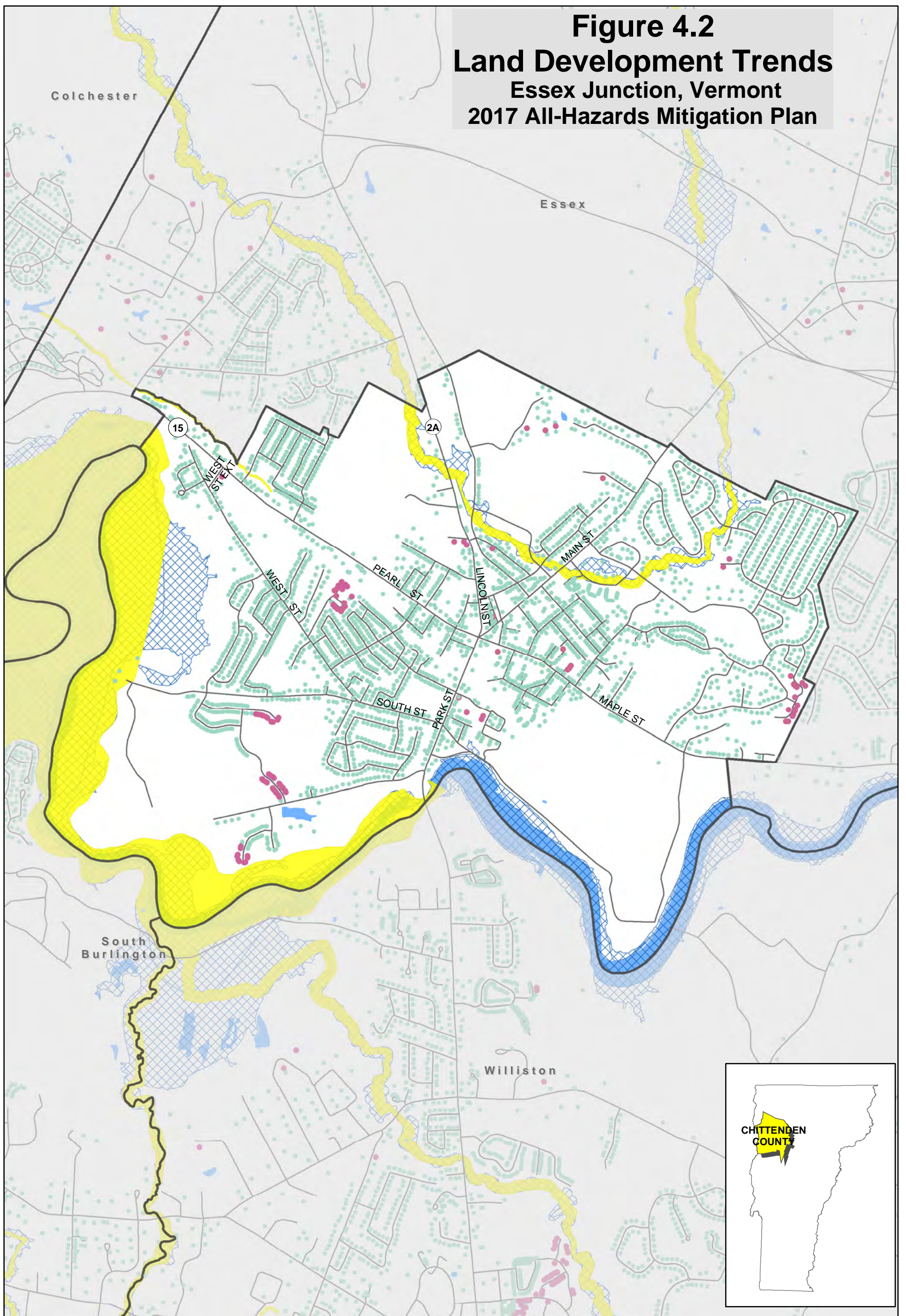


Figure 4.2
Land Development Trends
Essex Junction, Vermont
2017 All-Hazards Mitigation Plan



Year Built for Residential and Non-residential Development

- Built 2010 or earlier
- Built 2011-2014
- ▨ Special Flood Hazard Area (100 Year Floodplain)
- River Corridor Protection Area (FEH)

DATA SOURCES:

Housing Units - CCRPC, 2014
 CI Data-CCRPC, 2014
 Special Flood Hazard Area - developed in 2011 by FEMA
 River Corridor equals a rivers meander belt plus buffer extension.
 See Floodready.vermont.gov for more detail

0 0.2 0.4 0.8 Miles



Lake Champlain Byway: Chittenden County Corridor Management Plan

May 2017



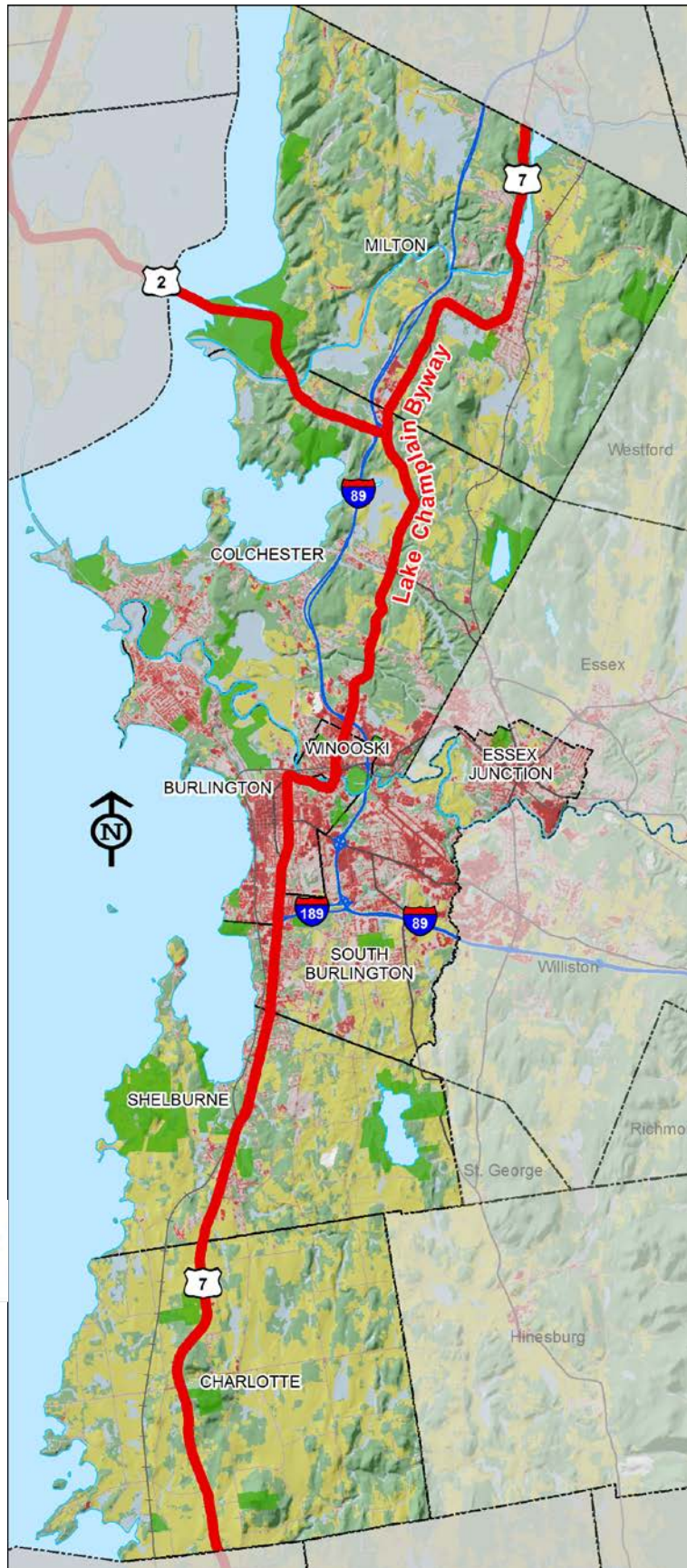
Prepared by



110 West Canal Street, Suite 202

Winooski, Vermont 05404-2109

802-846-4490



Preamble

The purpose of this Preamble is two-fold. First, it recaps the activities of the Lake Champlain Byway Council since its inception in November 2004 and secondly, it presents a set of overarching goals and strategies for the Byway as a whole.

The Lake Champlain Byway is a Scenic Byway designated by the State of Vermont located in the northwest portion of the state. From north to south, the formal designated motor route is 134 miles (215 km) long and consists of U.S. Route 2 through the Grand Isle County, U.S. Route 7 through Chittenden County and then portions of U.S. 7 and portions of Vermont Routes 22-A, 73 and 74 in Addison County.

The Byway is managed by the Lake Champlain Byway Council, a registered Vermont Non-Profit Corporation. The purpose of the Corporation shall be to serve as the managing and coordinating body for the Lake Champlain Byway, a designated Byway within the State of Vermont and to undertake and support projects that balance the promotion, preservation, enjoyment, and stewardship of the Byway's intrinsic resources. The Council's Board of Directors consists of 12 members: representatives of seven regional organizations and an additional five at-large members appointed by the first seven members. The Byway was first conceived in the 1990s and then came to fruition in the early-to-mid 2000s. The formation of the Council in November 2004 formalized this long-standing collaboration of the various regional planning commissions, regional chambers of commerce and others organizations.

From late 2004 through spring 2017 the Byway Council carried out various activities to develop the Byway. These activities fell into two categories: coordination and project management. Coordination was carried out by Board meetings to confer on such topics as development of grant proposals, tracking grant implementation, and updates to the Council's Bylaws. Coordination was effected by frequent consultations with the Vermont Agency of Transportation and the Vermont Department of Tourism and Marketing. Going forward it is anticipated that the Byway Council will need to meet less often given the lack of grant funding.

Project management consisted of overseeing the implementation of seven grants secured by the Council from the Federal Highway Administration's (FHWA) National Scenic Byway program as follows:

FY07-#01, Travel Information and Improvements

- Developed a "Lake Champlain Byway" brochure in both English French and outdoor information panels; completed a Byway website; installed trailblazer signs on Route 2 in the Champlain Islands and in towns of Addison County, and developed and constructed two portable toilet shelters in the Islands.

FY08-#05, Corridor Management Plan Update and Capacity Building

- Funded participation of RPC and municipal staff at the 2009 and 2011 National Scenic Byways Conferences and funded the development of the 2017 updates to the three respective County Corridor CMPs.

FY08-#06 Chittenden County Recreational & Cultural Sites Inventory

- Funded the Chittenden County RPC to create a recreational and cultural sites inventory for its eight byway communities and hire contractors to work with each of the communities to provide preliminary designs and cost estimates for various improvements recommended by the inventory.

FY09-#02 Byway Publications

- Developed and distributed a water recreation guide to Lake Champlain and the Byway's other waterways and a winter activities guide.

FY10-#01 and FY11-#02 Bicyclist Rest Areas

- Via a subcontract from the Byway Council, Local Motion (a regional advocacy group for biking, hiking and walking) designed and installed eight small bicyclist rest areas along the route of the Lake Champlain Bikeway which traverses through several Byway communities.

FY12-#01 Interpretive Planning

- Developed and completed an Interpretation Coordination Plan for the Byway.

Management and development of the Byway is informed by its three respective Corridor Management Plans for each of the three counties (Grand Isle, Chittenden and Addison) traversed by the route of the Byway. The purpose of these Plans is to outline protection and enhancement of the byway's intrinsic qualities and character.

The completion of all three county Corridor Management Plans represents the last significant project managed by the Council as Federal Fiscal Year 2012 was the last year such National Scenic Byway grants were made available. Going forward, it is anticipated that the only significant project management activity to be undertaken by the Council will be oversight of the Byway's website, www.lakechamplainbyway.com.

Each CMP is unique to its respective county, however, the Lake Champlain Byway Council and the Board of each of the three respective Regional Planning Commissions hereby endorse the following overarching goal and strategic actions for the Lake Champlain Byway:

Overarching Goal

To undertake and support projects that balances the promotion, preservation, enjoyment, and stewardship of the Byway's intrinsic resources.

Strategies

- 1) Economic Development: promote tourism opportunities that are consistent with the principles of sustainable development;
- 2) Transportation Improvements: promote programs and projects that improve transportation infrastructure for all travel modes, improve safety and enhance the traveler experience; and
- 3) Regional Coordination: promote collaboration in marketing and interpretation among the agencies and organizations with an interest in the Byway's intrinsic resources.

Executive Summary

This *2017 Lake Champlain Byway Chittenden County Corridor Management Plan (CMP)* seeks to first document the first 16 years of the Byway's efforts in the County since the creation of the 2002 CMP when the County's eight Byway communities were first designated as part of the Byway. These are:

- Milton
- Winooski
- Burlington
- Shelburne
- Colchester
- Essex Junction
- South Burlington
- Charlotte

The 2002 CMP was exploratory in tone and presented a wide range of ideas and recommendations. It established three broad objectives, as follows: 1) *to enhance transportation infrastructure and develop multi-modal improvements;* 2) *to create and support educational and recreational opportunities for visitors through strong partnerships with organizations, businesses, nonprofit groups and agencies;* and 3) *to promote and enhance tourism opportunities for the region.*

From 2002 through mid-2017 the Chittenden County Regional Planning Commission (CCRPC), in partnership with these eight communities focused its Byway efforts on implementation of various projects to improve information, interpretation and amenities for the visitor.

Accomplishments in the County's Byway communities have included:

- the fabrication and installation of 16 roadside Lake Champlain Byway highway signs and 37 interpretive panels at key sites as well as the design of several improvements to visitor amenities;
- the production of several informative brochures as well as interpretive cell-phone audio stories, and
- the operation of a Byway website and Facebook page.

In addition to these interpretive and informational projects, these communities also supported and helped to implement various small transportation projects which improved the Byway traveler's experience (see Appendix).

Secondly, this 2017 CMP seeks to learn from the experience of the last 15 years. The Byway had its share of successful projects as noted above and detailed below in the body of the Plan and in its appendices. These successes were built on the reasonable predictability of obtaining FHWA National Scenic Byway grants in the tens and hundreds of thousands of dollars. However, in recent years it became difficult to maintain this momentum as starting in Federal fiscal year 2013 these grants were discontinued as well as annual technical support (conferences, trainings, etc. provided by the Byway Resource Center. That being said, the overall experience of the Byway has been a positive one for its eight Chittenden County communities and the CCRPC and there is no desire to discontinue the designation.

Given the desire to continue to maintain the Byway, the objectives of this new 2017 CMP represent only slight updates to the wording of the 2002 CMP objectives. The objectives for this 2017 CMP are as follows:

1. TRANSPORTATION IMPROVEMENTS:

To enhance transportation infrastructure and develop programs and projects that improve all travel modes, improve safety and enhance the traveler experience.

2. INTRINSIC RESOURCES AND PARTNERSHIPS:

To create and support educational and recreational opportunities for visitors through strong partnerships with organizations, businesses, nonprofit groups and agencies that have an interest in the intrinsic resources of the Byway.

3. SUSTAINABLE TOURISM AND ECONOMIC DEVELOPMENT:

To promote and enhance tourism opportunities for the region through sustainable economic development and conservation of intrinsic resources.

The 2002 CMP detailed numerous projects proposed for implementation. Given the absence of the reliable funding stream provided by the FHWA grants, it would be inappropriate for this plan to do so. Additionally, the objectives below can be met through a variety of projects and programs and the Plan does not wish to limit the imagination of future readers who look to this document for guidance. Therefore this 2017 Plan sets forth desired categories of action for each partner in the Byway effort – the CCRPC, municipalities, agencies, etc.—to pursue.

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Appendices 5-9 are large PDF files. These can be viewed at:

<http://www.ccrpcvt.org/our-work/economic-development/lake-champlain-byway/>

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1. Introduction

1.1. History of the Byways Program

The [National Scenic Byways Program](#) is part of the U.S. Department of Transportation, Federal Highway Administration. Established in Title 23, Section 162 of the United States Code under the Intermodal Surface Transportation Efficiency Act of 1991 and reauthorized and expanded significantly in 1998 under TEA-21 and again under SAFETEA-LU in 2005, the program is a grass-roots collaborative effort established to help recognize and enhance selected roads throughout the United States.

The Byways program was designed for the traveler, offering maps, photos, stories, activities, and visitor information. There are over 150 Nationally-designated distinct and diverse roads designated by the U.S. Secretary of Transportation as part of the Byways program. The program also offers the opportunity for the traveler to research information on U.S. Forest Service Byway Byways, Bureau of Land Management (BLM) Back Country Byways, and US Fish and Wildlife Refuges located along or near America's Byways, as well as state-designated scenic Byways.

As described by the [Vermont Agency of Transportation](#), Vermont's 1977 Scenic Roads Law ([19 VSA 25](#)) established the authority to designate state highways as scenic roads "to preserve through planning the scenic quality of Vermont's landscape." It delegated the Vermont Scenery Preservation Council (established in 1966) with oversight responsibility for the law.

The Vermont Byways Program was established in 1996, partly in response to the National Scenic Byways Program, to obtain federal grants for tourism or resource conservation; promote tourism through marketing; and assist local groups in managing resources along designated byways. The state and towns can designate scenic roads and byways under these programs. Vermont's Scenic Roads, Scenic Highways, and Scenic Byways can be seen on the [Vermont Byways Program](#) website now managed by the Vermont Department of Tourism & Marketing. Transportation projects having involvement with a designated scenic road or byway may require extra coordination with local interests and extra attention to aesthetic concerns.

1.2. The Lake Champlain Byway

The Lake Champlain Byway (*Figure 1, on following page*) is a Scenic Byway designated by the State of Vermont located in the northwest portion of the state. From north to south, the formal designated motor route is 185 miles (297 km) long and consists of U.S. Route 2 through the Champlain Islands, U.S. Route 7 through Chittenden County and then portions of U.S. 7 and portions of Vermont Routes 22-A, 73 and 74 in Addison County.

The Byway has grown steadily since its inception in 2000 as different communities have sought obtained designation. Communities must first submit a draft Corridor Management Plan (CMP) to the Vermont Scenery Preservation Council. If the Plan is approved by the Council, the Vermont Transportation Board then holds a public hearing and formally designates the community. Dates of designation are as follows:

Table 1 Lake Champlain Byway: Communities and Year of Designation

Grand Isle County	
2007	Alburg, North Hero, Grand Isle and South Hero
2011	Isle LaMotte
Chittenden County	
2002	Milton, Colchester, Winooski, Essex Junction, Burlington, South Burlington, Shelburne and Charlotte
Addison County	
2000	Vergennes, Middlebury
2009	Ferrisburgh, Cornwall, Shoreham, Orwell, Whiting
2013	Addison, Panton

The Byway is managed by the Lake Champlain Byway Council, a registered Vermont Non-Profit Corporation formed in 2004. The purpose of the Corporation shall be to serve as the managing and coordinating body for the Lake Champlain Byway, a designated Byway within the State of Vermont and to undertake and support projects that balance the promotion, preservation, enjoyment, and stewardship of the Byway’s intrinsic resources. [Note: The Council was created by the Vermont Lake Champlain Byways Partnership, an ad hoc group which operated from November 2001 until November 2004 and which included the regional planning commissions and regional chambers of commerce.]

The Council's Board of Directors is comprised of 12 members as follows:

1 member representing each of the following seven organizations:

- Northwest Regional Planning Commission,

Figure 1. The Lake Champlain Byway



- Chittenden County Regional Planning Commission,
- Lake Champlain Regional Chamber of Commerce,
- Addison County Regional Planning Commission,
- Addison County Chamber of Commerce,
- Lake Champlain Bikeways, Lake Champlain Basin Program

and

- 5 at-large members appointed by the seven members above.

The following excerpt from one of the Byway's brochures published in 2010 paints a picture for the reader of the Byway and some of its key resources:

Lake Champlain Islands Basking in the sun on the bow of the Grand Isle ferry or driving across one of the scenic causeways or bridges that connect us to the mainland. There are a few ways to get here, each its own unforgettable introduction to the Lake Champlain Islands. Nestled between Vermont's Green Mountains and the Adirondacks of New York, the Islands sit below the Canadian border amidst the sixth largest freshwater lake in the United States. They are 30 miles long, with four historic villages along the Byway, and all the fun and recreation you desire, as well as the solitude you crave. See the apple blossoms bloom in the spring. Enjoy boating, biking, and beaches come summertime. Apple picking and leaf-peeping are some of fall's favorite activities. Or visit in the winter for ice fishing and lake skating. There are historic sites, lakeside inns and cottages, and several marinas.

Alburgh, on the Canadian border, has bike trails and sand dunes, farmstead cheese and chocolates. The Islands also host five Vermont State Parks providing ample camping opportunities. North Hero has lakeside inns with fine dining and outdoor theater. Grand Isle's Hyde Log Cabin is Vermont's oldest, and South Hero's apple orchards and vineyards are open in season.

Greater Burlington The eight byway communities of the greater Burlington area present a diverse menu of opportunities for the traveler. It includes densely populated urban areas, growing suburban areas and areas that remain rural. Burlington is the hub for the region having a classic small city downtown with its numerous museums and arts and entertainment venues and several lakeside parks and beaches. You can get around easily on foot, by public transportation or use the city's famed bikepath that fronts Lake Champlain. Winooski, an historic mill city, boasts numerous brick and stone buildings reflective of its industrial heritage. The downtown is completely redeveloped with pedestrian-friendly streets and pocket parks and includes a boardwalk along the roaring Winooski River as well as two fine local museums, quiet nature trails and great fishing holes. South Burlington is a newer, growing suburban community but has several excellent parks and natural areas all linked by an extensive recreation path system. Essex Junction is a compact village that hosts the Byway's only Amtrak passenger station. It is also home to the state's largest outdoor cultural and performance venue, the Champlain Valley Exposition which hosts a traditional country fair around Labor Day and numerous other events year-round.

The towns of Shelburne, Charlotte, Milton and Colchester have histories based upon agriculture and other traditional industries. They host many opportunities for outdoor recreation such as parks and natural areas, rivers, ponds and hiking trails. The traveler can experience classic New England village architecture and tour several well-regarded local museums. Of particular interest are Shelburne Museum and Shelburne Farms, Mt. Philo State Park in Charlotte, Sandbar State Park in Milton and the boating center of Mallett's Bay in Colchester.

Addison County

Located in the lower Champlain Valley bordered by the Adirondacks to the west and the Green Mountains to the east, Addison County is rich in lake, pastoral and mountain beauty. History comes alive and each community along the Byway offers glimpses of its past along with an array of social and cultural opportunities—from concerts, museums and community plays to pancake breakfasts and strawberry festivals. In springtime wildflowers grow in profusion, making our roadsides, meadows and woodlands a welcoming garden. Nearby mountains, forests and lakes invite you to pack a picnic, enjoy swimming holes, hike the trails or camp under a sea of stars.

The area's proximity to Lake Champlain and year-round recreation in the Green Mountain National Forest make it a desirable destination. Golf, tennis, hiking and biking are favorite pastimes in the summer; in winter, snowy mountains and fields are perfect for Alpine and Nordic skiing as well as snowshoeing. The golds and reds of autumn make fall foliage some of the most spectacular in the world.

1.3. The Chittenden County Corridor

First designated as part of the Byway in May 2002, the Chittenden County Corridor of the Byway consists of, from north to south, the municipalities of Milton, Colchester, Winooski, Essex Junction, Burlington, South Burlington, Shelburne and Charlotte (cf. Figure 2 on following page). The Corridor's designated Byway motor route is U.S. 7 and a portion of U.S. 2. Although not located on the motor route, Essex Junction is included in the Byway due to its role as a transportation node given that it hosts an Amtrak passenger rail station.

Chittenden County is Vermont's most populous county. It serves as the economic center for northwest Vermont with numerous large and small businesses. It is home to the state's largest medical facility, Fletcher Allen in Burlington; the largest employer, Global Foundries in Essex Junction; the largest educational facility, the University of Vermont in Burlington, and the largest number of cultural facilities and visitor services. The combination of cultural, social, economic and political forces at work here is perhaps the most complex in Vermont and has led to considerable change in the county.

As shown in *Figure 2* the County as a whole also geographically diverse. Its western border is formed by Lake Champlain, which is approximately 124 miles long, up to 12 miles in width and also abuts the State of New York and stretches into the Canadian province of Quebec. The Lake is a linchpin to the regional tourism industry attracting domestic and foreign visitors interested in experiencing its natural beauty and history and its recreational opportunities. The Lake also serves as the primary source of drinking water for a large portion of the county. The other major defining features are the Winooski River and the Lamoille River that flow east to west across the County before emptying into Lake Champlain. Flowing into these two major rivers as well as directly into Lake Champlain are tributaries and smaller rivers such as the Browns River, the Huntington River and the LaPlatte River as well as numerous streams and creeks. The Byway communities along the Lake from Milton south to Charlotte are relatively flat in general although localized topography is often more variable. Moving eastward the landscape shifts with only the areas of river bottom being flat with the foothills of the Green Mountains becoming the defining feature.

Figure 2. Lake Champlain Byway: Chittenden County Corridor

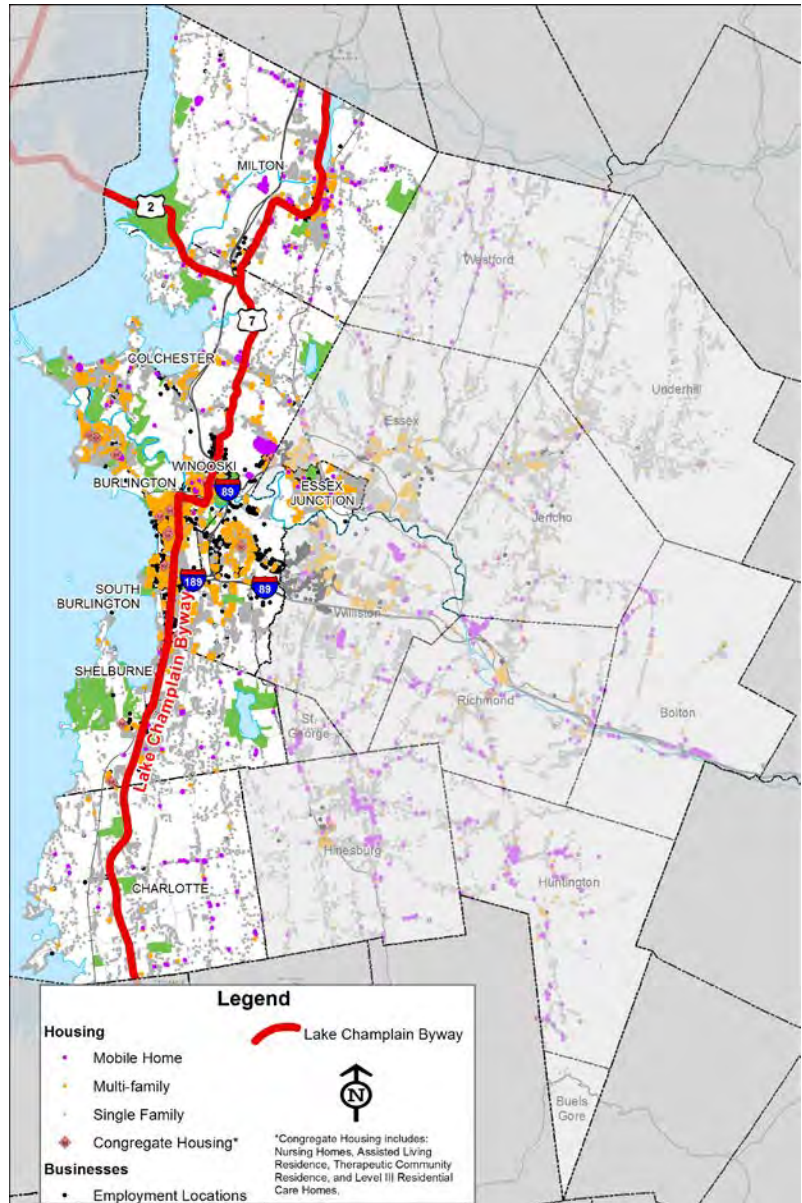


Figure 2 also shows the degree and types of development in the county. Residential, commercial, industrial and institutional uses are concentrated in the core urban and suburban communities of Burlington, Winooski, South Burlington, Williston, Shelburne, Essex, Essex Junction, Colchester and Milton. *Figure 1.2* shows the distribution of housing and employment in the county. Rural populations are scattered along the road system with limited pockets of density at village locations. Farming operations (dairy, beef, horse, vegetables, etc.) are distributed throughout the County although they are more prevalent in the towns of Milton, Colchester, Westford, Charlotte, Richmond, Hinesburg, Huntington, Jericho and Underhill.

Over the past 45 years, residents have seen the area around Burlington transform from farmlands to an urban and suburban landscape supported by a service and manufacturing economic base; however, according to the National Land Cover Datasets, over 80 percent of the county still remains as undeveloped forests and farmland.

Table 2. Chittenden County Byway Communities, population change, 2000-2015

	YEAR			
	2000	2005	2010	2015
BURLINGTON	39,815	41,186	42,417	42,570
CHARLOTTE	3,569	3,675	3,754	3,822
COLCHESTER	16,986	17,096	17,067	17,293
ESSEX JUNCTION	8,597		9,271	9,709
MILTON	9,479	9,979	10,352	10,610
SHELBURNE	6,944	7,105	7,144	7,566
SOUTH BURLINGTON	14,888	16,497	17,904	18,536
WINOOSKI	6,561	6,947	7,267	7,223
<i>April 1 Census Counts for 2000 and 2010.</i>				
<i>July 1 Estimates for 2001-09, 2011-15</i>				

The first Chittenden County CMP was drafted and completed from 2000 to 2002 with major staff assistance from the Chittenden County Regional Planning Commission (CCRPC). The CCRPC is a governmental entity created by the 19 municipalities of Chittenden County under authorization set forth in Vermont Statutes to carry out various required and optional duties. The CCRPC manages and implements a variety of sub-regional and regional projects on behalf of its member municipalities and other entities. Various committees were formed to provide input to CCRPC during the development of the CMP. Drafts of the CMP were reviewed from July through December 2001 and comments and desired changes were incorporated in early 2002. The Vermont Scenery Preservation Council approved the Plan and the requested designation on February 4, 2002 followed by formal approval and designation by the Vermont Transportation Board on May 7, 2002.

2. The 2002 Chittenden County Corridor Management Plan

Byway planning in both Vermont and New York began in the mid-1990s and planning efforts focused on the concept of one Byway circumnavigating Lake Champlain. Each of the organizations for the ten counties abutting the Lake began the process of inventorying assets and exploring desired goals and strategies. For a variety of reasons, however, this one bi-state Byway never took shape. The Lakes to Locks Passage National Scenic Byway in New York moved forward with its own efforts while the Lake Champlain Byway, as described above, gradually evolved on its own as well.

The 2002 CMP was exploratory in tone and presented a wide range of ideas and recommendations. This is not surprising as it was written before the Byway existed and before any Byway projects had been implemented. The document envisioned a lake wide “Byways” comprised of four interconnected travel modes: bicycle paths, waterway routes, walking tours and roads. These modes would serve to reconnect communities to each other in the same way that water travel up and down and back and forth across the Lake once connected people.

The 2002 CMP set forth three broad objectives:

1. TRANSPORTATION AND MULTI-MODAL CONNECTIONS:

To enhance transportation infrastructure and develop multi-modal (auto, bicycle, pedestrian, ferry, equestrian, train, boat, bus, and air travel) improvements in community transportation centers for visitors and residents.

2. INTRINSIC RESOURCES AND PARTNERSHIPS:

To create and support educational and recreational opportunities for visitors through strong partnerships with organizations, businesses, nonprofit groups and agencies that have an interest in conserving the significant intrinsic resources of the Byway.

3. SUSTAINABLE TOURISM AND ECONOMIC DEVELOPMENT:

To promote and enhance tourism opportunities for the region through sustainable economic development and conservation of intrinsic resources.

For each of these objectives, the 2002 CMP discussed and recommended various strategic actions to meet these objectives.

- For Objective 1, the CMP discussed the four transportation modes, waypoint communities, multi-modal transportation centers, railroads, ferries, bus transit, directional and interpretive signage, bike racks / lockers, linking byways with the Green Mountains, safe trail access and use, bike safety programs and restroom facilities.
- For Objective 2, the CMP discussed the six intrinsic resource categories, describes the various entities such as museums, non-profit organizations and agencies that manage these resources and presents a spreadsheet inventory of these resources. The CMP touches on some ideas of how the Byway could work with these entities.
- For Objective 3, the CMP discussed duplication and competition, communications, local perceptions of tourism and byway marketing strategies.

2.1. Accomplishments of the Byway in Chittenden County

From 2002 to the present, the CCRPC worked with its member municipalities to implement various projects and programs consistent with these objectives. The following table lists various non-transportation projects completed with primary funding support from various National Scenic Byway grants along with matching support provided by the Vermont Agency of Transportation, CCRPC non-Federal funds and municipal match of cash and/or staff support.

Table 3. Implementation of Byway projects in Chittenden County, 2002-2017

Project or Program implemented, 2002 – 2017 [See Appendices]	Fulfills 2002 CMP Objective #
Installation of Byway directional roadside signs; 16 in 2007.	1 and 3
Development and installation of interpretive panels; 32 in 2008; 4 in 2011; 2 in 2015.	1
Development & installation of informational kiosks; 3 in 2010; 1 in 2013 and 1 in 2015	1 and 3
Assistance to municipalities in scoping of improvements to visitor amenities	1
Development and publication of a Greater Burlington byway communities' intrinsic resources brochure/map and companion poster	2
Development and publication of two separate Byway promotional brochures, one French, one English for distribution at State visitor centers;	3
Development and management of www.lakechamplainbyway.com including large portions in French; a Byway facebook page and an ArcGIS "story map" mobile/web app.	2 and 3
Development and publication of a Water Recreation Sites of the Byway brochure in 2015	1, 2 and 3
Development and publication of Winter Recreation along the Byway brochure in 2016	1, 2 and 3
Development of Lake Champlain Byway Interpretation Coordination Plan in 2015	2 and 3
Installation of two Bicyclist Rest Areas for users of the Lake Champlain Bikeway in 2016)	1 and 3
Implementation of a cell-phone "interpretive story"/tour in 2017.	1
Completion of an updated Chittenden County CMP in 2017	1, 2 and 3

In addition to the projects noted above, a wide variety of transportation projects recommended in the 2002 CMP have been completed. These include sidewalks, recreation paths, intersection improvements, safety improvements, major road rebuilds, etc. The projects were then brought to completion through the use of Federal, state and municipal funds. See Appendices for details on these projects.

2.2 Why a new Corridor Management Plan is needed.

The 2002 CMP successfully met the requirements of Corridor Management Planning required for designation. However, a new and revised CMP is needed for a variety of reasons.

- first, the State of Vermont's Byway program requires it;
- second, the plan needs to be updated to reflect the current state of the Byway's intrinsic resources;
- third, the Byway must take account of the elimination of Federal NSB grant opportunities and program support that started in Federal fiscal year 2013, and
- fourth, a new CMP needs to incorporate what the Byway and its supporting

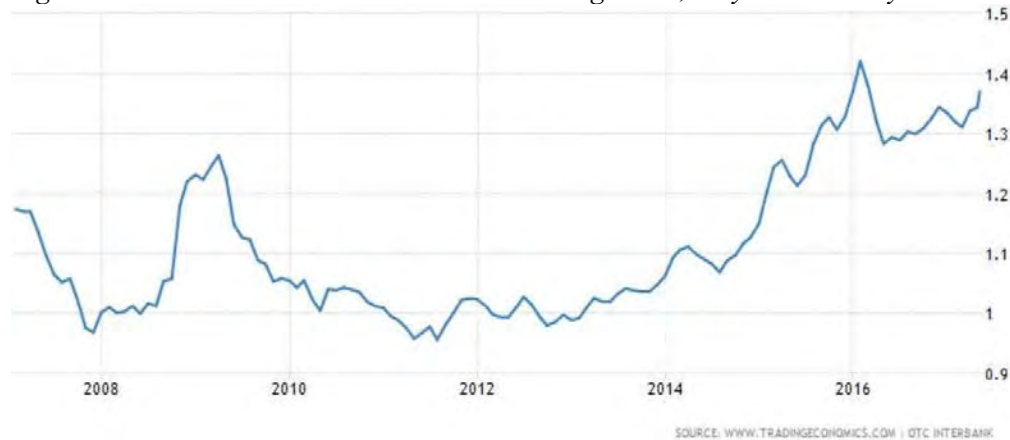
organizations have learned as they have implemented various projects and collaborated together to “manage” the Byway over the last several years.

According to the Vermont Byways Program manual, “a byway’s corridor management plan must be kept up to date as necessary.” The manual requires that every five years, a Byway “recertify” itself by submitting documentation that the quality of the byway’s intrinsic resources have not eroded, evidence on work done to advance the promotion of the byway and progress made on the corridor management plan. The Vermont Byways Program was first overseen by the Scenery Preservation Council which later became the Vermont Byways Council. From 2002 through 2013 representatives of the Byway provided reports both orally and in writing to these Councils. Additionally, CCRPC staff communicated on a regular basis regarding activities of the Byway with the State of Vermont’s Scenic Byways Program coordinator, participated in annual Vermont Byways Summits and similar meetings.

However, starting in 2013, FHWA discontinued funding for the National Byway Program and at that time Vermont moved state coordination of the State Byway Program from Vermont Agency of Transportation to the Vermont Department of Marketing and Tourism. State statutes were subsequently changed dissolving the Vermont Byways Council shifting byway duties of the Council to the Vermont Transportation Board. The CCRPC continues to report on the Byway’s activities to the Vermont Transportation Board and Vermont Department of Marketing and Tourism. Before FHWA funding was eliminated, the Byway Council received a byway grant to update the CMPs for the byway. Completion of this Chittenden County CMP as well as those for Grand Isle and Addison counties will document useful information about the intrinsic qualities in the 22 communities of the Byway which may be used for other planning endeavors.

There has been significant variability in the regional and local tourism situation over the last several years. Tourism is a discretionary expense and is therefore affected by variable such as exchange rates, the prices of gas and the overall economic situation. A key variable affecting visitation numbers is the variable strength of the Canadian dollar as demonstrated in the figure below.

Figure 3. Canadian dollar to U.S. Dollar Exchange Rate, May 2007 to May 2017



Source: www.tradingeconomics.com accessed on 5/8/17.

Gas prices also affect tourism numbers although this can lead to mixed results. When gas prices spike, people tend to travel shorter distances. Fortunately, the Byway is located within a few hours' drive of several large population centers such as Montreal and Boston and within a 10-hour drive of most of the U.S. Eastern Seaboard from Portland, Maine down to Washington, DC.

Table 4. New England Retail Gas prices, regular (all formulations), 2006-2016

Year	Price
2006	2.605
2007	2.788
2008	3.248
2009	2.361
2010	2.81
2011	3.606
2012	3.717
2013	3.615
2014	3.467
2015	2.411
2016	2.148

Source: www.eia.gov, accessed on 5/8/17.

On the other hand, visitors from more distant destinations may forgo a long drive to Vermont during times of high gas prices.

In terms of tracking specific tourist visits to Vermont, let alone to the Lake Champlain Byway, such an exercise is challenging and beyond the scope of this Plan. If the Byway were located on one single road with limited points of access or if the Byway was only comprised of a few major intrinsic resource sites such as a national park or a singular beach, then measuring discrete visitor numbers might be achievable. However, the Lake Champlain Byway itself spans 22 counties and within the Chittenden County Corridor there are numerous points of entry to the Byway. Additionally, the Byway occurs within the context of Vermont's busiest region in terms of business activity, commercial traffic, commuting traffic and visitors come and go from within and without the Byway for numerous reasons besides tourism.

Therefore, just as gas prices and exchange rates vary, so too do visitor numbers into the region. One index that can be examined is recorded visits (via electronic eyes at entrance doors) to the State's network of 15+ Visitor Information Centers. There are two such centers located immediately outside of the Chittenden County Corridor both located on Interstate 89: Georgia Southbound (located just north of Milton) and Williston Northbound (located just east of South Burlington). Visitor counts at these facilities from 2006 through 2016 are as follows:

Table 5. Visitors to select Vermont Visitor Information Centers, 2006-2016

Year	Georgia SB	Williston NB	Vermont
2006	103,022	370,490	3,970,227
2007	117,278	374,079	3,999,756
2008	116,590	338,891	3,786,304
2009	116,364	374,374	3,273,482
2010	110,507	366,461	3,231,137
2011	101,547	350,098	3,001,702
2012	103,385	341,767	2,984,873
2013	91,705	334,632	3,233,784
2014	98,386	329,159	3,297,553
2015	95,200	340,174	3,339,292
2016	98,275	322,415	3,340,833

With regards to visits to all of the Vermont Centers, this data is affected by both permanent and temporary closures. For example, in February 2009 four less-visited Centers were closed; in May 2011 one heavily visited Center was temporarily closed for renovations while in 2016 one new Center was opened. According to staff at the Vermont Welcome Centers (personal communication, 5/9/2017), over the last 10 years operating hours especially in late evening have been curtailed at several locations. Notably, however, there has been little change in operating hours at the Georgia Southbound and Williston Northbound centers. Staff related that both spikes in gas prices or the lower purchasing power of the Canadian dollar have an impact on visitor numbers.

The Byway’s transportation infrastructure continues to evolve. On the positive side, major improvements and upgrades have been implemented in portions of Chittenden County such as road widening and sidewalks along Route 7 in Shelburne, South Burlington, Burlington and Milton; improvements at Burlington International Airport; operation of the bike ferry linking Colchester and South Hero and the continued expansion of paved bike paths. On the negative side, Amtrak passenger service to Essex Junction remains at 1 train per day with the “*Vermont*” departing Washington, DC around 8 a.m., passing through New York City around 12 noon and finally reaching Essex Junction at around 8 p.m.

There are new intrinsic resource attractions serving the traveler now. The most notable is the ECHO Lake Aquarium and Science Center which opened in 2003 on the Burlington waterfront and has become a major year-round destination. The Champlain Valley Exposition in Essex Junction continues to draw visitors in the summer months but also now has heavy use by conventions and associations throughout the year. Starting in 2013 Shelburne Museum transitioned to year-round operation. Ethan Allen Homestead & Museum remains popular.

Recreational opportunities continue to grow. State parks remain as long standing attractions to both tourists and local residents. There are four State Parks located in Chittenden County, three of which are located in the County Corridor of the Byway: Mount Philo State Park in Charlotte,

Sand Bar State Park in Milton and Niquette Bay in Colchester. Both Mount Philo and Sand Bar opened in 1936 and offer stunning views of Lake Champlain and the Adirondacks. As demonstrated in the tables below, annual visits to these two parks are substantial:

Table 6. Visitors to Mount Philo State Park, 1936-2016, 10-year averages and 2016

YEAR	DAY USE	CAMPING	TOTAL
1936-1945	7,606	76	7,682
1946-1955	9,983	380	10,363
1956-1965	11,269	857	12,125
1966-1975	14,493	3,181	17,674
1976-1985	11,798	1,863	13,661
1986-1995	14,253	2,767	17,019
*1996-2005	14,415	2,559	16,974
2006-2015	31,682	2,417	34,100
2016	45,579	2,034	47,613

Source: Vermont State Parks, data file obtained 5/3/2017

Note that there were no visits in 1998 due to Ice Storm in January 1998 (a Federally-declared disaster) which caused extensive tree falls throughout park. Visitor numbers also down in following years as a result.

Table 7. Visitors to Sand Bar State Park, 1936-2016, 10-year averages and 2016

YEAR	DAY USE	CAMPING	TOTAL
1936-1945	12,393	393	12,786
1946-1955	32,548	3,864	36,412
1956-1965	40,244	8,122	48,367
*1966-1975	57,337	3,393	60,729
1976-1985	68,890	0	68,890
1986-1995	77,864	0	77,864
1996-2005	47,977	0	47,977
2006-2015	43,632	0	43,632
2016	41,024	0	41,024

Source: Vermont State Parks, data file obtained 5/3/2017

Note that camping was no longer allowed effective in 1971. Day use levels can also be affected by lake conditions such as water level. For example, on May 6, 2011, spring levels reached 103.2 ft., 2.2 ft. above the 101 ft. 100-year floodplain and stayed high for several weeks after. Total day use visits in 2011 were down to 33,373.

Niquette Bay is a more recent addition to the State Park system. Only day use is allowed. Annual visits by both tourists and Vermonters have grown steadily.

Table 8. Visitors to Niquette Bay State Park, 2009-2016

YEAR	DAY USE
2009	5,587
2010	6,866
2011	6,085
2012	10,008
2013	8,945
2014	14,373
2015	14,536
2016	15,566

Source: Vermont State Parks, data file obtained 5/3/2017

In addition to visits to State parks, traditional tourist activities such as fishing, boating, and museums remain popular. Indeed the popularity of recreational fishing on the Lake has grown tremendously. For example, the local non-profit, Lake Champlain International organizes an annual Father’s Day fishing derby which hosts more than 5,000 participants from more than 30 states. Lake Champlain is also repeatedly named as one of the nation’s top bass fishing destinations by national and trade media. Biking, both mountain and road, continues to grow in popularity. The area also gained exposure through hosting the 2011 and 2012 USA Triathlon Age Group, Sprint and Elite National Championships.

In addition to recreational pursuits, the Byway’s communities have seen a steady growth in private sector activities that cater to both residents and visitors. These include numerous restaurants and specialty food producers as well as new hotels, and like other areas of the country, the expansion of AirBnB as a lodging option.

The Plan most also be based upon the new fiscal reality facing the Byway; the lack of a dedicated Federal grant funding source beginning in Federal Fiscal Year 2013 which is not anticipated to be revived. Operative from late 1990s through FY2012, the National Scenic Byway grant program represented the most common and reasonable opportunity for Vermont’s Byways to access significant grants commonly in the range of \$20,000 to \$100,000 each. However, Congressional action with the “MAP-21” Federal Highway funding bill in FY13 discontinued funding the annual grant program (of more than \$30 Million dollars annual) and failed to reinstate the America’s Byways Resource Center eliminated the year before by the U.S. Secretary of Transportation. The Center organized a national conference every two years and also had dedicated staff who would conduct site visits throughout the country including Vermont one to two times a year for more focused trainings.

Last, as noted earlier, the 2002 CMP was somewhat of an abstract exercise in that the Byway did not yet exist when it was written. In Chittenden County, the CCRPC has worked since 2003

to implement various deliverables funded through grants provided by FHWA’s National Scenic Byways program. In addition, the CCRPC has been meeting regularly with other members of the Lake Champlain Byway Council to share ideas for advancement of the Byway and to jointly work on submitting grant proposals and managing projects. Through this process of managing and implementing Byway projects, the CCRPC and staff of its Byway communities have learned some valuable lessons about how the Byway should be managed. This update of the Corridor Management Plan is informed by those lessons.

3. An Assessment of the Corridor’s Intrinsic Qualities of the Corridor

For the purposes of this CMP we shall utilize the definitions provided by the National Scenic Byways program. **An intrinsic quality is defined as “features that are considered representative, unique, irreplaceable, or distinctly characteristic of an area. Intrinsic qualities arise from a particular combination of resources along a byway that together define its character, interest and appeal.”** The National Scenic Byways (NSB) program places intrinsic resources into six categories: scenic, outdoor recreation, historic, natural, cultural and archeological (archo). The following discussion cites the NSB definition for each intrinsic quality and then assesses these qualities vis-à-vis the Chittenden County Corridor. [Note: For purposes of discussion, the intrinsic qualities are described as either primary or secondary for the Corridor as a whole. The relative importance of each of these qualities, however, varies by community.]

The following tables list the intrinsic resource sites in each of the Byway’s eight Chittenden County Corridor communities.

Table 9. Intrinsic Resource Sites, Milton

Map Number	MILTON	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
1	Bombardier Park	Town of Milton		X				
2	Eagle Mountain Natural Area	Town of Milton	X	X		X		
3	Lamoille River Fishing Access	VT Dept. of Fish & Wildlife		X				
4	Lamoille River Park	Town of Milton	X					
5	Lamoille River Walk	Town of Milton		X				
6	Milton Historical Museum	Milton Historical Society			X		X	
7	Milton Public Library	Town of Milton					X	
8	Sand Bar State Park	Vermont State Parks	X	X		X		
9	Sand Bar Wildlife Refuge Fishing Access	VT Dept. of Fish & Wildlife		X		X		
10	Sandbar Wildlife Management Area	VT Dept. of Fish & Wildlife		X		X		
11	Sears Fishing Access	VT Dept. of Fish & Wildlife		X		X		
12	Town Forest and Pond	Town of Milton	X	X		X		
13	Van Everest Fishing Access	VT Dept. of Fish & Wildlife		X		X		
14	General Stannard House	Milton Historical Society	X					

Table 10. Intrinsic Resource Sites, Colchester

Map Number	COLCHESTER	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
15	Airport Park and Log Schoolhouse	Colchester Historical Society			X		X	
16	Bayside Park	Town of Colchester	X	X		X		
17	Burnham Memorial Library	Town of Colchester					X	
18	Causeway Park and Island Line Trail	Town of Colchester	X	X	X	X		X
19	Colchester Bog	UVM Natural Areas Program		X		X		
20	Colchester Historical Society	Colchester Historical Society			X		X	
21	Colchester Point Fishing Access	VT Dept. of Fish & Wildlife		X		X		
22	Colchester Pond	Winooski Valley Parks District	X	X		X		
23	Delta Park	Winooski Valley Parks District	X	X		X		
24	Fort Ethan Allen Historic District	Town of Colchester						
25	Half Moon Cove Wildlife Management Area	VT Dept. of Fish & Wildlife		X		X		
26	Heineberg Access/Billado Park	Town of Colchester		X		X		
27	Law Island	Town of Colchester	X	X		X		
28	Macrae Farm Park	Winooski Valley Parks District		X		X		
29	Malletts Bay Fishing Access	VT Dept. of Fish & Wildlife		X		X		
30	McCarthy Arts Center	St. Michael's College					X	
31	Niquette Bay State Park	Vermont State Parks	X	X		X		
32	Porter Natural Area	Town of Colchester		X		X		
33	Rossetti Natural Area	Town of Colchester	X	X		X		
34	Sunny Hollow Natural Area	Town of Colchester		X		X		
35	Vermont Veterans Militia Museum and Library	Vermont National Guard			X		X	
36	Phoenix Underwater Historic Preserve	VT Division of Historic Preservation		X	X	X		X

Figure 4. Intrinsic Resources: Milton & Colchester

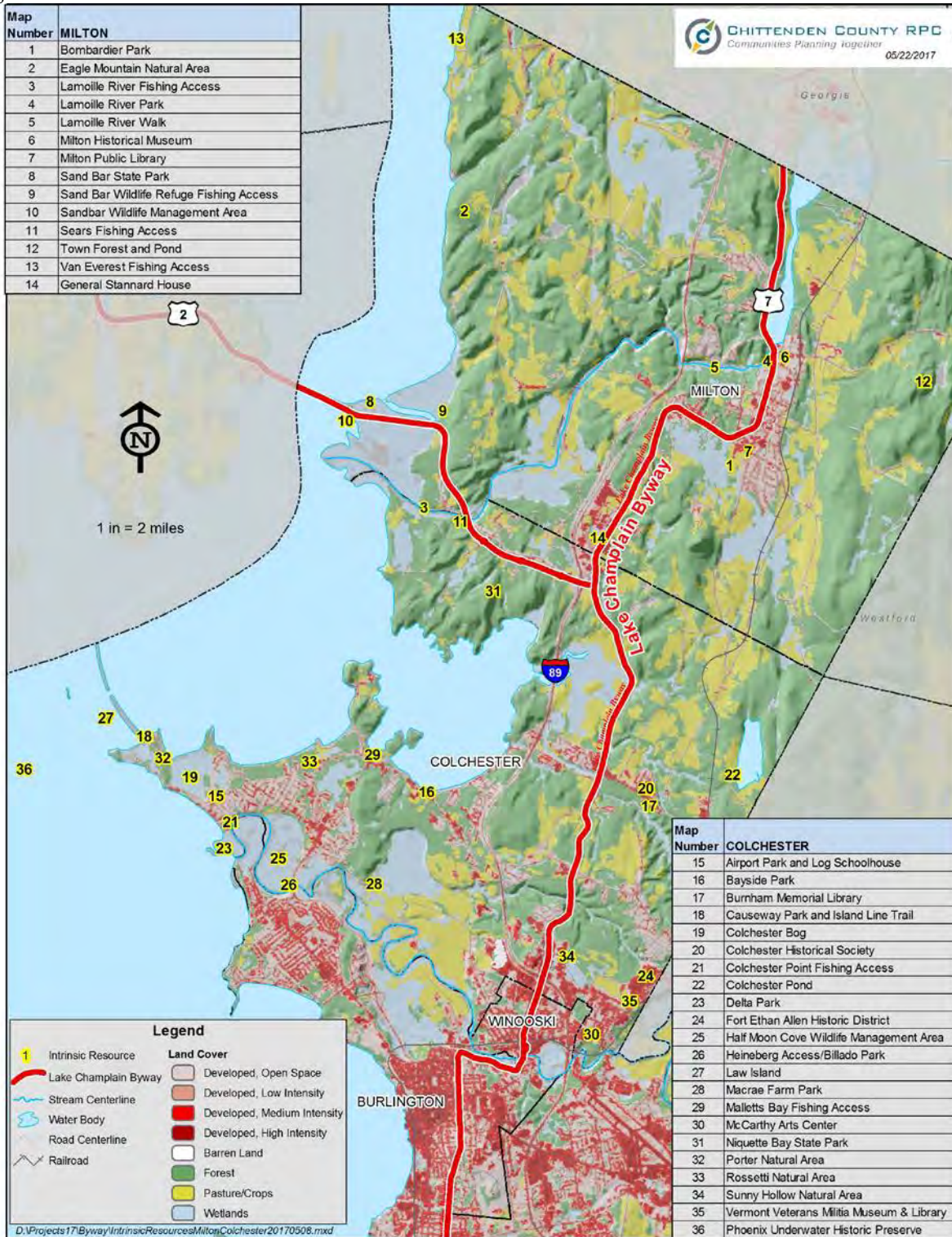


Table 11. Intrinsic Resource Sites, Essex Junction

Map Number	ESSEX JUNCTION	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
1	Brownell Library	Village of Essex Junction			X		X	
2	Champlain Valley Exposition	Champlain Valley Expo			X		X	
3	Downtown Essex Junction Commercial Historic District	Village of Essex Junction			X		X	
4	Historical Society (in Mason Brothers)	Essex Junction Historical Society			X		X	
5	Maple Street Park	Village of Essex Junction		X				
6	Tree Farm Recreation Facility	Village of Essex Junction & Town of Essex		X				

Table 12. Intrinsic Resource Sites, Winooski

Map Number	WINOOSKI	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
7	Casavant Natural Area / Winooski Nature	City of Winooski	X	X		X		
8	Gilbrook Natural Area	City of Winooski		X		X		
9	Heritage Winooski Mill Museum	Winooski Historical Society			X		X	X
10	Landry Park	City of Winooski		X		X		
11	LeClair Avenue Historic District	City of Winooski						
12	Millyard Canoe Access	City of Winooski		X		X		
13	Winooski Falls Mill Historic District	City of Winooski	X	X	X		X	X
14	Winooski Memorial Library	City of Winooski			X		X	
15	Winooski One Hydro Park and Fishway	Burlington Electric	X	X	X	X		
16	Winooski River Walk	City of Winooski	X	X	X	X		

Table 13. Intrinsic Resource Sites, Burlington

Map Number	BURLINGTON	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
17	Bailey-Howe Library	University of Vermont			X		X	
18	Battery Park	City of Burlington	X		X		X	X
19	Battery Street Historic District	City of Burlington			X		X	X
20	Burlington Bikepath	City of Burlington	X	X				
21	Burlington Waterfront	City of Burlington	X	X	X		X	X
22	Centennial Woods	UVM Natural Areas Program	X	X		X		
23	Church Street Historic District	City of Burlington			X		X	X
24	Church Street Marketplace	Church Street Marketplace			X		X	
25	Coal Barge A.R. Noyes Underwater Historic Preserve	VT Division of Historic Preservation		X	X	X		X
26	Community Sailing Center	Community Sailing Center		X			X	
27	ECHO Lake Aquarium and Science Center	ECHO			X	X	X	X
28	Ethan Allen Homestead	Ethan Allen Homestead	X		X	X	X	X
29	Ethan Allen Park	City of Burlington	X	X		X		
30	Fleming Museum	University of Vermont			X		X	X
31	Fletcher Free Library	City of Burlington			X		X	
32	Flynn Theater	Flynn Theater			X		X	
33	General Butler Underwater Historic Preserve	VT Division of Historic Preservation		X	X	X		X
34	Horse Ferry Underwater Historic Preserve	VT Division of Historic Preservation		X	X	X		X
35	Intervale Center	Intervale Center	X	X		X		X
36	Leddy Park	City of Burlington	X	X		X		
37	Local Motion Trailside Center	Local Motion		X				
38	North Beach Park	City of Burlington	X	X		X		
39	Oakledge Park	City of Burlington	X	X		X		
40	O.J. Walker Underwater Historic Preserve	VT Division of Historic Preservation		X	X	X		X
41	Perkins Museum of Geology	University of Vermont				X		X
42	Perkins Pier Boathouse	City of Burlington	X	X				
43	Royal Tyler Theater	University of Vermont			X		X	
44	Salmon Hole Park	Winooski Valley Parks District	X	X		X		
45	Starr Farm Dog Park	City of Burlington		X				
46	University Green Historic District	City of Burlington			X		X	X
47	University of Vermont Dairy Barn	University of Vermont			X			
48	Waterfront / Urban Reserve Dog Park	City of Burlington		X				

Figure 5. Intrinsic Resources: Essex Junction, Winooski & Burlington

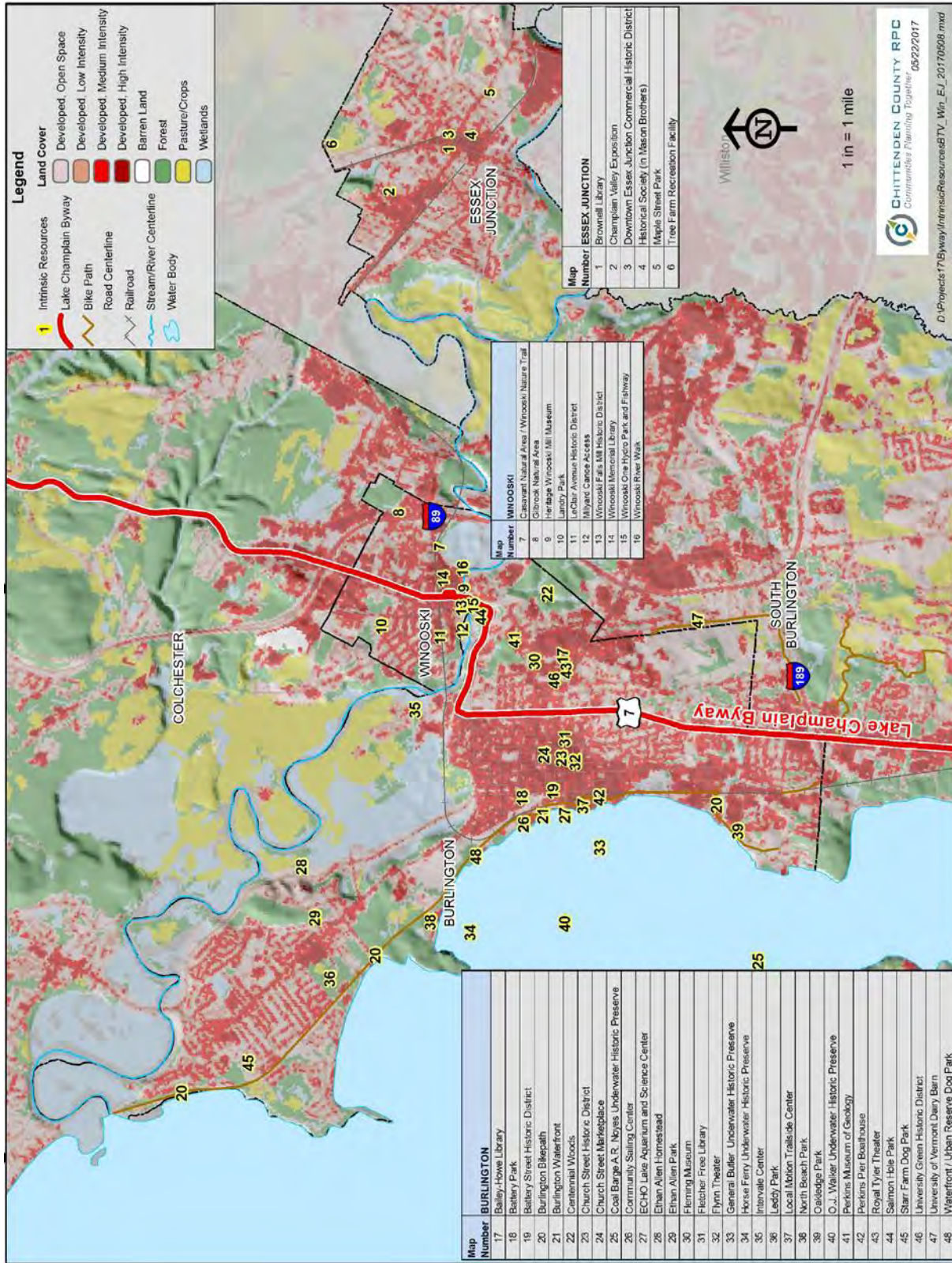


Table 14. Intrinsic Resource Sites, South Burlington

Map Number	SOUTH BURLINGTON	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
1	Awasiwi Trail	City of South Burlington		X		X		
2	Centennial Woods	UVM Natural Areas Program	X	X		X		
3	East Woods Natural Area	UVM Natural Areas Program		X		X		
4	Muddy Brook Park	Winooski Valley Parks District		X		X		
5	Muddy Brook Wetland Reserve	Winooski Valley Parks District	X	X		X		
6	Overlook Park	City of South Burlington	X					
7	Red Rocks Park	City of South Burlington	X	X	X	X		
8	South Burlington Community Library	City of South Burlington						X
9	South Burlington Recreation Path System	City of South Burlington		X				
10	Wheeler Natural Area	City of South Burlington	X	X		X	X	
11	Winooski Gorge Natural Area	Winooski Valley Parks District	X	X		X		

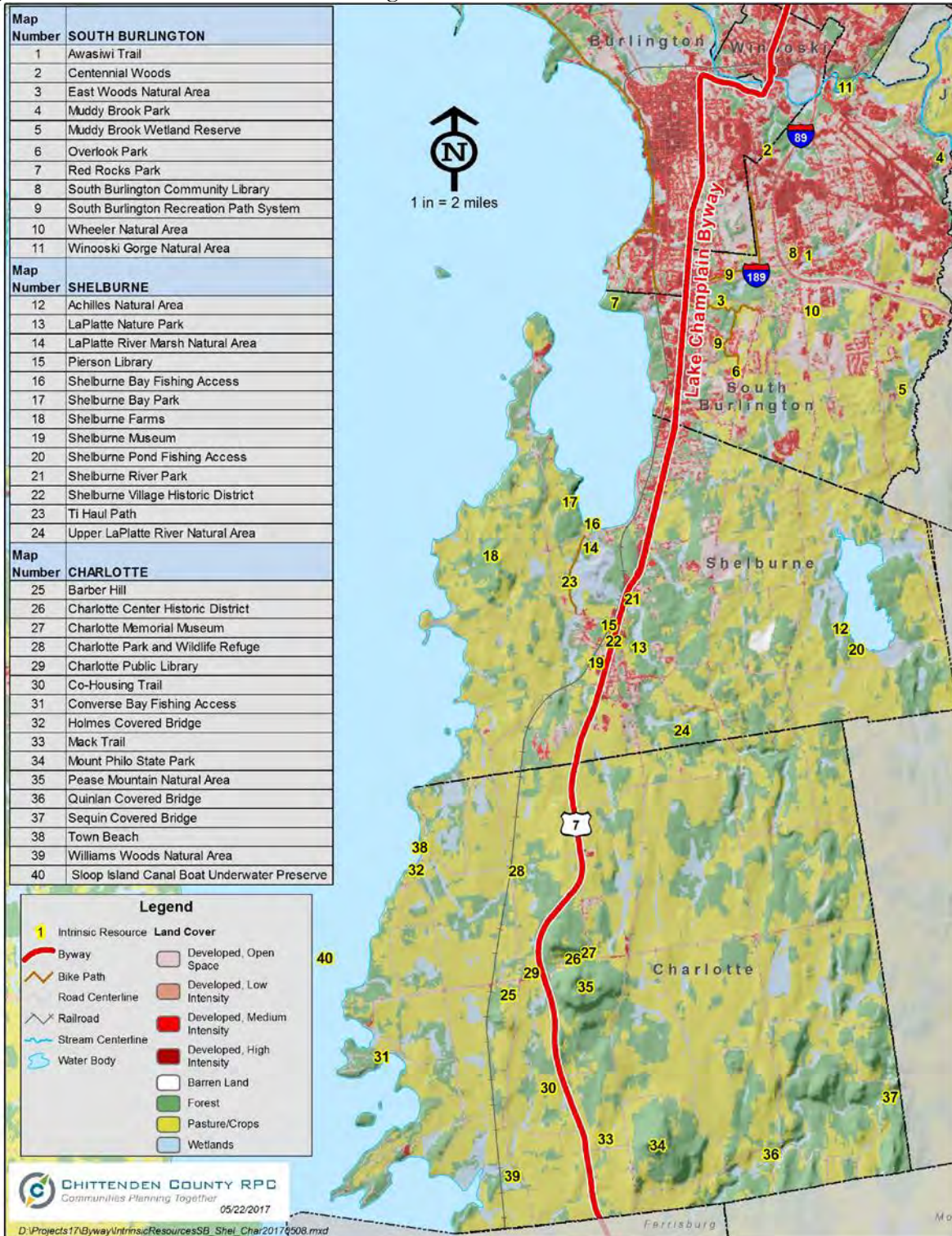
Table 15. Intrinsic Resource Sites, Shelburne

Map Number	SHELBURNE	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
12	Achilles Natural Area	The Nature Conservancy	X	X		X		
13	LaPlatte Nature Park	Town of Shelburne	X	X		X		
14	LaPlatte River Marsh Natural Area	The Nature Conservancy	X	X		X		
15	Pierson Library	Town of Shelburne			X		X	
16	Shelburne Bay Fishing Access	VT Dept. of Fish & Wildlife	X	X		X		
17	Shelburne Bay Park	Town of Shelburne	X	X		X		
18	Shelburne Farms	Shelburne Farms	X		X	X	X	
19	Shelburne Museum	Shelburne Museum			X			
20	Shelburne Pond Fishing Access	VT Dept. of Fish & Wildlife	X	X		X	X	
21	Shelburne River Park	Lake Champlain Land Trust		X		X		
22	Shelburne Village Historic District	Town of Shelburne						
23	Ti Haul Path	Town of Shelburne		X	X		X	
24	Upper LaPlatte River Natural Area	Lake Champlain Land Trust		X		X		

Table 16. Intrinsic Resource Sites, Charlotte

Map Number	CHARLOTTE	Managing entity	Primary Resource			Secondary Resource		
			Scenic	Outdoor	Historic	Natural	Cultural	Archeo
25	Barber Hill	Town of Charlotte	X			X		
26	Charlotte Center Historic District	Town of Charlotte			X		X	
27	Charlotte Memorial Museum	Charlotte Historical Society			X		X	X
28	Charlotte Park and Wildlife Refuge	Town of Charlotte	X	X		X		
29	Charlotte Public Library	Town of Charlotte			X		X	
30	Co-Housing Trail	Town of Charlotte	X	X		X		
31	Converse Bay Fishing Access	VT Dept. of Fish & Wildlife	X	X		X		
32	Holmes Covered Bridge	Town of Charlotte			X		X	
33	Mack Trail	Town of Charlotte	X	X				
34	Mount Philo State Park	Vermont State Parks	X	X	X	X		X
35	Pease Mountain Natural Area	UVM Natural Areas Program	X	X		X		
36	Quinlan Covered Bridge	Town of Charlotte			X		X	
37	Sequin Covered Bridge	Town of Charlotte			X		X	
38	Town Beach	Town of Charlotte	X	X		X		
39	Williams Woods Natural Area	The Nature Conservancy	X			X		
40	Sloop Island Canal Boat Underwater Preserve	VT Division of Historic Preservation		X	X	X		X

Figure 6. Intrinsic Resources: South Burlington, Shelburne & Charlotte



3.1. Primary Intrinsic Qualities of the Byway

3.1.1. Scenic Quality

Scenic Quality is the heightened visual experience derived from the view of natural and manmade elements of the visual environment of the scenic byway corridor. The characteristics of the landscape are strikingly distinct and offer a pleasing and most memorable visual experience. All elements of the landscape--landform, water, vegetation, and manmade development--contribute to the quality of the corridor's visual environment. Everything present is in harmony and shares in the intrinsic qualities.

The Corridor presents a unique scenic experience to the traveler. The visual experience includes both broad vistas and intimate scenes. First, the visual landscape is framed by extensive views of several unique geographic features. To the west, one views the vast Adirondack Mountains while in the foreground rests Lake Champlain itself. To the east lie the Green Mountains. The area of the corridor itself, which runs roughly south to north, possesses a unique landscape of woodlands, farmlands, villages and towns.

Down at the level of the Byway's primary autoroute of U.S. 7 and U.S. 2, the traveler's views change as they transit the corridor presenting a diversity of experiences. Family farms, woodlands, and small creeks dot the landscape especially in Milton, Colchester and Charlotte. The urban communities of Burlington and Winooski enable visitors to see a variety of architecture, varied neighborhoods and historic and refurbished industrial buildings of the late 19th and early 20th century. Shelburne and Essex Junction have classic "village" downtowns.

There is to be sure some less-than-scenic suburban "strip development" along U.S. 7 from the northern portion of Shelburne through South Burlington into the southern end of Burlington and again near the Winooski-Colchester boundary and again in central Milton. However, these municipalities have worked with the Vermont Agency of Transportation to implement numerous streetscape improvements such as sidewalks, pedestrian crossings, dedicated bike lanes, tree plantings and improved lighting that have helped to mitigate against these impacts. It should be recognized also that these areas also host numerous gas stations, restaurants, grocery stores, drug stores and hotels that are essential to servicing the traveler's needs.

Overall Assessment: The unique scenery of the region is largely intact and should stay that way for the foreseeable future. No large-scale development is planned which may impact the scenery. Land development is well-regulated at the municipal level.

3.1.2 Outdoor Recreation

Recreational Quality involves outdoor recreational activities directly associated with and dependent upon the natural and cultural elements of the corridor's landscape. The recreational activities provide opportunities for active and passive recreational

experiences. They include, but are not limited to, downhill skiing, rafting, boating, fishing, and hiking. Driving the road itself may qualify as a pleasurable recreational experience. The recreational activities may be seasonal, but the quality and importance of the recreational activities as seasonal operations must be well recognized.

Outdoor recreation is a major aspect of both the visitor experience and that of local residents. Primary activities dependent upon the Byway's natural and cultural elements are as follows:

- Water-based activities: sportfishing, powerboating, sailing, canoeing/kayaking, waterskiing/tubing, Personal Water Crafts, swimming, sport fishing; scuba diving
- Land-based activities: walking, biking, running, hiking, dog walking, hunting, bird watching, camping, picnicking
- Winter activities: ice fishing, cross-country skiing, snowshoeing, sledding, snowmobiling, ice skating, ice hockey

Such activities are accessible primarily through public lands (parks, natural areas, trails, etc.) such as municipal and state properties as well as those owned by non-profit organizations. Access points to the Lake itself include municipal beaches and parks, state-operated boat launches and private marinas. Rental equipment for these sports is widely available and there are several shops in the corridor where gear for all of these types of recreation can be purchased.

Overall Assessment: *The overall environmental health of the Lake and the landscape is strong. The diversity of recreational pursuits continues to grow. Byway Council and Implementation Committee members participate in policy venues regarding the condition of Lake Champlain and will be able to monitor any threats that might cause impacts to the Byway's recreational activities.*

3.1.3 Historic

Historic Quality encompasses legacies of the past that are distinctly associated with physical elements of the landscape, whether natural or manmade, that are of such historic significance that they educate the viewer and stir an appreciation for the past. The historic elements reflect the actions of people and may include buildings, settlement patterns, and other examples of human activity. Historic features can be inventoried, mapped, and interpreted. They possess integrity of location, design, setting, material, workmanship, feeling, and association.

The corridor includes a variety of sites of historic significance, especially those from the late 1700s to the present. In addition to thousands of years of Native American settlement, the region was one of the first to be explored by Europeans, most notably Samuel de Champlain in 1609. Major visitor sites of historic interest with robust interpretive abilities include:

- Shelburne Farms
- Ethan Allen Homestead
- Shelburne Museum

- Mount Philo State Park

Local and regional history is also well interpreted at:

- ECHO Lake Aquarium and Science Center
- University of Vermont's Fleming Museum
- Vermont Militia and Military Museum at Camp Johnson
- Intervale Center

Small museums operated by local historical societies on limited schedules are located in Milton, Colchester, Winooski and Charlotte. The corridor also has several National Historic Districts including several in Burlington (13 total) and one each in Colchester, Winooski, Charlotte and Shelburne. The region has numerous public and private buildings reflective of key architectural periods from the late 1700s to the present.

Finally, the natural landscape itself provides a window into the region's past. Most obvious are large areas of land that has been farmed for hundreds of years especially in the suburban/rural communities of Charlotte, Shelburne, Colchester and Milton. Dairy farms, apple orchards, berry farms and horse farms are common while newer ventures include small scale organic farms, vineyards, breweries and other specialty food operations focused on sourcing and using local ingredients. Visitors can directly engage themselves at these venues especially at pick-your-own farms and orchards.

Overall Assessment: Residents and businesses of the Corridor communities have a strong affection for the area's historic character. Indeed, the latter often seek to incorporate it into their promotional efforts. Although visitor numbers and funding may fluctuate, the museums and attractions noted above are likely to continue operation.

3.2. Secondary Intrinsic Qualities of the Byway

3.2.1 Natural Quality

Natural Quality applies to those features in the visual environment that are in a relatively undisturbed state. These features predate the arrival of human populations and may include geological formations, fossils, landform, water bodies, vegetation, and wildlife. There may be evidence of human activity, but the natural features reveal minimal disturbances.

Since Chittenden County is the State of Vermont's most populous county and has the most jobs of any of the State's counties, at a broad level, the visual environment of the corridor shows the impacts of humans. The motor route of the Byway contains a variety of businesses while the communities themselves host a variety of neighborhoods and commercial developments. Technically, most of the forests are second or third growth and even the visually appealing farmland has been tilled for nearly 200 years.

That being said, the Corridor has many undisturbed features. Foremost is the Lake itself which is quite pristine and is used as the drinking water supply for all the Corridor communities, supports a robust sport fishery and water recreation activities and provides miles of beaches for people of all ages to enjoy. The corridor also hosts numerous parks and natural areas where

large tracts of undisturbed lands can be explored and native vegetation viewed. Two properties in particular, Eagle Mountain Natural Area and Mount Philo State Park enable visitors to obtain a proverbial birdseye view of the landscape.

Wildlife populations are relatively healthy. Common mammals include whitetail deer, turkey, rabbits, coyotes and bobcats. Migratory and resident birds include a variety of ducks and geese, herons and cranes, raptors, woodpeckers and songbirds. Fish populations include bass, pike, walleye, perch and sunfish.

Overall Assessment: Although the Corridor communities are experiencing steady growth, its municipalities have done an excellent job in concentrating growth in areas that are zoned for higher density residential and commercial development and preventing or discouraging growth near waterways or other sensitive areas. Preserving the quality of water resources will remain a challenge but the municipalities are putting programs and necessary funding in place to maintain this important resource.

3.2.2 Cultural

Cultural Quality is evidence and expressions of the customs or traditions of a distinct group of people. Cultural features including, but not limited to, crafts, music, dance, rituals, festivals, speech, food, special events, vernacular architecture, etc., are currently practiced. The cultural qualities of the corridor could highlight one or more significant communities and/or ethnic traditions.

The Chittenden County corridor does not have one singular readily identifiable and visible distinct group of people. Early colonists consisted of English settlers. As major mills developed in the area and Burlington became a major port for exports of lumber and other materials, the area quickly became a draw for a variety of immigrants including Quebecois from Canada, Italian, Irish, etc. In recent decades, the Corridor, especially Burlington and Winooski have seen an influx of refugees via the US Refugee settlement program. In the 1990s they came from the republics of the former Yugoslavia while in recent years refugees have come from Nepal, the Congo, etc.

As Vermont's most populous area, the region hosts a variety of cultural performance venues as well as ad hoc festivals. There are large, annual signature events such as the Burlington Discover Jazz Festival, Burlington First Night, the Champlain Valley Fair in Essex Junction and Waking Windows in Winooski. Additionally, the cultural diversity is evident in the numerous farmers' markets wherein local agricultural produce, crafts and other goods are sold.

Overall Assessment: Residents of the Corridor are keenly aware of the diverse and changing demographics of the region relative to the rest of Vermont. There is a steady influx of both Vermont-born, other U.S. born and foreign-born to the area. The area welcomes this diversity while at the same time celebrating some of its older traditions. It is anticipated that this diversity will continue to expand without threatening to eclipse any one particular culture.

3.2.3 Archeological

Archeological Quality involves those characteristics of the scenic byways corridor that are physical evidence of historic or prehistoric human life or activity that are visible and capable of being inventoried and interpreted. The scenic byway corridor's archeological interest, as identified through ruins, artifacts, structural remains, and other physical evidence have scientific significance that educate the viewer and stir an appreciation for the past.

This quality is the least readily-evident of the Byway. The State of Vermont's Division of Historic Preservation has identified numerous archeological sites where evidence of Native American occupation and use is evident. These are generally and deliberately unpromoted to the general public to prevent "pot hunting" and "arrowhead scavenging." Artifacts from communities in the Corridor are on display at the museums mentioned above as well as the Vermont History Museum in Barre, Vermont. In addition to buried artifacts, the landscape shows relics of Vermont's past such as old stone walls, building cellars and the most common relic, dirt roads still in use.

One of the area's most prevalent archeological resources are the numerous Underwater Preserves designated by the Vermont Division of Historic Preservation. Under the [1975 Vermont Historic Preservation Act](#), all underwater historic sites beneath state waters belong in public trust to the people of the State of Vermont. The state's responsibility is to protect, wisely manage and interpret this public heritage. Establishing a preserve is one way to accomplish these goals by making it easy for divers to safely locate historic wreck sites, by protecting the wrecks from accidental anchor damage, and by helping you to understand the life and history of each wreck.

Overall Assessment: Given the relative slow pace of development as well as the lack of major projects such as new roads, it is anticipated that most archeological resources will remain largely undisturbed. The various underwater preserves are also adjacent to relatively well populated areas so the opportunity for looting is minimal.

4. Strategies for Maintenance and Enhancement of the Corridor's Intrinsic Qualities

4.1. 2017 Corridor Management Plan objectives

As noted above the proposed objectives represent a continuation of those in the 2002 CMP, with slight modifications. These 2017 CMP objectives are:

1. TRANSPORTATION IMPROVEMENTS:

To enhance transportation infrastructure and develop programs and projects that improve all travel modes, improve safety and enhance the traveler experience.

2. INTRINSIC RESOURCES AND PARTNERSHIPS:

To create and support educational and recreational opportunities for visitors through strong partnerships with organizations, businesses, nonprofit groups and agencies that have an interest in the intrinsic resources of the Byway.

3. SUSTAINABLE TOURISM AND ECONOMIC DEVELOPMENT:

To promote and enhance tourism opportunities for the region through sustainable economic development and conservation of intrinsic resources.

4.2. Potential project types to aid in fulfillment of Plan objectives

As noted earlier, this Plan does not seek to list discrete locations where projects should be undertaken. This is primarily because there is not one singular entity that “manages” the Byway’s resources. Additionally, the identification, scoping, design and implementation of such projects is a fluid process making the development of fixed list quite a challenge. Last as noted earlier, the lack of dedicated Byway grant funding coupled with the loss of technical support provided by FHWA makes it a challenge for the CCRPC and Byway member communities to maintain the same level of involvement in the development and implementation of Byway projects.

The following presents various potential project types that could help in meeting the 2017 CMP objectives.

1. TRANSPORTATION IMPROVEMENTS

Traffic calming; signal improvements; sidewalks; multi-use paths; shoulder improvements; bike lanes; expanded bus service; improvements in passenger rail; improvements in air travel; improvements in ferry service; expanded options for boat mooring; etc.

2. INTRINSIC RESOURCES AND PARTNERSHIPS:

Interpretive panels; informational kiosks; web-based information; interpretive audio and video; brochures; mobile apps with interpretive content; improved recreational assets; improvements to historic and cultural sites; improved content for potential visitors on intrinsic resources

3. SUSTAINABLE TOURISM AND ECONOMIC DEVELOPMENT:

Increased collaboration between chambers of commerce; continued promotion of Byway by Vermont Department of Tourism & Marketing; integration of objectives from Corridor Management Plan into municipal plans, regional plans and economic development plans

4.3. Organizations involved in management of the Byway's intrinsic resources

It is important to stress that the intrinsic resources of the Chittenden County Corridor are managed by a variety of different entities and are not directly managed by the Byway Council.

That is why the 2002 CMP and this 2017 CMP advocates strong partnerships between the various entities that have an interest in conservation of these resources. The primary "managers" of these resources are municipal governments, state government, non-profit land owners/managers and other entities. A complete but not exhaustive list of these managers includes:

- municipal governments of Milton, Colchester, Essex Junction, Winooski, Burlington, South Burlington, Shelburne and Charlotte
- State of Vermont, Department of Forests, Parks and Recreation
- State of Vermont, Department of Fish & Wildlife
- State of Vermont, Agency of Transportation
- State of Vermont, Agency of Commerce & Community Development
- University of Vermont, Natural Areas Program
- Winooski Valley Park District
- The Nature Conservancy
- various historical societies, land trusts, museums and other attractions.

There are also entities that own little or no property or resource per se but obviously are involved in promoting the enjoyment, conservation and management of the Corridor's resources and the development of public policy related to these resources. These organizations include the:

- Chittenden County Regional Planning Commission
- Lake Champlain Basin Program and the Champlain Valley National Heritage Partnership
- Lake Champlain Regional Chamber of Commerce

-recreational promotion groups such as Lake Champlain Bikeways and Local Motion (bicycling), Lake Champlain International (fishing), Vermont Association of Snow Travelers (snowmobiling) and the Community Sailing Center (sailing), etc.

-environmental advocacy and sporting organizations such as the Lake Champlain Committee, Hunters-Anglers-Trappers of Vermont, Vermont Natural Resources Council, etc.

Each of these resource managers as well as the public policy entities has their own separate goals, staffing and budget. Their missions are sometimes complementary; they can interact on various projects and sometimes, argue with each other.

4.4. Overall responsibility of organizations that coordinate and/or manage the Byway's intrinsic resources

Therefore, in order to maintain and enhance the Byway's intrinsic resources, this Corridor Management Plan therefore calls for the Byway to make these organizations aware of the Lake Champlain Byway and its mission, to encourage them to continue to carry out their respective programs that maintain and enhance the Byway's intrinsic qualities and where appropriate to work with the Lake Champlain Byway Council, with the municipal governments of the Byway's communities and with others on projects and programs of mutual interest and benefit.

4.4.1. Responsibilities of the Byway Council

As stated in its incorporation documents, the Council's purpose is to "serve as the managing and coordinating body for the Lake Champlain Byway, a designated Byway within the State of Vermont and to undertake and support projects that balance the promotion, preservation, enjoyment, and stewardship of the Byway's intrinsic resources." Since its inception, the Council has met a few times per year to:

- review progress on grant deliverables,
- scope ideas for, and submit project grant applications to the National Scenic Byways program,
- discuss future projects and programs of the Byway and
- consult with State's Scenic Byway Coordinator on the Vermont Scenic Byways program.

Council members individually also participated in the annual Vermont Byways summits and presented information and grant proposals to the State's Vermont Byways Council.

The Byway Council will continue to carry out these tasks. In particular, the Byway will continue to act as the coordinating entity for any grants with common deliverables implemented across all three counties (Grand Isle, Chittenden and Addison) through which the Byway traverses. As in the past, the grant will be managed either directly the Byway Council (primarily via subcontracts with its member organizations who have appropriate staffing) or the Byway Council will serve as the applicant but the grant will be both managed and implemented by an appropriate entity if the deliverable is singular in scope and geographically distinct. Lastly, The Byway Council will also provide general oversight of the Byway's website, www.lakechamplainbyway.com and its Facebook page as well as any other social media or

other communication platforms it establishes.

4.4.2. Responsibilities of the Chittenden County Corridor Planning and Implementation Committee

This committee was created during the drafting of the 2002 CMP. It is comprised of twelve members: representatives from the County's eight Byway communities, the CCRPC, the CCMPO, the Lake Champlain Regional Chamber of Commerce and the Vermont Agency of Transportation. The Committee was charged to discuss Byway issues, prioritize project funding, update the Transportation Improvements proposed in the 2002 CMP and update the CMP. Note that in 2011, the CCMPO merged with the CCRPC.

Since 2003, the Committee has met one to three times per year at meetings organized by the Chittenden County Regional Planning Commission. The CCRPC has used the meetings to brief members and obtain input on various Byway projects, solicit ideas for and draft grant proposals to the National Scenic Byways program and beginning in late 2010, initiate the process of drafting the new Corridor Management Plan for the Chittenden County Corridor.

For the oversight of this 2017 Plan, Committee members shall include:

- One representative from the Town of Milton;
- One representative from the Town of Colchester
- One representative from the Village of Essex Junction;
- One representative from the City of Winooski;
- One representative from the City of South Burlington;
- One representative from the Town of Shelburne
- One representative from the Town of Charlotte
- One representative from the Lake Champlain Regional Chamber of Commerce;
- One representative from the Vermont Agency of Transportation
- One representative from the Vermont Agency of Commerce & Community Development

STRATEGY For the purposes of this CMP, the Planning and Implementation Committee shall have the following responsibilities:

- helping to review and update relevant content on the Byway's website;
- development of Byway project ideas, development and submission of grant proposals and, if a Byway-wide deliverable forwarding said ideas to the Byway Council for further action;
- providing advice and input as needed to the CCRPC which acts to assist the Committee;
- updating the Corridor Management Plan as needed

As described below, the lead agency to work on behalf of the Committee shall be the CCRPC.

4.4.3. Responsibilities of the Chittenden County Regional Planning Commission

Beginning with the development of the Corridor Management Plan in the late 1990s, the CCRPC has taken on the lead role on behalf of its member communities in advancing the Byway. The

CCRPC has participated in meetings of the Lake Champlain Byways Partnership and its successor, the Lake Champlain Byway Council as well as representing the interests of its communities in interactions with the Vermont Scenery Preservation Council, the Vermont Scenic Byways Program, the Vermont Department of Tourism & Marketing and the National Scenic Byways program.

The CCRPC has served as the applicant and manager of several National Scenic Byways program grants implemented on behalf of both the County's eight Byway communities and on behalf of the Byway as a whole. These include the following grants and associated deliverables:

FY03-#01, Chittenden County Corridor: Wayfinding Signage and Interpretive Panels

- Installed 16 roadside trailblazers and developed and installed 36 interpretive panels

FY06-#04, Chittenden County Corridor: Signage and Municipal Projects

- Hired contractors to work with the eight communities to develop municipal wayfinding signage, informational kiosks, interpretive panels and trail improvements.

FY06-#06, Chittenden County Corridor: Interpretive Materials and Outreach

- Developed an "Explore Greater Burlington" brochure and poster listing over 100+ intrinsic resource sites in the member communities; developed a cell phone audio interpretation at key venues and developed and distributed a newspaper insert to educate local residents about the Byway.

FY07-#01, Lake Champlain Byway: Travel Information and Improvements

- On behalf of the entire Byway, CCRPC developed a "Lake Champlain Byway" lure piece brochure completed in both English and French version and an outdoor information panel introducing the visitor to the Byway's three counties; completed a Byway website in both English and French; installed trailblazer signs on Route 2 in the Champlain Islands and in 7 towns of Addison County and developed and constructed two portalet shelters in the Islands.

FY08-#05, Lake Champlain Byway: Corridor Management Plan Update and Capacity Building

- Via a subcontract from the Byway Council, the CCRPC used this grant to fund the development of this CMP and used it to fund participation of Planning & Implementation Committee members at the 2009 and 2011 National Scenic Byways Conferences

FY08-#06 Lake Champlain Byway: Chittenden County Recreational & Cultural Sites Inventory

- Via a subcontract from the Byway Council, the CCRPC used this grant to fund a recreational and cultural sites inventory for its 8 byway communities. The grant was also used to hire contractors to work with each of the communities to provide preliminary designs and cost estimates for various improvements recommended by the inventory.

FY09-#02 Lake Champlain Byway: Byway Publications

- Via a subcontract from the Byway Council, the CCRPC with the Byway's other two partner regional planning commissions to publish and distribute a water recreation guide to Lake Champlain and the Byway's other waterways and a winter activities guide.

FY10-#01 and FY11-#02 Lake Champlain Byway: Bicyclist Rest Areas

- Via a subcontract from the Byway Council, Local Motion, a regional advocacy for biking, hiking and walking designed and installed eight small bicyclist rest areas along the route of the Lake Champlain Bikeway, including one at Airport Park in Colchester and one at Shelburne Vineyard in Shelburne.

FY12-#01 Lake Champlain Byway: Interpretive Planning

- Via a subcontract from the Byway Council, the three RPCs completed an Interpretation Coordination Plan (see appendix).

STRATEGY: For the purposes of this CMP, the CCRPC shall have the following responsibilities:

- Promote an awareness of the Lake Champlain Byway and its intrinsic resources to the traveling public;
- Encourage organization and agencies involved in the management of the Byway's intrinsic resources to continue to carry out their respective programs that maintain and enhance the Byway's intrinsic qualities and where appropriate to work with the Lake Champlain Byway Council, with the municipal governments of the Byway's communities and with others on projects and programs of mutual interest and benefit;
- serve as the lead agency to work on behalf of the Implementation Committee;
- represent the interests of the County's eight Byway communities in proceedings of the Lake Champlain Byway Council as directed by those communities;
- develop grant applications on behalf of its member communities or the Byway as a whole, and;
- if directed, implement grant deliverables and perform other Byway related tasks.

4.4.4. Responsibilities of the municipalities

Since the designation of the Corridor in 2002, staff of the eight municipalities have participated in the Byway's development primarily through participation in the Planning & Implementation Committee, regular communications with CCRPC and providing in-kind support in the implementation of the various Byway grant deliverables. The governing bodies of the municipalities have also participated in management of the Byway. In early 2002 each body adopted a resolution approving the CMP and requesting designation as a Byway community. In 2008 each body adopted a similar resolution reaffirming its participation in the Byway. Municipalities also provided letters of support for Byway grant applications as needed up through the last year, Federal fiscal year 2012, such grants were available.

Just as important, the corridor communities have supported the development of the Byway through the completion of various planning programs and municipally-directed projects that improve the traveler experience. These include:

- the development of appropriate zoning and subdivision regulations and comprehensive plans that insure a vibrant mix of commercial, residential and agricultural development coupled with opportunities for outdoor recreation and enjoyment of natural resources;
- the planning, construction and maintenance of road infrastructure, sidewalks, bike paths, parks and other amenities that improve vehicular and pedestrian safety and

provide opportunities for residents and visitors to recreate and explore within the community;

- the operation of library and recreation programs to offer opportunities to learn about and experience the host community's intrinsic resources.
- Additionally, it should be noted that unrelated to the Byway projects coordinated with the CCRPC above, each of the eight municipalities have also implemented in its own projects which have acted to improve the visitor experience in their communities. These types of accomplishments fall within the categories of traffic and safety improvements, park amenities, land conservation, etc.

STRATEGY: For the purposes of this CMP, the municipalities shall have the following responsibilities:

- provide an appointee (such as a municipal staff or citizen) to represent the municipality in activities of the Planning & Implementation Committee;
- review and provide feedback on materials provided by the CCRPC and the Byway Council such as grant proposals, website content, etc.
- if feasible, provide in-kind staff support in the development and implementation of Byway related activities
- promote the development of sidewalks, recreation paths, nature trails, informational kiosks, wayfinding signage, interpretive resources, and other similar amenities to improve the visitor experience in its community.
- provide links to the Byway's website on appropriate page(s) of the municipal website.

Note, however that given the numerous day-to-day responsibilities of municipal staff and members of municipal Boards, the responsibilities above are secondary to the fulfillment of those responsibilities and this Plan does not formally obligate municipalities to these actions.

4.4.5. Responsibilities of the non-profit and private sectors

As neither the non-profit sector nor the private sector "voted" to join the Byway, neither the Byway Council, nor the Byway's designated communities nor the CCRPC require these sectors to formally endorse this Plan nor to have to accept any formal responsibilities or obligations. The Council therefore offers the following ideas so that these sectors make take advantage of what the Byway can offer them and these sectors can in turn aid in furthering the goals of the Byway.

Responsibilities of the non-profit sector _____ Members of this sector with regards to the Byway's intrinsic resources include such organizations as land trusts, conservation organizations, recreational organizations, museums, and others who "manage" intrinsic resource sites in the Corridor.

STRATEGY: Non-profits are encouraged to aid in the implementation of the Byway's Corridor Plan by:

- Responding to requests for feedback from the Byway;
- Providing basic information (hours of operation, interpretive programs, resources, etc.) to the Byway so that the Byway may adequately describe the Corridor’s intrinsic resources
- Maintaining an awareness of the Byway’s programs and of other intrinsic resource sites to assure general consistency in interpretive programming

Responsibilities of the private sector _____ Members of this sector with direct ties to, and significant dependence upon the Byway’s intrinsic resources include such businesses as private marinas, tour operators (boat, bicycle, fishing, etc.), outdoor equipment rental and sales shops. Lodging operators and some smaller restaurants and snack bar that are only open during the tourist season from Memorial Day through Columbus Day are also dependent upon the health of the Byway’s intrinsic resources that visitors come to experience. Year-round operating restaurants and lodging operators, depending upon their location and services also depend a great deal upon visitors for a large proportion of their revenue.

STRATEGY: Private sector businesses that are dependent to a significant degree upon the health of the Byway’s intrinsic resources encouraged to aid in the implementation of the Byway’s Corridor Plan by:

- Responding to requests for feedback from the Byway;
- Providing a positive experience to the traveler and encouraging them to explore the Byway’s various intrinsic resource attractions;
- Maintaining an awareness of the Byway’s programs and the variety of the Byway’s intrinsic resources

5. The relationship of existing and new development to preservation of the primary intrinsic qualities of the Byway

Scenic Resources The Byway is fortunate in that the rate of growth and land development in its region and in adjacent regions is proceeding at a manageable pace. In particular, the Byway’s scenic resources in the form of “its” views of the surrounding landscape of the Green Mountains, Lake Champlain and the Adirondacks is intact. In the case of the Green Mountains and its foothills visible to the east, Vermont prohibits development above 2,500 ft. elevation. Town zoning regulations in the Byway’s communities as well as nearby non-Byway communities commonly call for “large lot” zoning in their agricultural and forest areas with development limited to, for example, one dwelling unit for every 5, 10 or 20 acres. With the exception of the urban and suburban Chittenden County municipalities, most other towns in Vermont lack centralized water and sewer systems except in some of their more, dense village centers. This, along with the absence of good soils for septic capacity, means that development

in the rural portions of the Byway and surrounding communities often proceeds one lot at a time. Additionally, zoning bylaws also limit the height of buildings.

Outdoor recreation Development in terms of residential or commercial growth does not represent a threat. Local support and interest in these pursuits is part of the local “culture” particularly in Chittenden County rather than regarded as just activities for tourists. The potential threat to the intrinsic quality of outdoor recreation comes from the growing popularity of the activity itself. This is most true for biking. Current use levels on the designated bikepaths and roadways remains at manageable levels. However, the Burlington bikepath is in need of major repairs and repaving and portions of many roadways, including Route 7 itself, lack adequate shoulders let alone dedicated bike lanes.

Historic resources The County’s communities have several state and nationally designated sites and districts which protect from wholesale replacement of historic architecture. In addition the City Burlington in particular has very strict requirements concerning remodeling or repairs of historic buildings.

6. Public Participation in the management of the Byway

The primary opportunity for the public to participate in the management of the Byway is through the elected officials, regulatory boards and staff of the eight municipalities in the Corridor. The secondary mechanism is through membership and involvement in the non-profit organizations that manage various Byway attractions. Finally, the public can help to manage the Byway through enjoying and experience the assets themselves and in so doing, help to monitor the onsite conditions in addition to building their sense of ownership of these assets.

From 2002 through mid-2017 the primary mechanism through which the general public has learned of the Byway’s activities has been presentations by CCRPC staff to municipal Boards and press coverage at the culmination of some of the Byway’s projects noted above. Additionally, Byway activities have been noted on an annual basis in the CCRPC report to its member municipalities which are included in the annual Town/Municipal reports.

- Going forward into 2017 and beyond the primary means for public outreach will be via the Byway’s website, the Byway facebook page and annual CCRPC reports.

7 Signage along the Byway

In January 2012, the CCRPC completed a Directional/ Wayfinding Sign Standards and Signage Plan for the Chittenden County Corridor of the Lake Champlain Byway. [See Appendix 3.]

8. Marketing the Byway

Until the development of its first “lure piece” brochure in 2007 and the development of a robust website in 2010, the Byway undertook no other formal efforts at marketing the Byway. The Byway’s French and English “lure piece” brochures were distributed in several of Vermont’s

roadside, staffed Visitor Information centers managed by the state Division of Buildings and General Services from 2008 through 2010. Starting in 2016, the Byway produced a Water Recreation Sites and Winter Activities brochure which is planned for distribution at several Visitor Information Centers into 2018.

The Byway's website, www.lakechamplainbyway.com generated relatively little "web traffic" from 2010-2012. In 2013 the Byway undertook more active SEO activities and blogging to attempt to increase traffic. Annual website traffic data from 2013 through 2015 reached around 20,000 unique visitors. Unfortunately, starting in fall 2015, the website was repeatedly hacked and had to be taken down in 2016. A new, simpler version of the Byway website is scheduled for launch in late May 2017.

Although the Byway lacks the resources for extensive marketing, the Lake Champlain Byway as well all other Byways in the State are promoted by the Vermont Department of Tourism & Marketing. In addition to promotion at trade shows and advertisements, the Department maintains a robust Byway website at <https://www.vermontvacation.com/byways>.

9 Interpreting the Byway's significant resources

In February 2015, the Byway Council completed the *Lake Champlain Byway Interpretation Coordination Plan*. [See Appendix 4.] The document is the first formal Interpretation Plan for the Lake Champlain Byway. The goals of this Plan were:

- to build awareness among managers of the different sites along the Byway about each other's sites and programs;
- to identify areas of overlap where collaboration may be possible; and
- to assist with the development of consistent messaging among the sites and for the Byway itself.

The Byway includes many important businesses along its route, but this Interpretation Coordination Plan focused only on the intrinsic resource sites.

10 Future Updates to this Plan

As noted in Section 2.2 above, starting in 2013, FHWA discontinued funding for the National Byway Program; Vermont moved state coordination of the State Byway Program from the Vermont Agency of Transportation to the Vermont Department of Tourism and Marketing (VDTM) and the Vermont Byway Council was dissolved and its duties transferred to the Vermont Transportation Board. Going forward therefore, at the State level, promotion of the Byways in Vermont will be done almost solely by VDTM. This effort is expected to continue as "byways" and "scenic drives" are a key element of what visitors to Vermont are hoping to experience. With regards to byways planning however, assistance from the State of Vermont is not anticipated.


With regards to future Byway planning efforts in Chittenden County, for the immediate future, no updates to this Corridor Management Plan are anticipated. That being said, however, the CCRPC anticipates maintaining a Lake Champlain Byway Coordination & Technical Assistance

element in its Unified Planning Work Program to assist the eight member communities via efforts such as by implementation of projects to improve the traveler experience; representing the County in activities of the Byway Council or discussions with VDTM; maintaining the Byway's website and where appropriate integration of the strategies noted above into updates of the County's Regional Plan, aka "the ECOS" Plan. It is worth noting that in the future more Chittenden County communities could join the Lake Champlain Byway if they so desired. In that case the appropriate Corridor Management Plan would need to be updated and a request for designation submitted to the Vermont Transportation Board.

In closing, it is worth noting that it is theoretically possible that the Lake Champlain Byway could someday obtain designation as a National Scenic Byway. However, several steps would be required. Foremost the Federal Highway Administration would have to issue a call for designations something it has done since Congress removed financial support for the National Scenic Byways program in FY13 and, as of 2017, does not anticipate so doing unless directed to do by the U.S. Secretary of Transportation or Congress (Federal Highway Administration staff, personal communication, April 2017). Second, given the potential increase in tourism should National Scenic Byway designation be obtained, the existing twenty-two member communities would want to be sure there is strong community support for such an action.

Finally, should these first two thresholds be met, this Corridor Management Plan as well as the CMPs of Grand Isle County and Addison County would need to be updated and expanded prior to submission to the designating authority so as to fully meet Federal standards detailed in *"The Interim Policy for the National Scenic Byways Program (Interim Policy, Federal Register, Vol. 60., No. 96, May 18, 1995)*. In the case of this 2017 Chittenden County Corridor Management Plan, it addresses most all of these standards via each discrete section above. However, to fully meet the Federal standards, four sections as follows would need to be added: 1) safety review, hazard identification and possible improvements to the designated auto route of the Byway; 2) traffic accommodation planning; 3) minimizing intrusions on the visitor's experience, and 4) the control of outdoor advertising along the Byway.

MEMORANDUM

TO: Selectboard and Trustees
FROM: Patrick C. Scheidel, Municipal Manager 
DATE: June 27, 2017
SUBJECT: Essex and Essex Junction All Hazards Mitigation Plan Adoption

Issue

The issue is whether or not the legislative bodies will adopt the 2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the 2017 Town of Essex and Village of Essex Junction All-Hazards Mitigation Plan (AHMP).

Discussion

In April, FEMA approved the 2017 Essex and Essex Junction All Hazards Mitigation Plan, as noted here: "FEMA Region I has completed its review of the Chittenden County, VT Hazard Mitigation Plan for the jurisdictions referenced below and found them approvable pending adoption:

- Huntington, VT
- Underhill, VT
- Essex and Essex Junction, VT
- Jericho, VT
- Westford, VT

With this approval, the jurisdictions meet the local mitigation planning requirements under 44 CFR 201 **pending FEMA's review of the Adoption documentation and the Final Plan.**"

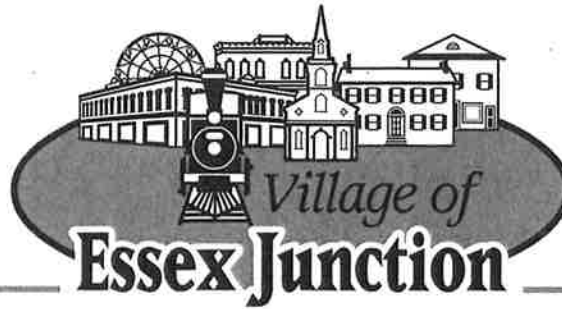
The municipal AHMPs are annexed to the 2017 Chittenden County Vermont Multi-Jurisdictional All-Hazards Mitigation Plan. Attached is the final version as approved by FEMA.

Cost

There is no cost associated with this issue.

Recommendation

It is recommended that the Selectboard and Trustees adopt the 2017 Chittenden County, Vermont, Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the 2017 Town of Essex & Village of Essex Junction All-Hazards Mitigation Plan.



CERTIFICATE OF ADOPTION

Date: June 27, 2017

VILLAGE OF ESSEX JUNCTION, VERMONT, BOARD OF TRUSTEES

A RESOLUTION ADOPTING THE

2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the 2017 Town of Essex & Village of Essex Junction All-Hazards Mitigation Plan (Plan).

WHEREAS, the Village of Essex Junction has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the **2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the 2017 Town of Essex & Village of Essex Junction All-Hazards Mitigation Plan** which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Village of Essex Junction has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for the **2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the Town of Essex & Village of Essex Junction All-Hazards Mitigation Plan (Plan)** under the requirements of *44 CFR 201.6*; and

WHEREAS, the **Plan** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Village of Essex Junction; and

WHEREAS, the **Plan** recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Village of Essex Junction with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of this **Plan** will make the Village of Essex Junction eligible for funding to alleviate the impacts of future hazards; now therefore be it

RESOLVED by the Village of Essex Junction Board of Trustees:

1. The **2017 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan and Annex #6, the 2017 Town of Essex & Village of Essex Junction All-Hazards Mitigation Plan (Plan)** is hereby adopted as an official plan of the Village of Essex Junction;
2. The respective officials identified in the mitigation action plan of the **Plan** are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and **Plan** maintenance required by *44 CFR 201.6* and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and

4. An annual report on the process of the implementation elements of the Plan will be presented to the Board of Trustees by the Emergency Management Director or Coordinator.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Village of Essex Junction this 27th day of June, 2017.

VILLAGE OF ESSEX JUNCTION BOARD OF TRUSTEES

George A. Tyler, Village President

Elaine H. Sopchak, Vice President

Lori A. Houghton, Trustee


Daniel S. Kerin, Trustee

Andrew P. Brown, Trustee

ATTEST:

Susan McNamara-Hill, Village Clerk

MEMORANDUM

TO: Village Trustees and Pat Scheidel, Municipal Manager
FROM: Robin Pierce, Community Development Director 
DATE: June 27, 2017
SUBJECT: Support: 2017 Lake Champlain Byway, Chittenden County Corridor Management Plan

Issue

The issue is whether or not the Trustees will reaffirm their support of the Village's participation in the Lake Champlain Byway Program, and find the Chittenden County Regional Planning Commission's (CCRPC) 2017 Lake Champlain Byway Chittenden County Corridor Management Plan to be in accordance with the Village's planning goals and objectives.

Discussion

The Village Trustees previously voted by resolution to join the Byway in November 2001 and reaffirmed the Village's participation in the Byway in 2008 (see attached resolutions.) Since 2002, the Village of Essex Junction has worked with the CCRPC and others to implement a variety of projects to develop the Byway and enhance the traveler experience through improvements to transportation and interpretation of local intrinsic resources.

The Byway is located in the northwest portion of the state. From north to south the formal route is 184 miles long and consists of U.S. Route 2 through Grand Isle County, U.S. Route 7 through Chittenden County and then south into Addison County. It is comprised of 22 communities along this route and more than 200 intrinsic resource sites (parks, boat launches, trails, natural areas, museums, etc.). The Byway is managed by the Lake Champlain Byway Council with a 12-member board consisting of representatives from the region's three Regional Planning Commissions, its two Chambers, Lake Champlain Bikeways, the Lake Champlain Basin Program and five at-large members.

Chittenden County hosts eight Byway communities: Milton, Colchester, Winooski, Essex Junction, Burlington, South Burlington, Shelburne and Charlotte.

Cost

No cost to the Village, with the exception of some staff time (Robin's) at Byway meetings.

Recommendation

It is recommended that the Trustees fully support continued participation in the Lake Champlain Byway, and find that the 2017 Lake Champlain Byway Chittenden County Management Plan prepared by the CCRPC to be in accordance with the Village's planning goals and objectives. It is also recommended that the Trustees sign the Resolution Reaffirming the Village's Participation in the Lake Champlain Byway.



Resolution
Reaffirming the Village's Participation in the Lake Champlain Byway

WHEREAS, by resolution on November 27, 2001, the Village of Essex Junction Board of Trustees supported the designation of the Lake Champlain Byway in the Village of Essex Junction; and

WHEREAS, on May 7, 2002, the State Transportation Board formally designated the Lake Champlain Byway as a Scenic Byway; and

WHEREAS, by resolution on January 8, 2008, the Village of Essex Junction Board of Trustees fully supported the Village's continued participation in the Lake Champlain Byway and the formal recertification of the Byway; and

WHEREAS, since 2002, the Village of Essex Junction has worked with the Chittenden County Regional Planning Commission (CCRPC) and others to implement a variety of projects to develop the Byway and enhance the traveler's experience through improvements to transportation and interpretation of local intrinsic resources; and

NOW, THEREFORE BE IT RESOLVED that the Village of Essex Junction finds the *2017 Lake Champlain Byway Chittenden County Corridor Management Plan* prepared by the CCRPC to be in accordance with the Village's planning goals and objectives

THEREFORE, BE IT FURTHER RESOLVED that the Village of Essex Junction fully supports the Village's continued participation in the Lake Champlain Byway.

Dated at Essex Junction, Vermont, this 27th day of June, 2017.

VILLAGE OF ESSEX JUNCTION BOARD OF TRUSTEES

George A. Tyler, Village President

Elaine H. Sopchak, Vice President

Lori A. Houghton, Trustee

Daniel S. Kerin, Trustee

Andrew P. Brown, Trustee

ATTEST:

Susan McNamara-Hill, Village Clerk

RESOLUTION
Lake Champlain Byways

WHEREAS, the Village of Essex Junction regards state designation of the Lake Champlain Byways as a regionally significant opportunity; and

WHEREAS, the Village of Essex Junction is responsible for numerous significant cultural, recreational, historical, scenic, natural and archeological resources; and

WHEREAS, the Village of Essex Junction's intrinsic resources are part of a diverse regional transportation network in, on and near the shores of Lake Champlain; and

WHEREAS, this diverse network of intrinsic resources might be enhanced through the organization of these resources within the Lake Champlain Byways; and

WHEREAS, the Village of Essex Junction Board of Trustees have reviewed the municipal and public review drafts of Our Past, Our Future - Exploring the Lake Champlain Byways in Chittenden County, Vermont; and

WHEREAS, the Village of Essex Junction finds that the Byways Corridor Management Plan is in accordance with and aids in implementation of the Village's planning goals and objectives; and

WHEREAS, a Vermont byway is a highway or other public road that has special scenic, historic, recreational, cultural, archeological and/or natural qualities, and that has been formally designated by the State of Vermont Transportation Board; and

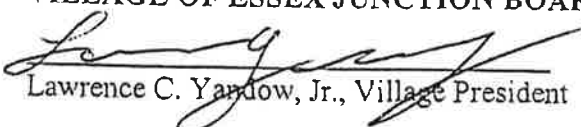
WHEREAS, designation of the Lake Champlain Byways in the Village of Essex Junction will provide opportunities to conserve and enhance Essex Junction's intrinsic resource features and programs and will provide outstanding educational and recreational opportunities to residents and visitors.

NOW, THEREFORE, BE IT RESOLVED, the Board of Trustees of the Village of Essex Junction fully support the Chittenden County Regional Planning Commission's application for state byways designation to the Scenery Preservation Council and Vermont Transportation Board for formal designation of the Lake Champlain Byways in the Village of Essex Junction; and

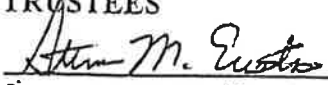
NOW, THEREFORE, BE IT RESOLVED, that the Board of Trustees of the Village of Essex Junction intend on working with its municipal, regional and state counterparts to advance the implementation of the Lake Champlain Byways.

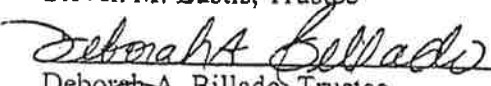
Dated at Essex Junction, Vermont, this 27th day of November, 2001.

VILLAGE OF ESSEX JUNCTION BOARD OF TRUSTEES


Lawrence C. Yarrow, Jr., Village President

Michael J. Corbin, Trustee


Steven M. Eustis, Trustee


Deborah A. Billado, Trustee

Timothy J. ...



**A Resolution
reaffirming the Village's participation in the Lake Champlain Byway
and supporting recertification of the Lake Champlain Byway.**

WHEREAS, by resolution of November 27, 2001, the Village of Essex Junction Trustees supported the designation of the Lake Champlain Byway in the Village of Essex Junction; and

WHEREAS, on May 7, 2002, the State Transportation Board formally designated the Lake Champlain Byway as a Scenic Byway; and

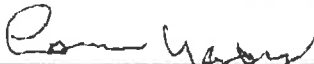
WHEREAS, the Village of Essex Junction has worked with the Chittenden County Regional Planning Commission (CCRPC) to successfully implement a Wayfinding Signage and Interpretive Panels project within the Village; and

WHEREAS, the Village of Essex Junction is working with the CCRPC in the implementation of new projects and to plan for future Byway-related activities.

NOW, THEREFORE BE IT RESOLVED that the Board of Trustees of the Village of Essex Junction fully supports the Village's continued participation in the Lake Champlain Byway and the formal recertification of the Byway.

Dated at Essex Junction, Vermont, this 8th day of January, 2008.

VILLAGE OF ESSEX JUNCTION BOARD OF TRUSTEES




Lawrence C. Yandow, Jr., Village President



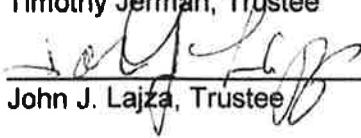
Deborah A. Billado, Trustee



Peter B. Gustafson, Trustee



Timothy Jerman, Trustee



John J. Lajza, Trustee



TO: Village Trustees and Pat Scheidel, Municipal Manager
FROM: Darby Mayville, Community Relations & Economic Development Assistant
DATE: June 22, 2017
RE: Neighbors Day 2017

Issue

This is a general update to the Trustees on the results of Neighbors Day 2017.

Discussion

Although the weather was a challenge, the first annual Neighbors Day was a success! Here is a recap:

- 9 known sites that hosted events
- 181 participants

Other Neighbors Day highlights:

- Article in Essex Reporter
- VPR interview
- Appearance on WFFF (Fox 44) Morning Brew
- 115 organic Facebook followers with many more reposts and comments

Future Plans:

- Lori Houghton will draft a Resolution to be voted on by the House and Senate to create Neighbors Day as an annual statewide event to be held annually on the first Saturday in June.
- Consider a new logo for the statewide event
- Create a Neighbors Day Vermont Facebook Page
- Create a press release for the event after the Resolution passes
- Market the event locally and statewide through social media and traditional media outlets

Cost
None

Recommendation
None

Essex Junction Trustees Retreat/Work Session 6/13/17 (DRAFT)

Action Items:

- Pat will have revised advertisement for recruitment firms approved by the Selectboard and then proceed with placing the ad.
- Pat will schedule four joint meetings between the Selectboard and Trustees to take place this year. The meetings will alternate between 81 Main Street and Lincoln Hall.
- Elaine/Pat will pursue having trash receptacles placed on the multi-use path. Elaine/Robin/Pat will pursue having the brush on the McLure side of the tracks cut back. Elaine will contact the McLure building owner about permission for a mural.
- George/Pat will place 'Village Center Parking Discussion' on an upcoming trustee agenda so that next steps for addressing the issue will occur (including a work session with property owners, signage, TIF district concept, involvement of planning commission, distribution of parking maps).

Summary of Retreat/Work Session Discussions

Public Works Consolidation Evaluation Committee – The Trustees and staff discussed the public works assessment committee; Elaine and Andrew received the workbook created by Dennis Lutz. There was a brief discussion about how to gauge quality differences between service delivery in TOV vs. TIV (if they exist). It was noted that looking at See-Click-Fix records might help address that question.

Municipal Manager Recruitment – Pat discussed the entire manager recruitment process and Trustees approved the advertisement calling for recruitment firms to apply. They suggested a few minor changes to the ad, which included adding that the decision would be made by ten elected officials in the town and village and that preference will be given to a candidate familiar with northeastern US small community governance models. Pat also suggested that the new manager be given the same three-year MOU/contract terms that were given to him. It was also discussed that the two elected boards must at some point jointly discuss the importance of mutual understanding that the new manager's time and effort are shared assets for both boards. Elected officials must give that point due consideration when contemplating assigning new tasks or making demands on the manager's time. It was noted that existing policies on elected official behavior regarding interactions with staff be reaffirmed by both boards and subsequently emphasized and respected.

Trustee/Selectboard Meeting Schedule – It was agreed that Pat will schedule four joint meetings to occur within the next 6 months to be held alternatively at 81 Main Street and Lincoln Hall. It was understood that more joint meetings will likely be required, but given the joint initiatives already underway it is necessary to schedule at least four meetings now so board members can plan their own schedules accordingly.

TGIA and Ongoing Consolidation Efforts – It was generally agreed that the consolidation of

planning and development as conceived by TGIA is problematic, specifically because it would require an MOU contradicting state law which says that in a village-town joint planning environment only town officials can appoint the planning commissioners. An MOU does not have the force of law, which means that at some point after the town and village planning offices are irretrievably joined, a town Selectboard could ignore the terms of the MOU. It was also generally agreed that the question of the location of the Essex community's 'center' is unresolved. Is it the village center or the new town center? This uncertainty could hinder unified planning efforts and stir tensions. It was noted that during the Town's recent visioning efforts for the new town center, there was no discussion or acknowledgment of current redevelop efforts in the village center and no apparent interest in coordinating development goals. It was noted that the Village government has defined very specific goals for Village center redevelopment which will require a high degree of commitment and involvement from local government and it is not clear how that involvement would be sustained within the planning framework of TGIA.

It was also agreed that many of the trustees' concerns about having a single planning office under the Town's jurisdiction would be obviated if the two governments were consolidated. Therefore – it seems intuitively correct that the question of overall governance consolidation should be addressed before moving further with TGIA. Do the two boards (1) envision having two chartered local governments continue to exist indefinitely, or (2) should the two boards continue the process of gradually consolidating departments with the stated and agreed-upon goal of eventually forming a unified government, or (3) should the Village simply abandon its charter, cease to exist and, therefore, 'force' consolidation on the Town, which could require the Town to incorporate the cost of all Village's services into its finances? Although the middle choice (2) of gradual consolidation seems to be the generally agreed-upon course, it might be a good idea to reopen and reaffirm that goal within the context of the manager recruitment process. It was also unanimously agreed that if the two boards wish to expressly begin an effort to develop a plan of eventual merger, the effort must be undertaken only by the ten elected officials and not by an appointed committee. The past history of failed consolidation committee efforts was noted as was the specific point that if it is the elected bodies that develop the plan of merger then the elected bodies can advocate for their plan. The committee process, in the past, has allowed elected officials to distance themselves from committee recommendations and obstruct them. It was also generally agreed that no further consolidation of existing, 'unconsolidated' Village departments should occur until there is more clarity among elected Town and Village officials on the future and direction of governance consolidation.

Local Development Corporation – The trustees discussed the idea of creating a new government function dedicated to, among other things, promoting business in the Village. It was agreed that this office could also serve the Town outside the Village, and that it could take over some or all of the functions of the Essex Economic Development Committee. This new office would require an oversight board, and the EDC membership could serve as that board. In addition to an oversight board it was recommended that this office would have an executive director and an administrative assistant. Lori mentioned meeting person from Middlebury with experience in forming such an organization. It was agreed that this person, Robin Chiu (sp.?), should be invited to an upcoming trustee meeting for an informal presentation and discussion of the development corporation concept. Subsequent to that meeting the Trustees would consider if/how to proceed with the idea and whether to approach the selectboard for joint discussions of making this a community-wide effort.

Marijuana Ordinance – Lori said she believed it was only a matter of time before the state legalized the sale of recreational marijuana. She proposed beginning discussions regarding the desirability of

having an ordinance prohibiting retail marijuana sales in Essex Junction.

Multi-use Path Maintenance and McLure Building Mural – Elaine noted that some trees planted along the path are dead (note: at the evening trustee meeting Rick Hamlin said his office was aware of the situation and was having them replaced). Elaine also asked to have trash receptacles placed on the path and requested a discussion with New England Central RR and/or the owners of the McLure building to have the brush/weeds on the McLure side of the tracks cut back. She also said she plans to personally contact the McLure building owners to ask permission for a mural to be painted on the side of the building. It was agreed that the Trustees would expend the funds for these improvements from their penny-on-the-tax rate economic development fund.

Village Center Parking - The trustees discussed the general problems of village center parking and made the following recommendations: 1) We consider a pursuing a TIF district, in collaboration village center property owners, with the intent of creating a parking garage. She suggested a space on the McEwing property next to the train tracks might be a good location. Other locations for a garage were discussed, including on the Handy property adjacent to the Park Street School. The trustees discussed Darby's public parking space inventory and how to advertise and promote it (print handout maps for village businesses and post large maps at strategic places around the village). The need for updated public parking signs was also discussed. As a potential next step, it was suggested that the trustees and staff convene a work session with property owners to get their views on the parking problem, how they've addressed it in other communities. That meeting would serve as the basis for planning specific next steps.

During later discussions with Planning Commission members for reappointment, it was noted that members of the PC believe they have more work capacity than is currently being utilized. They suggested that they become more involved with planning. The idea was raised of having the planning commission either get involved with or take the lead on the parking problem in the village center.



MEMORANDUM

TO: Village Trustees
 FROM: Pat Scheidel, Municipal Manager
 DATE: June 27, 2017
 SUBJECT: Trustees Meeting Schedule

TRUSTEES MEETING SCHEDULE/EVENTS

July 11 6:30 PM	<ul style="list-style-type: none"> • Public Hearing on FYE 18 Water/Sewer/Sanitation Rates • Set FYE 18 Water/Sewer/Sanitation Rates • Bid award for EJFD truck • Bid award for Engineering Services for Main St. Pedestrian Bridge • Bid award for Portable Compressor
July 4 6 PM	<i>4th of July Celebration at Maple St. Park</i>
July 15 4-9 PM	<i>Block Party & Street Dance</i>
July 25 6:30 PM	Regular Meeting
August 8 6:30 PM	Regular Meeting
August 22 6:30 PM	Regular Meeting
September 12 6:30 PM	Regular Meeting
September 26 6:30 PM	Regular Meeting
September 29-30	<i>Steamfest/Arts Festival</i>

**VILLAGE OF ESSEX JUNCTION
BOARD OF TRUSTEES MEETING
TUESDAY, JULY 11, 2017
6:30 PM**

AGENDA

**PUBLIC HEARING
FYE 18 WATER/SEWER/SANITATION RATES**

This meeting will be held in the meeting room at the Village Municipal Building, 2 Lincoln Street, Essex Junction, VT. Meetings of the Trustees are accessible to people with disabilities. For information on accessibility and/or this agenda, call the Village Manager's office at 878-6944.

Village of Essex Junction

B L O C K

Bounce Castle! Balloon Art! Face Painting! Photobooth!

P A R T Y

Saturday, July 15, 2017 4-9 PM

Railroad Ave, Downtown Essex Junction

EJRP 5K Night Run starts at 9 PM!

Fun! Yummy Food! Dancing! FREE!

LIVE MUSIC by the X-Rays!

PROUDLY SPONSORED BY:

All Season Siding & Windows Champlain OB-GYN Essex Automotive Services

Associates in Orthodontics, Aubuchon Hardware, Bergeron, Paradis & Fitzpatrick,
Bilodeau, Wells & Co., Champlain Valley Exposition, Chittenden County Chiropractic,
Darkroom Gallery, Essex Pediatrics, Hamlin Consulting Engineers, Scott + Partners Architects,
The Essex Agency, Riverside in the Village Rentals, Unsworth LaPlante PLC,
Transitions Physical Therapy, Vespa's Pizza Pasta Deli, Central Beverage,
Children's Preschool & Enrichment Center, Northfield Savings Bank

COPY

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS THAT the ESSEX JUNCTION SCHOOL DISTRICT, formerly known as the ESSEX JUNCTION GRADED SCHOOL DISTRICT, an incorporated school district located in Essex Junction, County of Chittenden and State of Vermont, (hereinafter referred to as Grantor), in the consideration of TEN AND MORE DOLLARS paid to the Grantor's full satisfaction by the **VILLAGE OF ESSEX JUNCTION,** a Vermont municipality located in Essex Junction, County of Chittenden, State of Vermont, (hereinafter referred to as Grantee), by these presents does freely GIVE, GRANT, SELL, CONVEY AND CONFIRM unto the said Grantee **VILLAGE OF ESSEX JUNCTION,** and the Grantee's successors and assigns forever, a certain piece of land in the Village of Essex Junction, County of Chittenden and State of Vermont, described as follows, viz:

Being a 1.43 acre, more or less, parcel of land with all improvements thereon as depicted on that survey plat entitled "Park Street School" by Krebs & Lansing Consulting Engineers, Inc., dated June 17, 2010 and recorded in Map Slide 450 of the Town of Essex Land Records.

Also being all and the same lands and improvements as conveyed to the Essex Junction Graded School District (n/k/a Essex Junction School District) by Warranty Deed of Almon D. Rood and A.L. Rood, dated May 29, 1873 and recorded in Volume 16 at Page 87 of the Town of Essex Land Records.

Said premises are commonly known and designated as the Park Street School.

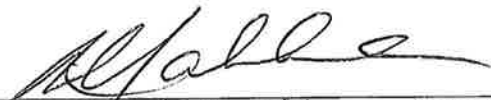
Said premises are subject to the following:

- 1) An easement benefitting Green Mountain Power dated August 5, 2008 and recorded at Volume 755 at Page 638 of the aforesaid Land Records;
- 2) An easement benefitting the Telephone Operating Company of Vermont, LLC dated August 5, 2008 and recorded at Volume 755 at Page 638 of the aforesaid Land Records;
- 3) An easement and right of way benefitting Handy Hotels and Rentals, LLC dated January 19, 2016 and recorded at Volume 949 at Page 426 of the aforesaid Land Records;
- 4) A non-exclusive easement and right of way benefitting Irene Hinsdale dated June 18, 2010 and recorded at Volume 950 at Page 852 of the aforesaid Land Records; and
- 5) Wastewater System and Potable Water Supply Permit #WW-4-4349 dated November 11, 2014 and recorded at Volume 924 at Page 296; and
- 6) A requirement in the Warranty Deed of Almon D. Rood and A.L. Rood, dated May 29, 1873 and recorded in Volume 16 at Page 87 that the Essex Junction School District, its successors and assigns "keep up and maintain a good and sufficient fence" as further described in the Warranty Deed.

Reference is hereby made to the above-referenced deeds and plans and the references contained therein, in further aid of the description.

TO HAVE AND TO HOLD said granted premises, with all the privileges and appurtenances thereof, to the said **VILLAGE OF ESSEX JUNCTION**, and the Grantee's successors and assigns, to their own use and behoof forever; and the said Grantor, **ESSEX JUNCTION SCHOOL DISTRICT**, for the Grantor and its successors and assigns, does covenant with the said Grantee, **VILLAGE OF ESSEX JUNCTION**, and the Grantee's successors and assigns, that until the ensembling of these presents the Grantor is the sole owner of the premises, and has good right and title to convey the same in manner aforesaid, that they are **FREE FROM EVERY ENCUMBRANCE**; except easements and rights of way of record, and the Grantor is hereby engaged to **WARRANT AND DEFEND** the same against all lawful claims whatsoever, except as aforesaid.

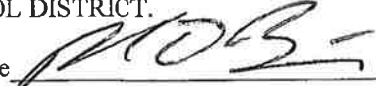
IN WITNESS WHEREOF, the Grantor sets its hand and seal this 14th June day of May, 2017.



Michael Smith, Authorized Agent of
the **ESSEX JUNCTION SCHOOL DISTRICT**, formerly
known as the **ESSEX JUNCTION GRADED SCHOOL,**
DISTRICT

STATE OF VERMONT)
COUNTY OF CHITTENDEN)

At Essex Junction this 14 day of June, 2017, Michael Smith, Authorized Agent
of the **ESSEX JUNCTION SCHOOL DISTRICT**, formerly known as the **ESSEX JUNCTION GRADED SCHOOL**
DISTRICT, personally appeared and s/he acknowledged the foregoing instrument by her/him sealed and subscribed,
to be her/his own free act and deed and the free act and deed of the **ESSEX JUNCTION SCHOOL DISTRICT**,
formerly known as the **ESSEX JUNCTION GRADED SCHOOL DISTRICT**.

Before me 

Notary Public
My Commission Expires: 2/10/2019

Essex Westford School District

Serving Essex Junction, Essex Town, and Westford

51 Park Street
Essex Junction, VT 05452

www.ewsd.org

p: (802) 879-5579 / f: (802) 878-1370

June 22, 2017

Dear George,

On behalf of the Essex Westford School District, I would like to thank you for your cooperation and allowing the ACE program to remain at Park Street School.

The new Board looks forward to continuing the long standing relationship that the Village has had with its local schools.

Sincerely,
Martha Heath
EWSD Board Chair

RECEIVED

JUN 22 2017

Village of Essex Junction

(/)

Village of Waterbury Votes to Dissolve Into Town of Waterbury

The vote to change the Village charter passed by a vote of 224 to 83

By: Alexandra Leslie ✉ (<mailto:aleslie@nexstar.tv>)

Posted: Jun 20, 2017 08:41 PM EDT

Updated: Jun 20, 2017 10:38 PM EDT

16

|| Loading ad

WATERBURY, Vt. - The Village of Waterbury has officially voted to dissolve into the Town of Waterbury.

Earlier in the year, village leaders warned a vote to become a utility district and dissolve the village, which would include eliminating the police department. It passed 79 to 13.

The vote to change the village charter passed 224 to 83 Tuesday night, almost three to one in favor of the article.

Village officials say 307 out of 1,400 registered voters (22 percent) took part in the special election.

(/absentee ballot in the 30 days before Tuesday, and the rest of them voted Tuesday. And 300 is a good, a fair turnout," said Skip Flanders, President of Waterbury Village Trustees.

Local 22 & Local 44 clarified what the difference between merging and dissolving means.

"If you merged, the town would have had to vote on it and agree to how you settled your assets and claims. By dissolving the village, the town didn't have to vote, and it's just the village deciding how we wanted to be organized into the future," said Flanders. "We've tried a dozen merger votes in the past; they always passed in the village, and the town turned them down, because they didn't want their taxes to go up."

Because the vote passed, the village police department will also dissolve. The department will be funded until December 31st.

Village leaders previously said the department became too expensive to afford.

Flanders said police costs were 90 percent of the village budget. With two officers working five days a week, Flanders said coverage was inadequate.

Vermont State Police will eventually take over coverage for the area.

Now, Flanders says there's hope they will eventually have a town police department that's affordable.

Flanders calls Tuesday's vote historic, and "changes the face of Waterbury that was here for 135 years."

"The village existed and formed in 1882 to have a fire department and a police department. When the town didn't need those facilities, the town has changed, and now that historic vote is reversed in this vote. And what the village existed for before will now be supplied by the town of Waterbury as a whole," said Flanders.

The village will be converted into a utility district, which maintains water and sewer systems.

The changes will go into effect July 1, 2018.

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Local 22 & Local 44 on Twitter
(<https://twitter.com/WVNYWFFF>)

**VILLAGE OF ESSEX JUNCTION
BOARD OF TRUSTEES
MINUTES OF MEETING
June 13, 2017**

BOARD OF TRUSTEES: George Tyler (Village President); Elaine Sopchak, Andrew Brown, Dan Kerin. (Lori Houghton was absent.)

ADMINISTRATION: Pat Scheidel, Municipal Manager; Robin Pierce, Community Development Director; Jim Jutras, Water Quality Superintendent; Richard Hamlin and Jeff Kershner, Village Engineers; Darby Mayville, Community Relations Assistant.

OTHERS PRESENT: Aaron Martin, Maura Collins, Andrew Boutin, John Alden, Joe Weith, Nick Meyer, Colin Flanders (Essex Reporter).

[Note: Minutes reflect the order of the published agenda.]

1. CALL TO ORDER and PLEDGE OF ALLEGIANCE

Village President, George Tyler, called the meeting to order at 2 PM and led the assemblage in the Pledge of Allegiance.

2. WORK SESSION

The Trustees held a work session and discussed the following topics:

- Municipal Manager Recruitment
- Public Works Agreement
- Thoughtful Growth in Action
- Governance
- Local Development Corporation
- Tax Increment Financing Districts

3. AGENDA CHANGES/APPROVAL

Items on the agenda were rearranged to accommodate staff and other individuals in attendance.

MOTION by Dan Kerin, SECOND by Elaine Sopchak, to approve the agenda as amended. VOTING: unanimous (4-0); motion carried.

4. GUESTS, PRESENTATIONS, PUBLIC HEARINGS

1. Comments from Public on Items Not on Agenda
None.

2. Interview Citizens for Reappointment
Planning Commission

The Trustees held general discussion with John Alden, Joe Weith, and Andrew Boutin on the activity of the Planning Commission and any issues facing the village, such as available public parking in the village center and signage directing people to the parking,

responding to comments on Front Porch Forum, giving the Planning Commission direction on Trustees initiatives (i.e. Design Five Corners), directing the public to accurate information on projects happening in the village. There was also discussion of the Planning Commission doing planning in addition to reviewing development applications. It was suggested the Planning Commission could take the lead in researching parking standards or a village-wide parking plan or forming an affordable housing committee, for example. The Planning Commission could also do some visioning for the Transit Overlay District (TOD). There was discussion of the Design Five Corners initiative and the Planning Commission participating in incorporating the initiative into the Land Development Code. The vision is in the village comprehensive plan already. All agreed there should be joint meetings with the Planning Commission and Board of Trustees on planning and visioning at least twice a year.

Former member of the Planning Commission, Nick Meyer, said there was frustration on the Planning Commission with the lack of planning sessions and enforcement of the Land Development Code. Having conceptual and final plan review in one meeting was also an issue.

Zoning Board of Adjustment

Aaron Martin reported the Zoning Board does not meet often which is a testament of the good work of the Planning Commission. The idea of consolidating the planning commissions in the town and village and having two separate development review boards is appealing and will allow the Planning Commission to do planning and the DRBs to handle development applications.

Tree Advisory Committee

Nick Meyer reported the Tree Advisory Committee is working well and has made good progress with tree plantings in the village. There is now a software tool in place to help with long term maintenance of the trees. A budget for landscaping along the anticipated crescent connector roadway should be on the radar.

3. Presentation: Affordable Housing Committee and Planning Grant

Maura Collins gave a presentation on creating an affordable housing committee and the village being the municipal applicant for a community development block grant (CDBG) to expand the Vermont Housing Data Website to include new types of information and tools to help with housing related decisions. A formal proposal will be forthcoming in July to update the website and the capacity to keep data current. Following discussion, the Trustees concurred with being an applicant for the block grant funding.

5. OLD BUSINESS

1. Reappointments to Boards, Commissions, and Committees

MOTION by Elaine Sopchak, SECOND by Dan Kerin, to reappoint the following individuals to three year terms beginning July 1, 2017 and ending June 30, 2020:

- **Aaron Martin – Zoning Board of Adjustment**
- **John Alden – Planning Commission**
- **Andrew Boutin – Planning Commission**

- Joe Weith – Planning Commission
- Nick Meyer – Tree Advisory Committee
- Jeff Frolik – Bike/Walk Advisory Committee
- Phoebe Spencer – Bike/Walk Advisory Committee

VOTING: unanimous (4-0); motion carried.

2. Approve/Sign Letter to Essex Westford School Board

MOTION by Dan Kerin, SECOND by Andrew Brown, to authorize George Tyler to sign the letter to the Essex Westford School Board on behalf of the Board of Trustees stating approval of the Ace Program continuing at Park Street School for the next three years rent free. VOTING: unanimous (4-0); motion carried.

3. Approve/Sign Acknowledgement of Assumption of Debt for EJRP

MOTION by Andrew Brown, SECOND by Dan Kerin, to authorize George Tyler to sign the letter acknowledging assumption of debt for Essex Junction Recreation and Parks. VOTING: unanimous (4-0); motion carried.

4. Municipal Manager's Annual Appointments

MOTION by Andrew Brown, SECOND by Elaine Sopchak, to approve the Municipal Manager's annual appointments for the period of July 1, 2017 through June 30, 2018 to include:

- Susan McNamara-Hill – Village Treasurer/Tax Collector/Village Clerk
- David Barra – Village Attorney
- Chris Gaboriault – Village Fire Chief
- Hamlin Consulting Engineers – Village Engineering Consultant

VOTING: unanimous (4-0); motion carried.

Rick Hamlin announced Jeff Kershner is the new president of Hamlin Consulting Engineers. There was discussion of the knowledge of development in the village by Hamlin Engineering, and that the village regulations provide predictability for the community and developers.

5. Reappointments to Chittenden County Regional Planning Commission and Transportation Advisory Committee

MOTION by Elaine Sopchak, SECOND by George Tyler, to reappoint the following representatives to Regional Planning for two year terms beginning July 1, 2017 through June 30, 2019:

- Dan Kerin – Village Representative to CCRPC
- Andrew Brown – Alternate Representative to CCRPC
- Jeff Carr – 2nd Alternate Representative to CCRPC
- Robin Pierce – TAC Representative

VOTING: unanimous (4-0); motion carried.

6. Reappointments to the Clean Water Advisory Committee

MOTION by Dan Kerin, SECOND by Andrew Brown, to reappoint Chelsea Mandigo as the Village Representative on the Clean Water Advisory Committee

and James Jutras as the alternate representative for a term of two years beginning July 1, 2017 through June 30, 2019. VOTING: unanimous (4-0); motion carried.

7. Appointment to the Ad Hoc Evaluation Committee for Public Works Consolidation
MOTION by George Tyler, SECOND by Elaine Sopchak, to concur with the appointment of Justin Rabidoux to the Ad Hoc Evaluation Committee for Public Works Consolidation. VOTING: unanimous (4-0); motion carried.

6. NEW BUSINESS

1. Bid Award for WWTF Headworks Screen

Jim Jutras reported four bids were received for the headworks screen. Staff recommends the bid from Fairfield Service Co. for \$133,000. Fairfield has two installations in operation and has offered an extended warranty on their equipment. Staff is getting clarification on the five year comprehensive warranty being offered by the company.

MOTION by George Tyler, SECOND by Dan Kerin, to approve the bid for a headworks screen from Fairfield Service Company in the amount of \$133,000 contingent on satisfactory completion of reference and installation checks on current installations. VOTING: unanimous (4-0); motion carried.

7. MANAGER'S REPORT

1. Meeting Schedule – Regular Trustees Meetings @ 6:30 PM

- June 27, 2017
- July 11, 2017
- July 25, 2017
- August 8, 2017
- August 22, 2017
- September 12, 2017
- September 26, 2017

* July 4, 2017 @ 6 PM – July 4th Celebration at Maple St. Park

* July 15, 2017 @ 4 PM – Block Party & Street Dance

* September 29-30, 2017 – SteAmfest/Arts Festival

2. Regional Dispatch

Joint study committee meetings continue on regional dispatch service. Colchester and South Burlington are doing a beta test of regional dispatch in real time/real life circumstances.

8. TRUSTEES COMMENTS/CONCERNS & READING FILE

1. Board Member Comments

- George Tyler said he signed the letter to the Mayor of Kyiv, Ukraine supporting the March of Equity and Amnesty International.

2. Reading File

- Minutes:
 - Block Party Committee 5/22/17

- Planning Commission 5/18/17
- Capital Program Review Committee 6/6/17
- Certificate of Recognition 2016 Tree City USA
- Memo from Dennis Lutz, Public Works Director, re: Pedestrian Bridge on Main Street
- Letter from Champlain Valley Exposition re: Neighbors Meeting on 6/13/17
- Update on Regional Dispatch

9. CONSENT AGENDA

MOTION by Andrew Brown, SECOND by Dan Kerin, to approve the consent agenda as follows:

- 1. Approve Minutes of Previous Meeting(s) 5/23/17**
- 2. Expense Warrant #17046, dated 5/26/17, in the amount of \$457,406.28.**
- 3. Expense Warrant #17047, dated 6/2/17, in the amount of \$148,931.61.**
- 4. Expense Warrant #17048, dated 6/9/17, in the amount of \$37,482.40.**
- 5. FYE18 Lease for Essex CHIPS.**
- 6. Champlain Water District Easement Adjustment for Cascade Street Meter Vault.**
- 7. Letter to Mayor of Kyiv, Ukraine in support of March of Equality and Amnesty International**

VOTING: unanimous (4-0); motion carried.

10. ADJOURNMENT

MOTION by Andrew Brown, SECOND by Dan Kerin, to adjourn the meeting.

VOTING: unanimous (4-0); motion carried.

The meeting was adjourned at 8:18 PM.

RScty: M.E.Riordan

06/16/17

Town of Essex / Village of EJ Accounts Payable

Page 1 of 2

01:40 pm

Check Warrant Report # 17049 Current Prior Next FY Invoices For Fund (GENERAL FUND)

HPackard

For Check Acct 01(GENERAL FUND) All check #s 06/15/17 To 06/16/17 & Fund 2

Vendor	Invoice Date	Invoice Description Invoice Number	Account	Amount Paid	Check Number	Check Date
00530	04/27/17	BL BOOK B4980552	210-45551.641 JUVEN COLLECTION-PRNT & E	17.56	11033	06/16/17
00530	05/19/17	BF BOOKS B5002948	210-49345.000 LIBRARY DONATION EXPENDIT	22.90	11033	06/16/17
00530	05/19/17	BF BOOKS B5003427	210-49345.000 LIBRARY DONATION EXPENDIT	16.85	11033	06/16/17
00530	05/23/17	BL BOOKS B5006555	210-45551.640 ADULT COLLECTION-PRINT &	14.27	11033	06/16/17
00530	05/23/17	BL BOOKS B5006555	210-45551.610 SUPPLIES	0.90	11033	06/16/17
16030	05/27/17	ST 26 Railroad ST 32153	210-43160.610 STREET LIGHTS SUPPLIES/MA	363.29	11034	06/16/17
23525	04/27/17	ST DEF 389296	210-43110.626 GAS,GREASE AND OIL	17.98	11036	06/16/17
V10614	05/31/17	AD June cobra admin 6925	210-41320.210 HEALTH INS & OTHER BENEFIT	30.00	11037	06/16/17
27420	05/10/17	ST unit #14 6209	210-43110.432 VEHICLE MAINTENANCE	769.68	11038	06/16/17
25715	05/24/17	ST class 1 paving 05241714830	210-43110.576 ENGINEERING SERVICES	568.21	11039	06/16/17
23215	04/11/17	ST loot head rake 106336920001	210-43110.610 SUPPLIES	87.98	11040	06/16/17
23215	04/11/17	ST grade stakes 106340620001	210-43110.610 SUPPLIES	30.35	11040	06/16/17
05395	04/11/17	ST GPS IN1726432	210-43110.442 EQUIPMENT RENTALS	280.00	11043	06/16/17
10705	06/05/17	ST maple autumn blaze 458407	210-43161.000 STREETSCAPE MAINT./IMP	927.00	11044	06/16/17
V9684	06/05/17	ST refund fee for permit 060517D	210-36605.000 MISCELLANEOUS STREET RECE	200.00	11045	06/16/17
37965	05/17/17	ST portland 342798	210-43151.430 STORM SEWER MAINTENANCE	493.00	11049	06/16/17
25715	06/05/17	VR PEARL LINK CONST MLPAYAP2	230-46801.007 PEARL ST. LINKING SIDEWAL	144368.31	11039	06/16/17
23215	04/20/17	VW paint 106347590001	254-43200.610 SUPPLIES	35.23	11040	06/16/17
05010	05/04/17	VW hydrant flushing ad 119558	254-43200.550 PRINTING AND ADVERTISING	42.50	11048	06/16/17
05010	05/11/17	ST hudrant flushing ad 119559	254-43200.550 PRINTING AND ADVERTISING	42.50	11048	06/16/17

Vendor	Invoice Date	Invoice Description	Account	Amount Paid	Check Number	Check Date
14400	06/15/17	ABOVE AND BEYOND LHBL cleaning June 4-Jul 3038	210-41940.423 CONTRACT SERVICES	600.00	11148	06/23/17
14400	06/15/17	ABOVE AND BEYOND LHBL cleaning June 4-Jul 3038	210-45551.610 SUPPLIES	72.00	11148	06/23/17
14400	06/15/17	ABOVE AND BEYOND LHBL cleaning June 4-Jul 3038	210-45551.423 CONTRACT SERVICES	2212.75	11148	06/23/17
14400	06/15/17	ABOVE AND BEYOND VF janitorial service 3039	210-42220.434 MAINT. BUILDINGS/GROUNDS	220.00	11148	06/23/17
05290	06/02/17	ADVANCE AUTO PARTS ST primer 552715341403	210-43110.610 SUPPLIES	5.69	11149	06/23/17
05290	06/02/17	ADVANCE AUTO PARTS BL paint book return 552715350511	210-45551.610 SUPPLIES	27.35	11149	06/23/17
05290	06/06/17	ADVANCE AUTO PARTS ST wipe and shine 552715720466	210-43110.610 SUPPLIES	5.69	11149	06/23/17
07305	06/01/17	AIRGAS USA LLC ST lease cylinder 9945510661	210-43110.610 SUPPLIES	156.00	11150	06/23/17
V10301	06/01/17	BARRA, PLC DAVID A. May legal svcs 060117D	210-41320.320 LEGAL SERVICES	2079.00	11159	06/23/17
V10301	06/01/17	BARRA, PLC DAVID A. May legal svcs 060117D	210-41970.320 LEGAL SERVICES	1402.50	11159	06/23/17
V9963	06/02/17	BENOURE PLUMBING & HEATIN BL BUILDING MAINTENANCE 115349	210-45551.434 MAINT. BUILDINGS/GROUNDS	130.00	11163	06/23/17
V1655	06/11/17	BLUE CROSS BLUE SHIELD OF VA July health ins 3395001191	210-15109.000 EXCHANGE - COBRA	686.76	11165	06/23/17
V1655	06/11/17	BLUE CROSS BLUE SHIELD OF VA July health ins 3395001191	210-14301.000 PREPAID EXPENSES	15659.77	11165	06/23/17
00530	05/24/17	BRODART CO BF BOOKS B5007810	210-49345.000 LIBRARY DONATION EXPENDIT	16.29	11168	06/23/17
00530	05/24/17	BRODART CO BL BOOKS B5008046	210-45551.640 ADULT COLLECTION-PRINT &	125.88	11168	06/23/17
00530	05/24/17	BRODART CO BL BOOKS B5008046	210-45551.610 SUPPLIES	7.20	11168	06/23/17
00530	05/25/17	BRODART CO BF BOOKS B5009445	210-49345.000 LIBRARY DONATION EXPENDIT	33.12	11168	06/23/17
00530	05/26/17	BRODART CO BL BOOKS B5010876	210-45551.610 SUPPLIES	0.30	11168	06/23/17
00530	05/26/17	BRODART CO BL BOOKS B5010876	210-45551.640 ADULT COLLECTION-PRINT &	23.20	11168	06/23/17
00530	05/31/17	BRODART CO BL BOOKS B5014187	210-45551.640 ADULT COLLECTION-PRINT &	14.04	11168	06/23/17
00530	05/31/17	BRODART CO BL BOOKS B5014187	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	05/31/17	BRODART CO BL BOOKS B5014483	210-45551.640 ADULT COLLECTION-PRINT &	20.30	11168	06/23/17
00530	05/31/17	BRODART CO BL BOOKS B5014483	210-45551.610 SUPPLIES	0.30	11168	06/23/17
00530	06/01/17	BRODART CO BL BOOKS B5015871	210-45551.610 SUPPLIES	17.10	11168	06/23/17
00530	06/01/17	BRODART CO BL BOOKS B5015871	210-45551.641 JUVEN COLLECTION-PRNT & E	200.84	11168	06/23/17

Vendor	Invoice Date	Invoice Description Invoice Number	Account	Amount Paid	Check Number	Check Date
00530	06/02/17	BL books B5017046	210-45551.640 ADULT COLLECTION-PRINT &	88.51	11168	06/23/17
00530	06/02/17	BL books B5017046	210-45551.610 SUPPLIES	5.40	11168	06/23/17
00530	06/02/17	BL BOOKS B5017171	210-45551.610 SUPPLIES	2.70	11168	06/23/17
00530	06/02/17	BL BOOKS B5017171	210-45551.641 JUVEN COLLECTION-PRNT & E	27.47	11168	06/23/17
00530	06/02/17	BL BOOKS B5017173	210-45551.641 JUVEN COLLECTION-PRNT & E	14.04	11168	06/23/17
00530	06/02/17	BL BOOKS B5017173	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	06/05/17	BL BOOKS B5018560	210-45551.610 SUPPLIES	19.80	11168	06/23/17
00530	06/05/17	BL BOOKS B5018560	210-45551.641 JUVEN COLLECTION-PRNT & E	257.27	11168	06/23/17
00530	06/05/17	BF books B5018600	210-49345.000 LIBRARY DONATION EXPENDIT	32.60	11168	06/23/17
00530	06/05/17	BL books B5018665	210-45551.610 SUPPLIES	0.30	11168	06/23/17
00530	06/05/17	BL books B5018665	210-45551.640 ADULT COLLECTION-PRINT &	26.09	11168	06/23/17
00530	06/06/17	BL BOOKS B5020754	210-45551.641 JUVEN COLLECTION-PRNT & E	78.28	11168	06/23/17
00530	06/06/17	BL BOOKS B5020754	210-45551.610 SUPPLIES	5.40	11168	06/23/17
00530	06/07/17	BF books B5022614	210-49345.000 LIBRARY DONATION EXPENDIT	46.69	11168	06/23/17
00530	06/07/17	Bf books B5022631	210-49346.001 ADULT COLLECTION-PRINT &	866.52	11168	06/23/17
00530	06/07/17	BL book B5023009	210-45551.640 ADULT COLLECTION-PRINT &	19.11	11168	06/23/17
00530	06/08/17	BF books B5024260	210-49345.000 LIBRARY DONATION EXPENDIT	27.39	11168	06/23/17
00530	06/08/17	BL BOOKS B5024338	210-45551.610 SUPPLIES	3.60	11168	06/23/17
00530	06/08/17	BL BOOKS B5024338	210-45551.641 JUVEN COLLECTION-PRNT & E	42.49	11168	06/23/17
00530	06/08/17	BL BOOKS B5024421	210-45551.641 JUVEN COLLECTION-PRNT & E	304.60	11168	06/23/17
00530	06/08/17	BL BOOKS B5024421	210-45551.610 SUPPLIES	20.70	11168	06/23/17
00530	06/08/17	BL books B5024484	210-45551.640 ADULT COLLECTION-PRINT &	16.71	11168	06/23/17
00530	06/08/17	BL books B5024484	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	06/08/17	BL BOOKS B5024613	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	06/08/17	BL BOOKS B5024613	210-45551.641 JUVEN COLLECTION-PRNT & E	13.94	11168	06/23/17

06/22/17
04:24 pm

Town of Essex / Village of EJ Accounts Payable
Check Warrant Report # 17050 Current Prior Next FY Invoices For Fund (GENERAL FUND)
For Check Acct 01(GENERAL FUND) All check #s 06/22/17 To 06/23/17 & Fund 2

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HPackard

Vendor	Invoice Date	Invoice Description	Account	Amount Paid	Check Number	Check Date
00530	06/09/17	BRODART CO BL books B5026138	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	06/09/17	BRODART CO BL books B5026138	210-45551.640 ADULT COLLECTION-PRINT &	10.79	11168	06/23/17
00530	06/09/17	BRODART CO BL books B5026141	210-45551.640 ADULT COLLECTION-PRINT &	23.20	11168	06/23/17
00530	06/09/17	BRODART CO BL books B5026141	210-45551.610 SUPPLIES	0.30	11168	06/23/17
00530	06/12/17	BRODART CO BF books B5027829	210-49345.000 LIBRARY DONATION EXPENDIT	16.30	11168	06/23/17
00530	06/12/17	BRODART CO BL books B5028254	210-45551.640 ADULT COLLECTION-PRINT &	90.40	11168	06/23/17
00530	06/12/17	BRODART CO BL books B5028254	210-45551.610 SUPPLIES	4.50	11168	06/23/17
00530	06/13/17	BRODART CO BL books B5029420	210-45551.641 JUVEN COLLECTION-PRNT & E	14.95	11168	06/23/17
00530	06/13/17	BRODART CO BL books B5029420	210-45551.610 SUPPLIES	0.90	11168	06/23/17
00530	06/13/17	BRODART CO BF books B5029532	210-49345.000 LIBRARY DONATION EXPENDIT	16.30	11168	06/23/17
00530	06/14/17	BRODART CO BL books B5030915	210-45551.640 ADULT COLLECTION-PRINT &	53.39	11168	06/23/17
00530	06/14/17	BRODART CO BL books B5030915	210-45551.610 SUPPLIES	1.80	11168	06/23/17
00530	06/15/17	BRODART CO BL books B5032432	210-45551.641 JUVEN COLLECTION-PRNT & E	41.17	11168	06/23/17
00530	06/15/17	BRODART CO BL books B5032432	210-45551.610 SUPPLIES	2.70	11168	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES BL BURL FREE PRESS 050817C	210-45551.640 ADULT COLLECTION-PRINT &	30.80	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES AD TRUSTEE MTG SUPPLIES 050917D	210-41320.560 TRUSTEES EXPENDITURES	7.48	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES ST TREE GATORS 051517E	210-43161.000 STREETSCAPE MAINT./IMP	291.96	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES AD/LH TRUSTEE & LH SUPPLI 052317H	210-41320.560 TRUSTEES EXPENDITURES	18.06	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES AD/LH TRUSTEE & LH SUPPLI 052317H	210-41940.610 SUPPLIES	4.09	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES HS RECORD CHECK 052417I	210-43110.572 INTERVIEW COSTS	30.00	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES BL TRAINING 052417J	210-45551.500 TRAINING, CONFERENCES, DU	80.00	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES ST PLANTS FOR GARDEN 052417K	210-43161.000 STREETSCAPE MAINT./IMP	80.87	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES CD PLANTS FOR PERGOLAS 052617L	210-41970.610 SUPPLIES	38.97	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES AD SUPPLIES FOR EMPLOYEES 052917M	210-41320.610 SUPPLIES	15.98	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES VF FABRIC/BUNTING STATION 053117N	210-42220.889 ROUTINE EQUIPMENT PURCHAS	179.55	11172	06/23/17

Vendor	Invoice Description	Invoice Date	Invoice Number	Account	Amount Paid	Check Number	Check Date
V9941	BUSINESSCARD SERVICES	06/07/17	BL CLEANING DRAPES 0531170	210-45551.434 MAINT. BUILDINGS/GROUNDS	707.40	11172	06/23/17
V9941	BUSINESSCARD SERVICES	06/07/17	AD EMPLOYEE APPRECIATION 060117P	210-41320.835 HOLIDAY EXPENSE	477.54	11172	06/23/17
V9941	BUSINESSCARD SERVICES	06/07/17	AD PRIZE FOR APPRECIATION 060117Q	210-41320.835 HOLIDAY EXPENSE	27.70	11172	06/23/17
21500	CANON FINANCIAL SERVICES	06/12/17	AD copier lease July 17387386	210-14301.000 PREPAID EXPENSES	245.00	11175	06/23/17
V0455	CANON SOLUTIONS AMERICA	06/01/17	BL SUPPLIES 4022398908	210-45551.610 SUPPLIES	59.71	11176	06/23/17
V0455	CANON SOLUTIONS AMERICA	06/07/17	AD COPIES 5/7-6/6/17 4022456051	210-41320.442 LEASED SERVICES	70.33	11176	06/23/17
40205	CDW-G	04/26/17	Adobe Acrobat pb HQL9372	210-41320.891 CAPITAL OUTLAY	371.43	11179	06/23/17
V04609	CENTER POINT LARGE PRINT	06/01/17	BL books 1478117	210-45551.640 ADULT COLLECTION-PRINT &	91.08	11180	06/23/17
45120	CHAMPLAIN VALLEY EQUIPMEN	03/31/17	ST plow blade CE17870	210-43110.610 SUPPLIES	125.58	11183	06/23/17
21210	CINTAS	05/31/17	ST first aid 5008051429	210-43110.612 UNIFORMS,BOOTS,ETC	44.21	11189	06/23/17
04940	COMCAST	06/03/17	VF cable service 0086187 6/17	210-42220.535 TELEPHONE SERVICES	13.55	11192	06/23/17
38280	CRYSTAL ROCK BOTTLED WATE	05/31/17	LH MAY BOTTLED WATER MAY2017	210-41940.610 SUPPLIES	32.25	11195	06/23/17
25715	DONALD L. HAMLIN CONSULT	05/24/17	ST class 1 paving 05241714830	210-43110.576 ENGINEERING SERVICES	568.21	11198	06/23/17
35260	EAST COAST PRINTERS INC	06/13/17	ST RVJ shirts 06131749	210-43110.612 UNIFORMS,BOOTS,ETC	139.50	11200	06/23/17
V10576	ECOPIXEL LLC	06/04/17	May web host,support 2333	210-41320.340 COMPUTER EXPENSES	129.00	11201	06/23/17
01010	ESSEX AGWAY	06/08/17	SF straw 323237	210-43110.616 GRAVEL, TOPSOIL	17.98	11204	06/23/17
23215	ESSEX EQUIPMENT INC	06/12/17	ST rope 106411800001	210-43110.570 MAINTENANCE OTHER	10.00	11206	06/23/17
V0795	ESSEX TOWN OF	06/19/17	AD 1/12 mgr contract June 061917D	210-41320.150 MANAGER CONTRACT	5381.25	11210	06/23/17
05395	FLEETMatics USA LLC	06/11/17	ST vehicle tracking IN1833792	210-43110.442 EQUIPMENT RENTALS	280.00	11218	06/23/17
04035	GOT THAT RENTAL & SALES I	06/06/17	ST head echo 37808	210-43110.570 MAINTENANCE OTHER	39.99	11225	06/23/17
07010	GREEN MOUNTAIN POWER CORP	06/13/17	VA June consolidated bill 06170206201	210-43110.622 ELECTRICAL SERVICE	222.98	11230	06/23/17
07010	GREEN MOUNTAIN POWER CORP	06/13/17	VA June consolidated bill 06170206201	210-42220.622 ELECTRICAL SERVICE	596.01	11230	06/23/17
07010	GREEN MOUNTAIN POWER CORP	06/13/17	VA June consolidated bill 06170206201	210-45551.622 ELECTRICAL SERVICE	1327.97	11230	06/23/17
07010	GREEN MOUNTAIN POWER CORP	06/13/17	VA June consolidated bill 06170206201	210-41940.622 ELECTRICAL SERVICE	596.01	11230	06/23/17
07010	GREEN MOUNTAIN POWER CORP	06/13/17	VA June consolidated bill 06170206201	210-43123.622 TRAFFIC LIGHTS - ELECTRIC	452.67	11230	06/23/17

Vendor	Invoice Date	Invoice Description	Invoice Number	Account	Amount Paid	Check Number	Check Date
07010	06/13/17	VA June consolidated bill	06170206201	210-43160.622	9885.81	11230	06/23/17
				STREET LIGHTS - ELECTRICI			
12275	06/09/17	ED START UP FUNDS-ART HOP	060917D	210-41335.812	2500.00	11236	06/23/17
				NEW PROGRAMS			
14025	06/10/17	VA life ins village	170610153273	210-14301.000	786.83	11257	06/23/17
				PREPAID EXPENSES			
08645	05/09/17	ST LUMBER	02579B	210-43110.610	19.15	11258	06/23/17
				SUPPLIES			
08645	05/05/17	ST PAPER TOWELS	02632A	210-43110.610	22.72	11258	06/23/17
				SUPPLIES			
08645	05/22/17	ST PLYWOOD	02903D	210-43110.610	243.52	11258	06/23/17
				SUPPLIES			
08645	05/22/17	ST VARIOUS SUPPLIES	05222017	210-43110.610	57.02	11258	06/23/17
				SUPPLIES			
08645	05/24/17	CD CREDIT SALES TAX-PLANT	19232CME	210-41970.610	-8.69	11258	06/23/17
				SUPPLIES			
08645	05/24/17	CD PLANTS@ PERGOLA	19232F	210-41970.610	153.55	11258	06/23/17
				SUPPLIES			
27295	06/01/17	AD CHOCOLATE FOR EMPLOYEE	46799	210-41320.835	19.99	11263	06/23/17
				HOLIDAY EXPENSE			
24620	03/02/17	ST WL 32 loader	15375894	210-43110.442	1750.00	11266	06/23/17
				EQUIPMENT RENTALS			
24620	06/06/17	ST blade exmark	1544393	210-43110.570	119.67	11266	06/23/17
				MAINTENANCE OTHER			
38340	06/09/17	VF light 8L3	1141541	210-42220.432	35.70	11267	06/23/17
				VEHICLE MAINTENANCE			
24960	06/15/17	VA July dental ins	170615	210-14301.000	1300.92	11274	06/23/17
				PREPAID EXPENSES			
24960	06/15/17	VA July dental ins	170615	210-15109.000	65.29	11274	06/23/17
				EXCHANGE - COBRA			
25140	06/09/17	ST asphalt	921666	210-43120.610	186.00	11277	06/23/17
				PAVEMENT MAINTENANCE			
24325	05/30/17	ST battery and VHF ante	24138352	210-43110.443	456.00	11283	06/23/17
				RADIO MAINTENANCE			
24325	06/10/17	VF paper service	24138403	210-42220.443	156.50	11283	06/23/17
				RADIO MAINTENANCE			
18010	05/30/17	VF firefighting gear	1245336	210-42220.612	5461.98	11285	06/23/17
				UNIFORMS,BOOTS,ETC			
26250	06/05/17	ST paint	17019	210-43120.444	1925.00	11294	06/23/17
				STREET MARKINGS			
29835	06/01/17	ST acetone	62819	210-43120.444	182.10	11296	06/23/17
				STREET MARKINGS			
40840	06/01/17	BL tech phone access	3759097	210-45551.535	95.02	11300	06/23/17
				TELEPHONE SERVICES			
40840	06/01/17	BL tech phone access	3759097	210-45551.530	39.95	11300	06/23/17
				TECHNOLOGY ACCESS			
40840	06/01/17	VA June phone, internet	3767210	210-41940.535	39.68	11300	06/23/17
				TELEPHONE SERVICES			
40840	06/01/17	VA June phone, internet	3767210	210-41320.535	141.29	11300	06/23/17
				TELEPHONE SERVICES			

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40840	06/01/17	SOVERNET COMMUNICATIONS (VA June phone, internet 3767210	210-41320.530 COMMUNICATIONS	34.95	11300	06/23/17
40840	06/01/17	SOVERNET COMMUNICATIONS (VA June phone, internet 3767210	210-41970.535 TELEPHONE SERVICES	31.86	11300	06/23/17
V10695	06/08/17	SUNSET TREE CARE ST tree removal 06082017D	210-43161.000 STREETSCAPE MAINT./IMP	650.00	11305	06/23/17
36130	05/18/17	VERIZON WIRELESS VA cell phones,data 5/6 9785951630	210-41970.535 TELEPHONE SERVICES	40.01	11312	06/23/17
36130	05/18/17	VERIZON WIRELESS VA cell phones,data 5/6 9785951630	210-42220.535 TELEPHONE SERVICES	160.04	11312	06/23/17
V10238	06/18/17	VT AIR TESTING SVC CD noise monitoring 6/17 383	210-15101.000 EXCHANGE - GENERAL	505.00	11314	06/23/17
28195	06/07/17	VT BUSINESS MAGAZINE BL magazine 024700	210-45551.640 ADULT COLLECTION-PRINT &	40.00	11316	06/23/17
22825	05/31/17	VT DOOR CO BL BUILDING MAINTENANCE 21157	210-45551.434 MAINT. BUILDINGS/GROUNDS	599.80	11319	06/23/17
22825	05/31/17	VT DOOR CO BL BUILDING MAINTENANCE 21158	210-45551.434 MAINT. BUILDINGS/GROUNDS	720.00	11319	06/23/17
22825	05/31/17	VT DOOR CO BL BUILDINGMAINTENANCE 21159	210-45551.434 MAINT. BUILDINGS/GROUNDS	1065.92	11319	06/23/17
30210	11/08/16	VT LEAGUE OF CITIES & TOW VA q3 2017 unemp ins 22142Q3	210-14301.000 PREPAID EXPENSES	431.00	11322	06/23/17
30210	06/02/17	VT LEAGUE OF CITIES & TOW Fire wcomp due 24491	210-20210.000 WORKERS COMP PAYABLE	117.00	11323	06/23/17
07010	06/12/17	GREEN MOUNTAIN POWER CORP Parking lot lgts install 25644	223-46801.001 3 MAIN PARKING LOT	1428.89	11231	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES SC ITEMS FOR TRIPS 050517A	225-45122.810 TRIP EXPENSES	36.55	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES SC FOOD BD HOSTS LUNCHEON 050717B	225-45122.812 MEAL SITE EXPENSES	74.12	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES SC RADA CUTLERY TO SELL 051817F	225-45122.612 FUND RAISER EXPENSES	155.80	11172	06/23/17
V9941	06/07/17	BUSINESSCARD SERVICES SC LUNCH MYSTERY TRIP 052217G	225-45122.810 TRIP EXPENSES	183.05	11172	06/23/17
21570	06/19/17	PETTY CASH - LOU ANN PIOL SC food, misc 4 ctr 170619D	225-45122.812 MEAL SITE EXPENSES	50.00	11276	06/23/17
21570	06/19/17	PETTY CASH - LOU ANN PIOL SC food, misc 4 ctr 170619D	225-45122.610 OPERATIONAL SUPP/EXP	24.95	11276	06/23/17
21570	06/19/17	PETTY CASH - LOU ANN PIOL SC food, misc 4 ctr 170619D	225-45122.614 PROGRAM EXPENSES	106.66	11276	06/23/17
21570	06/19/17	PETTY CASH - LOU ANN PIOL SC food, misc 4 ctr 170619D	225-45122.810 TRIP EXPENSES	15.70	11276	06/23/17
45780	06/19/17	WILLIAMS ALICE SC refund 2 trips medical 170619D	225-34702.001 SR. CTR TRIP FEES	161.00	11330	06/23/17
31275	06/05/17	DON WESTON EXCAVATING INC VR Pearl Link Constructio MLPAYAP2	230-46801.007 PEARL ST. LINKING SIDEWAL	144368.31	11197	06/23/17
12000	06/08/17	LAMOUREUX & DICKINSON INC VR ML Bldr const svcs May 50280	230-46801.007 PEARL ST. LINKING SIDEWAL	773.15	11254	06/23/17
V1655	06/11/17	BLUE CROSS BLUE SHIELD OF VA July health ins 3395001191	254-14301.000 PREPAID EXPENSES	1387.46	11165	06/23/17

Vendor	Invoice Date	Invoice Description Invoice Number	Account	Amount Paid	Check Number	Check Date
23435	05/31/17	VW May water usage 053117D	254-43210.411 CWD WATER PURC - GF	196931.94	11184	06/23/17
23435	05/31/17	VW May water usage 053117D	254-43200.412 STATE WATER TAX	847.18	11184	06/23/17
23435	05/31/17	VW May water usage 053117D	254-43210.412 STATE WATER TAX - GF	4831.50	11184	06/23/17
23435	05/31/17	VW May water usage 053117D	254-43200.411 CWD WATER PURCHASE	34531.18	11184	06/23/17
40025	06/02/17	VW 2 1/2 Rox 5232096	254-43200.610 SUPPLIES	112.38	11199	06/23/17
23215	06/06/17	VW hose nozzle 106403450001	254-43200.610 SUPPLIES	45.35	11206	06/23/17
23215	06/08/17	VW return hose nozzle 106403450002	254-43200.610 SUPPLIES	-45.35	11206	06/23/17
18000	06/02/17	VW curb box, collision ki 0751172	254-43200.614 DISTRIBUTION MATERIALS	334.64	11214	06/23/17
18000	06/02/17	VW curb box, collision ki 0751172	254-43200.610 SUPPLIES	175.95	11214	06/23/17
01770	06/12/17	VW water bill envelopes E305482	254-43200.550 PRINTING AND ADVERTISING	221.50	11217	06/23/17
07010	06/13/17	VA June consolidated bill 06170206201	254-43200.622 ELECTRICAL SERVICE	53.61	11230	06/23/17
14025	06/10/17	VA life ins village 170610153273	254-14301.000 PREPAID EXPENSES	69.71	11257	06/23/17
24960	06/15/17	VA July dental ins 170615	254-14301.000 PREPAID EXPENSES	115.26	11274	06/23/17
40640	06/06/17	VW chlr powder 0078855	254-43200.610 SUPPLIES	196.59	11278	06/23/17
V10609	06/08/17	WW 26 11377 hour svc 415081700380	255-43200.570 MAINTENANCE OTHER	2723.24	11147	06/23/17
45365	06/14/17	WW Gasket 893507	255-43200.570 MAINTENANCE OTHER	40.91	11155	06/23/17
V1655	06/11/17	VA July health ins 3395001191	255-14301.000 PREPAID EXPENSES	5707.08	11165	06/23/17
11375	06/01/17	WW June service 2657758	255-43200.565 GRIT DISPOSAL	918.66	11177	06/23/17
V10734	05/24/17	WW MAY 4/20-5/19/17 1705WWTP	255-43200.622 ELECTRICAL SERVICE	2969.11	11202	06/23/17
06870	06/07/17	WW PHOS SAMPLE CROSS SECT 233427	255-43200.577 CONTRACT LABORATORY SERVI	480.00	11203	06/23/17
06870	06/16/17	WW p study 2 balance 234285	255-43200.577 CONTRACT LABORATORY SERVI	80.00	11203	06/23/17
23215	06/08/17	WW PRESS WASH START ROPE 106407230001	255-43200.570 MAINTENANCE OTHER	3.75	11206	06/23/17
38955	06/01/17	WW CO GEN SILOXANE VENTS 54989990	255-43200.570 MAINTENANCE OTHER	9.70	11212	06/23/17
V9454	06/19/17	WW boots E Davidson PT 3135928	255-43200.612 UNIFORMS,BOOTS,ETC	195.00	11256	06/23/17
14025	06/10/17	VA life ins village 170610153273	255-14301.000 PREPAID EXPENSES	286.75	11257	06/23/17

Vendor	Invoice Date	Invoice Description	Account	Amount Paid	Check Number	Check Date
08645	05/30/17	LOWES BUSINESS ACCT/SYNCR WW TOOLS, TOOL BOX 11330G	255-43200.570 MAINTENANCE OTHER	114.84	11258	06/23/17
V1507	06/09/17	MICROFLEX WW gloves latex lab shop IN1772752	255-43200.570 MAINTENANCE OTHER	961.45	11265	06/23/17
10220	05/31/17	NEW ENGLAND AIR SYSTEMS L WW 2G GAS CHILLER REPAIR 148119	255-43200.570 MAINTENANCE OTHER	2004.86	11271	06/23/17
V1661	06/07/17	NORTH CENTRAL LABORATORIE WW FILTERS PIPE & TIPS 391049	255-43200.610 SUPPLIES	667.93	11273	06/23/17
24960	06/15/17	NORTHEAST DELTA DENTAL VA July dental ins 170615	255-14301.000 PREPAID EXPENSES	474.11	11274	06/23/17
12775	06/16/17	PRATT & SMITH ELECTRICAL WW mixer sh2 #1 test 6779	255-43200.570 MAINTENANCE OTHER	90.00	11281	06/23/17
V10727	06/13/17	QUALITY METAL PRODUCTS WW asstd metal fab repair 17000ESSEX	255-43200.570 MAINTENANCE OTHER	857.65	11282	06/23/17
11555	06/09/17	RUSSELL RESOURCES INC WW ALL WEATHER SAMPLERS 172955	255-43330.009 AUTOMATIC SAMPLERS	22182.00	11289	06/23/17
40840	06/01/17	SOVERNET COMMUNICATIONS WW phone/internet May17 3767209	255-43200.535 TELEPHONE SERVICES	174.89	11299	06/23/17
36130	05/18/17	VERIZON WIRELESS VA cell phones,data 5/6 9785951630	255-43200.535 TELEPHONE SERVICES	182.54	11312	06/23/17
07565	06/19/17	W B MASON CO INC WW lab test water 145024179	255-43200.618 SUPPLIES - LABORATORY	65.94	11328	06/23/17
V1655	06/11/17	BLUE CROSS BLUE SHIELD OF VA July health ins 3395001191	256-14301.000 PREPAID EXPENSES	2219.93	11165	06/23/17
33850	06/01/17	CENTRAL VERMONT PROPERTIE SA catch basin , drain 9500174138	256-14301.000 PREPAID EXPENSES	50.00	11181	06/23/17
01770	06/12/17	FLEET BUSINESS PRODUCTS O VW water bill envelopes E305482	256-43200.550 PRINTING AND ADVERTISING	442.99	11217	06/23/17
07010	06/13/17	GREEN MOUNTAIN POWER CORP VA June consolidated bill 06170206201	256-43220.001 SUSIE WILSON PS COSTS	383.87	11230	06/23/17
07010	06/13/17	GREEN MOUNTAIN POWER CORP VA June consolidated bill 06170206201	256-43220.002 WEST ST PS COSTS	599.63	11230	06/23/17
07010	06/13/17	GREEN MOUNTAIN POWER CORP VA June consolidated bill 06170206201	256-43200.622 ELECTRICAL SERVICE	896.88	11230	06/23/17
14025	06/10/17	LINCOLN NATIONAL LIFE IMS VA life ins village 170610153273	256-14301.000 PREPAID EXPENSES	111.55	11257	06/23/17
24960	06/15/17	NORTHEAST DELTA DENTAL VA July dental ins 170615	256-14301.000 PREPAID EXPENSES	184.42	11274	06/23/17
12775	06/19/17	PRATT & SMITH ELECTRICAL SA flood protection 6748	256-43220.002 WEST ST PS COSTS	1334.60	11281	06/23/17

06/22/17
04:24 pm

Town of Essex / Village of EJ Accounts Payable
Check Warrant Report # 17050 Current Prior Next FY Invoices For Fund (GENERAL FUND)
For Check Acct 01(GENERAL FUND) All check #s 06/22/17 To 06/23/17 & Fund 2

Vendor	Invoice Date	Invoice Description Invoice Number	Account	Amount Paid	Check Number	Check Date
Report Total				503353.94		