

TOWN OF WALLINGFORD, VERMONT LOCAL HAZARD MITIGATION PLAN

ADOPTION DATE: SEPTEMBER 21, 2015

**PREPARED BY THE TOWN OF WALLINGFORD, VERMONT
AND THE RUTLAND REGIONAL PLANNING COMMISSION**



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1. INTRODUCTION

The impact of expected, but unpredictable natural and human-caused events can be reduced through community planning. The goal of this plan is to provide all-hazards local mitigation strategy that makes the community of Wallingford more disaster resistant.

Hazard Mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. FEMA and state agencies have come to recognize that it is less expensive to prevent disasters 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, Response and Recovery. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.

Additionally, the Disaster Mitigation Act of 2000 (DMA 2000) establishes a national program for Hazard Mitigation that includes mitigation planning and eligibility requirements for state and local governments. The Act is aimed at reducing loss of life and property, human suffering, economic disruption and disaster costs. High priority should be given to mitigation of hazards at the local level with increased emphasis on assessment and avoidance of identified risks, implementing loss reduction measures for existing exposures and ensuring critical services/facilities survive a disaster.

Hazard Mitigation Strategies and Measures *alter* the hazard by eliminating or reducing the frequency of occurrence, *avert* the hazard by redirecting the impact by means of a structure or land treatment, *adapt* to the hazard by modifying structures or standards, or *avoid* the hazard by stopping or limiting development and could include projects such as:

- Flood-proofing structures
- Planting stream buffers
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Identifying and modifying high traffic incident locations and routes
- Ensuring adequate water supply
- Elevating structures or utilities above flood levels
- Identifying and upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Buyout and relocation of structures in harm's way
- Establish and enforce appropriate building codes
- Public information

2. PURPOSE

The purpose of this hazard mitigation plan is to assist the Town of Wallingford, Vermont in identifying all hazards facing the community and identify strategies to begin reducing risks from identified hazards.

Adopting and maintaining this Town of Wallingford, Vermont Local Hazard Mitigation Plan will provide the following benefits:

- 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 the Town's vulnerability to disasters by focusing limited financial resources to specifically identified initiatives whose importance has been ranked.
- Connect pre-disaster mitigation planning to community planning where possible.

3. COMMUNITY BACKGROUND

Land Use and Development Patterns

There are three historic village centers in Wallingford: the Village, South Wallingford and East Wallingford. Together they represent the residential, civic and economic hubs of the Town.

The Village developed as a milling and manufacturing center in the early 1800's, at the confluence of Roaring Brook and the Otter Creek on the Bennington to Rutland stage road (now US Rt. 7). It is served by municipal water and sewer, and includes single, two-family and multi-family residential, retail, service/professional, restaurants, public uses, schools, libraries, churches, service clubs, gasoline stations, etc. Wallingford Village has continued throughout the century as the commercial and civic focus of the town.

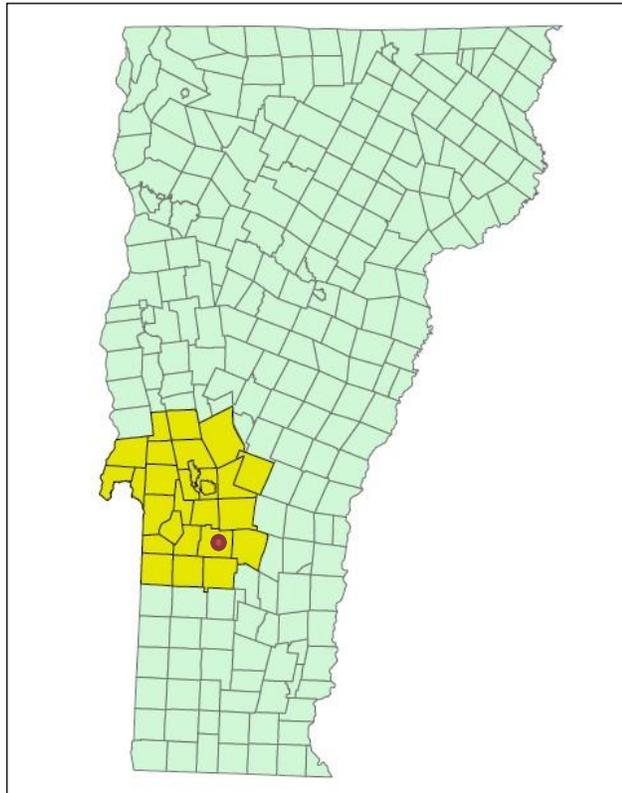
To the south, a stage stop along the road evolved into the village of South Wallingford.

East Wallingford is another population center, located on the Mill River, along the eastern boundary of the municipality. After completion of the Bellows Falls to Rutland railroad in 1849, East Wallingford grew up around a station on the line as a lumbering and manufacturing center.

Public lands total over 9,000 acres in the Town of Wallingford. The Green Mountain Forest comprises 32% of Wallingford's land area. The GMNF and the Appalachian Trail corridor are both federally owned. State lands include fishing access areas, picnic areas, and other trails in town.

While agriculture weighed heavily in the original development patterns of Wallingford, the number of farms has declined steadily since the 1800's. Wallingford currently has 4 commercial dairy farms. Two are located along the Otter Creek, one is on East Street and the fourth is in East Wallingford. Approximately 350 acres of agricultural land is currently used for dairy operations.

Industry in Wallingford is comprised primarily of sand and gravel



The Rutland Region is located on the western edge of Vermont and consists of 26 towns (including Wallingford, noted in red) and 1 city.

extraction as well as a few light industrial uses.

Demographics and Growth Potential

According to current census data (2010), Wallingford's total population is 2,079 or about 3 percent of the region's overall population, which makes Wallingford the 10th largest town in the region. It is unclear whether Wallingford will see population growth in the near future. The population of Rutland County dropped 2.8% from 2000-2010. The population of Wallingford decreased 8.6% from 2000-2010.

Vulnerable populations in Wallingford include:

- Lenny Burke Farm, Route 7 South, disabled housing
- Wallingford House, North Main Street, elderly housing
- Serenity House, Church Street, rehabilitation center
- Emma's Place, South Main Street, rehabilitation center
- Disabled housing, River Street
- Disabled housing, School Street
- Wallingford Elementary School, School Street
- After School Program, School Street

Land Features

The eastern part of town contains the highest peaks and most remote areas of Wallingford. The Green Mountain National Forest comprises a significant part of this region.

A narrow valley corridor down the center of the town is part of the region known as the Vermont Valley. This part of the town contains flood-prone areas along Otter Creek, extensive community development, as well as significant sand, gravel and mineral deposits. Historically, it has been the focus of development in town. The villages of Wallingford and South Wallingford and the main north-south highway, US Rt. 7, are in this region. It is bounded by the Green Mountains to the east and the Taconic Mountains to the west.

The Taconic Mountain region includes the area in the town west of the valley. This area is relatively small, covering mainly the area known as West Hill.

Precipitation and Water Features

Precipitation in Wallingford is typical of the rest of the region with average annual precipitation recorded as 40-52 inches depending on elevation. Common winter snow storms deposit 2 to 12 inches of snow. The Otter Creek is the largest flowing body of water in the state and one of the most prominent aquatic features in Wallingford. There are also several lakes and numerous wetlands.

Water Supply

Municipal water service is provided by the Wallingford Fire District # 1 and by the South Wallingford Water Cooperative. The Wallingford Fire District # 1 was

created in 1906 to provide water to the residents of the main village area of Wallingford. The Wallingford Water Company constructed the system and the system's 35,000-gallon reservoir in 1908. A 140,000-gallon reservoir was constructed by the District in 1942. This system was updated in 2000, with a new well and water storage system.

The service area for Fire District # 1 includes all of Wallingford village and the areas surrounding the Wallingford Lodge. Total daily demand generated by the 355 residences and 145 commercial and industrial "equivalent" units connected within the service area averages 140,000 gallons per day.

Water stored at the Fire District impounding area is delivered to users via a roughly 3,000 foot long, 10" galvanized water main alongside Rt. 140. This main carries water to an 8" line just east of Hillside Street before reaching the village.

Water availability is limited only by the size of the water system mains. Spring Number 2 has a rated yield of 165,000 gallons per day, while Roaring Brook, though unrated, has enough flow to meet essentially all of the village's needs. Indeed, even if Spring Number 2 were the only source of water for the system, capacity would not be a problem. Assuming water quality does not become an issue, demand could increase by 50% and virtually all need could be met.

The Fire District has located a new water source at Stone Meadow. The voters of the Fire District have approved bonding for improvements to the Wallingford Fire District # 1 water system that will bring it into compliance with state and federal drinking water standards.

Rural residents not served by the municipal water and sewer systems must rely on individual drilled wells or springs or private water systems.

In situations where Wallingford lost all power, there is three days' worth of water in the town storage tank. A secondary source would be one manual hydrant.

Sewer Services

Sewer service in Wallingford is also provided by the Wallingford Fire District # 1. The core of the village is serviced by a series of gravity feed lines to the treatment plant on Creek Road behind True Temper in the village. A grinding pump is located on Creek Road. The plant includes an oxidation ditch, chlorine clarifiers, and sludge drying beds. It was constructed in 1970.

Recently, the average daily flow has exceeded design and permit flow by as much as up to 8,000 gallons per day. The District has built a second chlorine clarifier to help reduce the amount of inadequately treated waste that is released by the plant. The District also is upgrading its current twelve-hour back-up pumping system to one that is capable of maintaining operations through an extended emergency.

An additional factor in maintaining capacity is the elimination of inflow and infiltration of storm and runoff waters into the piping system carrying wastes to the treatment plant. As sewer mains age, openings in the system allow infiltration of surface and ground water. Roof drains and basement sump pumps may also be connected into the system, adding volume and causing the plant to exceed treatment capacity, resulting in the discharge of untreated wastes to the Otter Creek. An inspection of the system is identifying such sources and the town is presently producing plans to eliminate the excess flowage.

Rural residents not served by the municipal sewer system must dispose of sewage through septic tanks and drainage fields, or other similar in-ground designs.

Transportation

U.S. Rt. 7 is a main north/south transportation route through the state, and passes directly through the center of Wallingford Village. The increased volume of through traffic on Rt. 7 may be negatively affecting structural and historical integrity of the Wallingford Village Center and, as a result, there are several sections of Rt. 7 that are at a relatively high risk for motor vehicle accidents.

Highways are the single most important component of the transportation system in Wallingford. Within the town are 21.6 miles of state highway and 53.6 miles of town roads.

Wallingford has a total of 34 bridges in its road network, as well as many large culverts. Thirteen have a span of 20 feet or more; 20 are less than 20 feet. Of this total, 14 are on the state system. Under new Federal regulations, any bridge 20 feet or over is eligible for Federal funding assistance.

Freight service passes through Wallingford and East Wallingford on tracks operated by Vermont Railway. The State is conducting an Albany/Bennington/Rutland/Burlington study to look at the feasibility of establishing passenger service, and improving freight services in this corridor. Much of the existing track is in poor condition, which necessitates very slow speeds in some areas even for the freight which now uses the route.

Emergency Response Resources

Wallingford Fire District # 1 provides fire protection service to all of Wallingford, including Wallingford Village, East Wallingford and South Wallingford. East Wallingford also has its own Fire Department.

A group of 23 volunteers make up the regular firefighting force of the Wallingford Fire District. In 2014, there were 20 senior fire fighters, 1 junior fire fighter and 2 auxiliary members. All firefighters involved with the District are required to take a training course to become part of the force. 205 hours are needed to achieve a Level

1 Certification. In addition, they are required to drill one night each month to maintain their skills.

Fire District # 1 currently has two stations buildings. The main building is located in Wallingford village and has 4 bays. A new satellite building was donated by OMYA, Inc. and provides space for two trucks. This satellite facility cuts response time to South Wallingford by an estimated 15 minutes.

Wallingford Fire District # 1 maintains a mutual-aid network with Clarendon, Danby, East Wallingford, Rutland City, Rutland Town and Tinmouth.

The Wallingford Fire District # 1 equipment includes:

- 1,250 gallon/minute pumper with a 1,000 gallon tank, 30 gallons of foam, and the Hurst Extractor Tool,
- 1,000 gallon/minute pumper with a 1,000 gallon tank,
- 1,000 gallon/minute pumper with a 250 gallon tank and 20 gallons of foam
- support van,

The East Wallingford Fire Department, organized as Wallingford Fire District # 2, has 12 active members. Equipment of the East Wallingford Fire Department includes:

- 750 gallon/minute pumper with a 500 gallon tank and foaming capacity
- 1,200 gallon tanker with dumping and pumping capability
- 350 gallon/minute pump and foam capacity
- 2,500 feet of 3" hose and a similar length of 3/4" hose
- 2 portable pumps

Equipment is housed in a station in East Wallingford Village.

Except for the portion of East Wallingford, which is served by Mt. Holly Rescue, most of the town is covered for emergency response services by Wallingford Rescue. The primary emergency facility to which patients of both rescue services are transported is the Rutland Regional Medical Center. Wallingford Rescue is a volunteer organization consisting of 10 members. A new 3,700 sq. ft. facility was built in 2008. It includes 3 bays, offices, a classroom and bunkroom.

The E.M.S. District # 10 "Disaster Plan" which is coordinated by the State's Emergency Health Division, governs part of the method of operations of Wallingford Rescue by detailing plans to handle mutual aid. Under the Plan, the primary back-up for Wallingford Rescue is the Regional Ambulance Service based in Rutland. Wallingford Rescue also covers the Town of Tinmouth. Equipment of Wallingford Rescue includes:

- 1 four-wheel drive ambulance
- 1 two-wheel drive ambulance

The Rescue Squad has been dispatched by the Rutland Regional Medical Center, as well as locally at various point in recent years. A long-term arrangement for dispatching is likely to develop with the establishment of a countywide dispatching service connected with Vermont's statewide E-911 system.

Dispatching for Mount Holly Rescue is done by the Vermont State Police. This may change depending on the dispatching system organized under the State's new E-911 system.

Public safety in the town is provided by a local constable and the State Police, who are dispatched out of the barracks in Rutland. The Rutland County Sheriff's Department also does occasional work on a contract basis. According to the Vermont Department of Public Safety, the crime rate in Wallingford is well below the Regional average.

Please refer to the Hazards Analysis map (Appendix F) for the locations of town emergency operations centers and emergency shelters.

Emergency Management Planning

Wallingford's Local Emergency Operations Plan was adopted in April 2014. This plan should be reviewed, amended if necessary, and adopted by the Selectboard on an annual basis. The plan emphasizes the need for proper planning in case of a flood to make sure the emergency responder equipment is available and moved out of the floodplain.

Previous to that plan, the town's Rapid Response Plan was adopted in May 2013.

The town has one Red Cross-certified emergency shelter: the Town Hall. The town is considering the Rotary Building as a second shelter.

4. PLANNING PROCESS

The Rutland Regional Planning Commission (RRPC) and the Town of Wallingford coordinated the Town of Wallingford, Vermont Local Hazard Mitigation Plan process. A Pre-Disaster Mitigation grant supported this process.

RRPC staff discussed preparing the plan with Town officials at a Selectboard meeting on December 2, 2013. The Selectboard voted to set up a committee of local officials and stakeholders to review and update the plan and asked the Town Clerk to compile a list of names for potential committee members. RRPC then contacted the potential members and assembled a committee.

The hazard mitigation committee meetings were publicly warned in the following locations: Town of Wallingford website, RRPC website, the town bulletin board, Front Porch Forum website, and Facebook and public input was encouraged. The following individuals participated in committee meetings:

- Julie Sharon - Town Clerk and Treasurer
- Jerry Tift - Town Constable and Emergency Management Coordinator
- Stephane Goulet – Wallingford Volunteer Fire Department
- Trisha Nash – Town Health Officer
- Ann Tiplady – Chair of Planning Commission

In addition to the local knowledge of committee members and other stakeholders, the following documents and resources were consulted in the preparation of this plan:

- 2010 U.S. Census data
- National Climate Data Center
- State of Vermont Tropical Storm Irene GIS data
- Special Flood Hazard Area/FEMA Flood Insurance Rate Maps
- Vermont Department of Transportation High Crash Location Report, 2006-2010
- Agency of Natural Resources Waste Management Interactive Database
- Vermont Fire Marshal's Reports, 2009-2014
- Agency of Natural Resources Natural Resources Atlas
- National Weather Service Recent Weather Events Summaries
- FEMA Disaster Declarations, 1990-2013
- Vermont Agency of Natural Resources Stream Geomorphic Assessment: Final Reports, 2014
- "Climate Variability and Socioeconomic Consequences of Vermont's Natural Hazards: A Historical Perspective" by Lesley-Ann Dupigny-Giroux, 2002, *Vermont History* 70: 19-39.
- United States 2010 Census
- Rutland Herald Archives
- Rutland Region All Hazards Mitigation Plan (2012)
- State of Vermont Hazard Mitigation Plan (2013)

Utilizing these resources, a thorough update of data was conducted by RRPC staff to take advantage of new data that may not have been available during the original development of the plan. The State of Vermont also recently adopted an updated Hazard Mitigation Plan in November of 2013 (Vermont HMP 2013), which was given consideration during this update. As discussed in the following section, the plan was also restructured to a single jurisdictional format.

The first committee meeting was held on January 16, 2014. Participants discussed the purpose and timeline for updating the plan, other groups/individuals that should be aware of the plan update, and damages that occurred in town from Tropical Storm Irene. Town maps were reviewed and the town's hazards were ranked according to their probability, impact, and risk level. The committee discussed high risk hazards in further detail. Following this meeting a draft plan was developed by RRPC staff and circulated to committee members. A second committee meeting was held on February 27, 2014. Participants reviewed the draft LHMP, reviewed the town's policies and current mitigation actions, and identified mitigation goals and new mitigation projects. The draft plan was submitted first to Northwest Regional Planning Commission (NRPC) on June 20, 2014 for review as part of the PDM grant agreement between RRPC and NRPC. Then the plan was submitted to the State Hazard Mitigation Committee through the State Hazard Mitigation Officer (SHMO) on July 10, 2014 for review and comment and required revisions were made on July 14, 2014. Required and/or recommended revisions were made in the plan by working with the town's hazard mitigation committee members on an individual basis.

A 15-day public comment period for the draft plan was held from June 25, 2014 to July 9, 2014. The comment period was warned by posting at the town office, website, and other designated spaces in town; the RRPC office and website; and in the Rutland Herald (see Appendix J for notice) and public input was encouraged. The following towns were invited by email to review and comment on the plan: Clarendon, Shrewsbury, Mt. Holly, Mt. Tabor, Danby and Tinmouth. The U.S. Forest Service and Vermont Rail System were also emailed regarding the public comment period. No public comments were received (see section 7.3 Continued Public Participation for strategies the town will use to increase citizen engagement in future hazard mitigation efforts).

The plan was then submitted to FEMA Region 1 on October 7, 2014 for review. Required and recommended revisions were received from FEMA Region 1 on March 5, 2015. RRPC staff worked with town officials to make the plan revisions, until conditional FEMA approval was achieved on September 8, 2015 and then the final plan was reviewed by the Wallingford Selectboard and adopted on September 21, 2015. The adopted plan was forwarded to FEMA Region 1 and the State Hazard Mitigation Officer, and final FEMA approval of the plan was granted.

4.1 Plan Process Update

The Town of Wallingford, Vermont Local Hazard Mitigation Plan was originally adopted by the town as an Annex to the Rutland Region All Hazards Mitigation Plan in 2004 and received FEMA final approval in 2004. In 2009, RRPC staff worked with the town to update the plan and submitted an updated draft to FEMA; in March of 2011 FEMA returned comments on the plan, revisions were made by RRPC staff and the town, and the plan was resubmitted to FEMA in early August of 2011. FEMA returned comments on the plan in September of 2011.

In the fall of 2013 the RRPC was awarded a PDM grant to help the town prepare and adopt a hazard mitigation plan. As noted in the State Hazard Mitigation Plan, regional planning commissions throughout Vermont are now mainly encouraging towns to create local mitigation plans as single jurisdictional documents rather than annexes, due to the issue of plan expiration being based on the first town that is approved in a regional effort. This plan is intended to be a single jurisdictional local hazard mitigation plan.

The plan has been updated and reorganized with the following sections updated/added during the planning process:

Section of Plan	Changes Made
Introduction	Information on the Disaster Mitigation Act added
Purpose	Benefits of plan listed
Community Background	Census data and other information updated
Community Disaster History	Section deleted and incorporated into Community Hazard Inventory and Risk Assessment section
Planning Process	Section moved from end of document, additional details on process including: names of individuals involved, meeting locations and dates, list of sections updated, and the status of the towns current mitigation actions (shown below)
Community Hazard Inventory and Risk Assessment	List of hazards was consolidated/changed as necessary, risk assessment table added, organized discussion into high and low risk hazards, hazard information from regional and state hazard mitigation plans added, local hazard information updated, tables added on hazard history and hazard summary for high risk hazards
Hazard Mitigation Strategy	Mitigation goals from Regional and State Hazard Mitigation Plans added, additional information on NFIP, mitigation actions and projects reviewed and updated, tables reformatted
Plan Maintenance Process	Added methods to continue public involvement
Appendices	Maps updated with new data, certificate of adoption added, materials added documenting the planning process

The following table provides an overview of Wallingford’s proposed local hazard mitigation actions from the 2004 Annex along with their current status. Note that mitigation actions which are completed have been deleted from the Mitigation Actions and Projects Table in Section 6.5 of this plan.

Status of Hazard Mitigation Actions

Mitigation Action	Status
Identify and implement solutions to water contamination problems caused by sewer system overflow	Removed: This has been completed; there have not been overflow problems in recent years.
Incorporate proposed strategies into Annual Budget and Capital Improvement Plan	Ongoing: Strategies reviewed annually.
Examine current Town Plan and ensure that identified hazard areas and needed strategies are addressed	Completed: when Town Plan was updated in 2013. Work on next Plan begins in 2017-2018.
Continue evacuation/emergency preparedness drills with vulnerable populations	Completed: Ongoing plans are being made to conduct drills at the elementary school and the Wallingford House.
Continue to upgrade culverts as needed to accommodate high water flows	Completed: Ongoing maintenance. Check with Road Commissioner
Examine current zoning and ensure that identified hazard areas are addressed	Completed: Local Planning Commission is doing this on an ongoing basis.
Protect town records	Completed: Records are kept in a vault in the Town Hall. Town Clerk is in the process of backing up files in a second location. Many records have been duplicated: births, deaths and some land records.
Widen/straighten Rt. 7 in South Wallingford as strategy to decrease highway accidents	Removed: Deleted because the state has straightened the sections.
Install wiring needed for installation of portable generators in Town Hall (designated Emergency Operations Center) and Wallingford Elementary School (designated Emergency Shelter)	Ongoing: included in New Mitigation Actions and Projects in Section 6.6.
Follow recommendations in River Corridor Plan for the Mill River and SGA for Roaring Brook to address fluvial erosion hazards and create Fluvial Erosion Hazard Zones.	Ongoing: included in New Mitigation Actions and Projects in Section 6.6.

5. COMMUNITY HAZARD INVENTORY AND RISK ASSESSMENT

What follows is an analysis of local natural hazards and human-caused hazards based upon review of the Hazards Analysis Map produced for the town (see Appendix F), review of existing data, and information provided by local officials and stakeholders. Whenever possible, the issues identified below are represented on the Areas of Local Concern map (see Appendix G).

The Risk Assessment table below lays out all the hazards identified for the town and covered in this plan. Each hazard was discussed by committee members and ranked in terms of its Probability and Impact, and then given an overall Risk Level (see table footnotes). This assessment resulted in the categorization of High, Moderate and Low risk level hazards for the town. Following the Risk Assessment table is a brief discussion of Low risk hazards, and then a more detailed discussion of High Risk hazards including tables on Hazard History and Hazard Summary.

Community Hazard Risk Assessment

Hazard	Probability ¹	Impact ²	Risk Level ³
Dam Failure	Medium	Minor	Low
Drought	Medium	Minor	Low
Earthquakes	Low	Minor	Low
Floods, Fluvial Erosion, and Ice Jams	High	Major	High
Hazardous Materials, Radiological and Chemical/Biological Incidents	High	Major	High
Severe Thunderstorms, Hurricanes, and Tornadoes.	High	Moderate	Moderate
Landslides and Rockslides	High	Moderate	Moderate
Terrorism	Low	Minor	Low
Wildfires and Forest Fires	Medium	Moderate	Moderate
Snow and Ice Storms	High	Major	High
Aircraft Crashes	Medium	Moderate	Moderate
Disease Outbreak	Medium	Moderate	Moderate
Highway and Railroad Accidents	Medium	Moderate	Moderate
Structure Fires	Medium	Minor	Moderate

¹ **High** likelihood of happening: Near 100% probability in any given year.

Medium likelihood of happening: 10% to 100% probability in any given year (at least once in the next 10 years).

Low likelihood of happening: 1% to 10% probability in any given year (at least once in the next 100 years).

² **Minor** impact: Isolated occurrences of minor property damage, minor disruption of critical facilities and infrastructure, and potential for minor injuries.

Moderate impact: Occurrences of moderate to severe property damage, temporary shutdown of critical facilities, and/or injuries or fatalities.

Major impact: Severe property damage on a town-wide scale, shutdown of critical facilities, and/or multiple injuries or fatalities.

³ Based on Probability and Impact, is the risk level: **High** or **Low**? Risk is defined as the potential for damage, loss, or other impacts created by the interaction of hazards with community assets.

5.1 Low and Moderate Risk Hazards

Low and moderate risk hazards that are not considered to affect the community are not profiled in detail in this plan with history, extent, location information. Low risk hazards are provided as information only and are not a requirement of the FEMA Review Tool. Also, the hazard of **extreme temperatures** has been omitted from this plan, as it is not considered a significant hazard in the town of Wallingford (despite its presence in the State of Vermont Hazard Mitigation Plan). Extremely cold temperatures can accompany snow and ice storms, which are addressed in this plan.

Aircraft Crashes

Even though Wallingford is not within the official flight path to the airport, more than 30,000 planes land per year at the Rutland-Southern Vermont Regional Airport. Since there is no required flight path to the airport, many of these planes fly over the town of Wallingford.

For the 12-month period ending July 30, 2011, the Rutland-Southern Vermont Regional Airport (located about five miles south of Rutland in Clarendon) had 31,770 aircraft operations, an average of 87 per day: 75% general aviation, 22% air taxi, and 3% military. At that time there were 45 aircraft based at this airport: 80% single-engine, 9% multi-engine, 4% jet, 4% helicopter, and 2% ultralight. Total air cargo carried in 2006 was approximately 520,000 pounds with 1,560 cargo operations via FedEx and UPS.

These types of aircraft carry small numbers of passengers and are not likely to cause a major catastrophe in the event of a crash, but nonetheless the associated fuel fires are something for which the region needs to be prepared. Also, since statistically speaking most crashes occur upon take-off and approach to an airport, the Rutland-Southern Vermont Regional Airport has taken a number of steps to improve visibility and other issues to increase the safety of these maneuvers.

Currently, the Rutland – Southern Vermont Regional Airport Technical Advisory Committee is proposing a 1,000 feet (300 m) runway extension to alleviate the constraints posed by the current main runway length and the limited road access to the region. In its current configuration, the main runway is severely limiting to charters, business jets, and about 50 passenger regional jets.

In addition to traffic to and from this airport, there are reports of a number of low-flying, high-speed Air Force jets over parts of the region. There are also helicopters serving the hospital and other major facilities such as CVPS and VELCO. Again, the casualty count is likely to be low should one of these aircraft crash, but the related fuel fires are the biggest concern.

Dam Failure

There are three known dams in Wallingford:

- On the North lobe on the Wallingford Pond
- On a tributary adjacent to Hartsboro Road

- On Stone Brook in the National Forest

In June 2014, a 1.4-mile-long section of Route 140 was shut down after a beaver dam broke and sent hundreds of gallons of water, mud and broken trees onto the highway. Wallingford Pond Road is also subject to flooding due to beaver dams. In 2008, a beaver dam failed north of Route 140 causing part of the roadway to wash-out.

Man-made dams can fail for various reasons, including structural failure, poor maintenance, overtopping due to flooding, movement of the dam foundation or soil erosion, and intentional acts of destruction (State HMP 2013: 4-95). The Vermont Agency of Natural Resources Dam Safety Section conducts periodic inspections of non-federal dams, categorizing dams based on the potential loss of life and property damage downstream in the event of failure.

Disease Outbreak

There have not been major incidents in Rutland County's recent history though from time to time flu epidemics stretch the resources of the local hospital. The State of Vermont Emergency Operations Plan (2013) describes a pandemic flu that could break out some time in the near future, and that vaccines may not be ready in time. However, the local Department of Health staff is well-trained and attentive to dealing with such issues. Their staff works closely with the Rutland Region LEPC #2 to prepare for such incidents and establish protocol for early identification and treatment to stop a situation from escalating.

Of the major threats to human health world-wide, diseases such as HIV/AIDS, cholera, malaria and resistant tuberculosis, none are significant threats in Vermont. More serious threats to human health could include contaminated water supplies, or an incident which caused people to have to eat contaminated or spoiled food supplies. Rabid animals could be a local threat. The potential for large-scale infection of Vermont's commercial animal population with foot and mouth disease, so-called mad cow disease, or any number of poultry viruses, while unlikely, could cause widespread economic problems (Vermont Emergency Operations Plan 2013).

Drought

Drought can be a problem in late summer with local springs and private well levels reduced to minimal flows. Water tables reached an all-time low during the nationwide drought of 1988. However, recovery was fairly rapid. The Town has had little trouble since the water system was upgraded three years ago.

There have been dry spells in Vermont and in this region, though they are commonly moderate or mild. The last protracted drought in Vermont occurred between 1964 and 1966. More recently, two statewide droughts were declared in June and July 1995 due to lack of rainfall. The state also experienced severe drought conditions in the summer of 2003 (State HMP 2013: 4-76). When dry spells occur, individual water wells are often affected and agricultural producers experience the greatest impact. On the whole, these problems have been sufficiently dealt with on a town and individual basis.

Earthquakes

Vermont is considered to be an area with low to moderate seismic activity. The two strongest recorded quakes measured in Vermont were of a magnitude 4.1 on the Richter scale. One was centered in Swanton and occurred in 1943, and the second occurred in 1962 at Middlebury. The Swanton quake caused little damage, but the Middlebury quake did result in broken windows, cracked plaster and falling objects. Earthquakes centered outside the state have also affected Vermont. Two quakes of 5.5 magnitude occurred in New Hampshire in 1940. In 1988, an earthquake with a magnitude 6.2 was centered in Saguenay, Quebec and caused shaking in the northern two thirds of Vermont (State HMP 2013: 4-91).

Thrust faults can be found throughout the Rutland Region. These fault lines generally run north/south. On the western side of the region, a fault line cuts through the center of Benson and West Haven. Other fault lines are found in the central part of the region. One runs east/west through Pittsford, West Rutland, Ira, Middletown Springs, Tinmouth and Danby. A third is found that begins in Ira, crosses west to Poultney, and then south through Wells and Pawlet. On the eastern side of the region, two fault lines can be found crossing through the eastern portion of Killington. Despite the presence of these fault lines, there have been no incidences of reported damages due to earthquakes in this region.

Highway and Railroad Accidents

There are two locations in town that have a relatively high rate of highway accidents. According to the VTrans High Crash Location Report, 2008-2012, a section of Rt. 7 in the Village had 19 crashes and 14 injuries and a section of Rt. 103 in East Wallingford had 7 crashes and 3 injuries in that five year period.

Railroad accidents are possible, because of the poor condition of the tracks through Wallingford. The tracks running through Wallingford Village are minimally used, and rarely carry hazardous materials. The tracks running through East Wallingford are in more frequent use, and carry hazardous materials to plants in Rutland.

Vermont Railway, Inc. is responsible for the 13 railroad crossings in town and there's a relatively high risk of train collisions with vehicles and motorists. There's also the risk of hazardous materials spills at these crossings if there were truck and/or rail car accidents. Currently, the possibility of adding passenger service to the tracks through Wallingford is being studied, and the town does not yet know the affects this added rail traffic would have on the risk of accidents.

Severe Thunderstorms, Hurricanes, and Tornadoes

- July 25, 1994—Severe storms, high winds and hail downed trees and power lines, cost to Wallingford—\$5,000.
- September 1999—Thunderstorms associated with Tropical Storm Floyd, major disaster declared to FEMA, cost to Wallingford—\$8,273.

Violent windstorms are possible here. Most windstorms result in downed trees as well as damaged phone and power lines. Wallingford's road crew is prepared to handle issues related to road clearing and debris clean-up. Typically, utility companies respond quickly to handle issues related to utility lines. None of the designated Emergency Operations Center or Emergency Shelters in town are equipped with back-up power or are hooked into a portable generator.

Severe thunderstorms can produce high winds, lightning, flooding, rains, large hail, and even tornadoes (State HMP 2013). Hurricanes, including named tropical storms, also pose high wind hazards. For a discussion of the extensive damages that resulted from Tropical Storm Irene in 2011, see Floods and Fluvial Erosion in Section 5.2 below. One severe thunderstorm struck eastern Vermont on July 6, 1999, downing hundreds of large trees in a few minutes. From 2004 to 2010, for thunderstorms that caused more than \$200,000 in damage, Rutland County experienced nearly \$2 million in property damages. The state can also experience tornadoes, which are capable of damaging or destroying structures, downing trees and power lines and creating injuries and death from collapsing buildings and flying objects. Tornadoes are less common than hail storms and high winds, but have occurred throughout Vermont. According to the National Climatic Data Center, from 1991 to 2010 Vermont experienced an average of one tornado each year (State HMP 2013: 4-55).

Despite the low incidence of tornadoes and hurricanes within the Rutland Region, there have been numerous high wind events in the region, particularly in the towns bordering Lake Bomoseen and the mountain towns of the region.

Hail

Much of the hail activity in Rutland County is scattered and varies in intensity. Most areas of the region have been affected by a hail event at some point. These events are not associated with any particular area within the county. Reported hail events often accompanied heavy thunderstorms and gusty winds. Property damages reported from the hail incidents have typically been associated with uprooted trees, downed power lines, and crop damages. Historic hail events include huge hailstones accompanying a tornado that passed over Pawlet and Manchester in June of 1782. In 1961 wind and hail hit the Rutland Fairgrounds lifting a cattle barn 50 feet from its foundation.

Landslides and Rockslides

Using USGS information, FEMA maps indicate that Wallingford has a high susceptibility to landslides and a moderate incidence of reported landslides.

Two landslides currently affecting roadways in Wallingford are on:

- Rte. 140 East —rock slide occasionally close road
- Bear Mountain Road—landslides during heavy rains occasionally close road
- East Wallingford landslide on the banks of the Mill River

Landslides at these locations are not considered a high risk by the town so it has not included them in mitigation strategies.

According to USGS maps, the central part of the region has a low susceptibility to landslides with less than 1.5% of the mapped area likely to experience one. On the other hand, the eastern and western parts of the region have a high susceptibility to landslide events, and a moderate level of actual occurrences. These higher risk areas coincide with the Green Mountains and parts of the Taconic Mountain ranges. The far western part of the region is characterized by clay soils and the shores of some major lakes. Nothing found through research or interviews indicates a regional significance for this hazard, other than a 1983 landslide event that resulted in \$11,300 in damages in Rutland (State HMP 2013: 4-89).

Structure Fires

The risk of structure fires is lower in Wallingford than many other towns with a majority of historic homes and buildings because many of these older homes have been renovated and brought up to code. The area of greatest risk occurs in the center of Wallingford Village, surrounding the intersection of Rte. 7 and 140. On one corner is a commercial establishment with four 500-gallon propane tanks stored on site. In close proximity is an elderly home, day care, and apartments. Many of the upper stories are unoccupied around this area as well, increasing the length of time a fire could burn unreported. Fire drills are conducted annually by the Fire Department.

Please refer to the Areas of Local Concern Map (Appendix H) for orientation to number and types of structures located within this hazard area.

In terms of average annual loss of life and property, structure fires, often referred to as the “universal hazard” because they occur in virtually every community, are the most frequent hazard facing most Rutland Region communities. Less frequent than individual fires are major downtown fires that can destroy town centers and necessitate a large response, often requiring economic aid for recovery. A fire in an unprotected downtown can be devastating.

Temperature Extremes

The Rutland Region’s climate ensures a cold winter and a warm summer. The record low temperature for Rutland, as reported by the National Weather Service Burlington Forecast Office, is -36° F. The record high is 98° F. On average, the temperature exceeds 90° F four days each year, and drops below 0° F eighteen days each year. Extreme temperatures increase the risk of temperature-related injuries for those working or traveling outside. High temperatures are particularly threatening to elderly residents without air conditioning.

Terrorism

Terrorism and civil hazards include actions that people *intentionally* do to threaten lives and property. They may range from a single person on a shooting rampage to a cyber-attack that harms computer systems to the organized use of weapons of mass destruction (WMD). According to the State Hazard Mitigation Plan (2013), the most probable (though unlikely) attack is still a conventional bombing, hostage taking, kidnapping or shooting. A WMD attack must still be considered a rare event, but with the potential for

catastrophic consequences. The most likely scenario of WMD event in Vermont would involve the detonation of an improvised explosive device at a chemical facility (such as bulk liquid propane storage or manufacturing facility) near a large population center proximate to the Vermont/Canadian border.

Civil Disorder: There have been a limited number of situations in the past when the potential for civil disorder existed. These have typically been surrounding labor disputes at major employers. In such situations, trained Sheriff's Department and State Police resources are brought in for crowd control. Rutland City Police Department has personnel trained and equipped to deal with such situations as well. In addition, any pre-organized events which require a public event permit are reviewed and a determination is made as to how many State Police officers are required to be hired to monitor the event. In the case things really get out of hand, the Governor has the authority to activate the National Guard and other resources to assist.

Wildfires and Forest Fires

Forest fires are possible in the forested area of town during early spring, late summer and early fall. Wallingford usually experience a larger fire every five years or so. The forests contain potential fuel for a serious conflagration, though typically the timber is not very dry so it doesn't spread very fast or far. In the past fires have been handled with Green Mountain National Forest resources and local resources, including mutual aid.

The Rutland Region is heavily forested, particularly in the mountainous areas of the region. Many towns reported incidences of forest fires, particularly during periods of dry conditions, but in the last half century no major wildfires/forest fires or damages due to such have been reported in the region. However, drought conditions in 1999, 2000, 2001, 2005, and 2012 led to a statewide burning ban to reduce the risk of fire. The risk of wildfires and forest fires is considered to be statewide, with the exception of built-up areas like Rutland City (State HMP 2013: 4-83).

Much of the forests in the eastern section of the region are within the jurisdiction of the Green Mountain National Forest. The Forest Service is working on an agreement with the Rutland County Mutual Aid to cover fires in any of the forest areas within Rutland County. This is deemed to be an improvement over the current system in which GMNF contracts with each individual town – a somewhat cumbersome and less flexible means than the new agreement.

5.2 High Risk Hazards

A discussion of each significant hazard is included in the proceeding subsections and a map identifying the location of each hazard is attached (See map titled Areas of Local Concern). Each significant hazard below includes a list of past occurrences based on County-wide FEMA Disaster Declarations (DR-#), plus information from local records, a narrative description of the hazard, and a comprehensive hazard summary matrix. Since detailed local information is not available for some historical hazard events, those events are summarized in the Hazard History tables with state or countywide impacts using information from the US Geological Survey and the 2013 State Hazard Mitigation Plan.

Floods, Fluvial Erosion, and Ice Jams

Floods are the most probable natural cause of emergencies or disasters in Wallingford and in Vermont. Before Tropical Storm Irene in 2011, the state averaged \$14 million in flood damage each year. For Irene alone, the state incurred total costs of more than \$850 million.

Flooding is the overflowing of rivers, streams, drains and lakes due to excessive rain, rapid snow melt or ice as well as overflow of banks caused by sudden high water flow due to breaching of dams (both human-made and natural dams caused by beavers or debris build-up). Flooding of land adjoining the normal course of a stream or river has been a natural occurrence since the beginning of time. If these floodplain areas were left in their natural state, floods would not cause significant damage. Development has increased the potential for flooding because rainfall that used to soak into the ground or take several days to reach a river or a stream via a natural drainage basin now quickly runs off streets, parking lots and rooftops and through human-made channels and pipes.

Floods can damage or destroy public and private property, disable utilities, make roads and bridges impassable, destroy crops and agricultural lands, cause disruption to emergency services, and result in fatalities. People may be stranded in their homes for a time without power or heat or they may be unable to reach their homes. Long-term collateral dangers include the outbreak of disease, loss of livestock, broken sewer lines or wash out of septic systems causing water supply pollution, downed power lines, loss of fuel storage tanks, fires and release of hazardous materials.

While inundation-related flood loss is a significant component of flood disasters, the more common mode of damage is associated with fluvial erosion, streambed and streambank erosion, often associated with physical adjustment of stream channel dimensions and location during flood events. These dynamic and oftentimes catastrophic adjustments are due to bed and bank erosion, debris and ice jams, or structural failure of or flow diversion by human-made structures. An ice jam occurs when the ice layer on top of a river breaks into large chunks which float downstream and cause obstructions (State HMP 2013).

As noted in the State Hazard Mitigation Plan, “Flooding is the most common recurring hazard event in the State of Vermont” (2013: 4-7). Several major flooding events have affected the state, resulting in multiple Presidential Disaster Declarations. From 2003 to 2010, Rutland County as a whole experienced roughly \$1.4 million in property damages due to flood events (State HMP 2013). The worst flooding event in recent years came in August of 2011 from Tropical Storm Irene, which dropped up to 8 inches of rain in some areas of Rutland County (State HMP 2013: 4-61) and 5.71” in East Wallingford according to the NWS, This caused most streams and rivers to flood in addition to severe fluvial erosion.

Flooding has been a recurring problem in Wallingford. Just in the past 20 years, flooding has occurred in 2013, 2011, 2007, 2000, 1999, 1998 and 1996.

In Wallingford, road damage due to flooding usually occurs on narrow and winding roadways, low-lying roadways that follow or cross a frequently flooded water body, or road segments near curves in the river. The Otter Creek, one of the largest rivers in the state of Vermont, runs through the middle of Wallingford. That means when there is flooding of this major water body, the potential for a damages will occur in the more populated areas of the town.

Wallingford adopted flood hazard regulations in 2011. Two rivers in Wallingford have undergone physical assessments called Stream Geomorphic Assessment (SGA): the Mill River (2007) and the Upper Otter Creek (2005, 2006, 2009). The Mill River also was studied for a River Corridor Plan in 2009. These studies and plans are vital in determining river and stream sensitivity and condition, and if used properly can help the town plan for flood related hazards and for determining fluvial erosion hazard areas. The SGAs and River Corridor Plans suggest potential restoration actions that can be taken to reduce the risk of future flood damage including, improving zoning to keep development out of hazardous areas, planting stream buffers, removing berms, removing structures and restoring unstable sections of river.

For instance, Phase 2 of the Mill River SGA (2007) concluded:

The Mill River is working toward a more stable equilibrium through streambank erosion, widening, and lateral migration. The Clarendon, Shrewsbury, Wallingford and Mount Holly communities have the opportunity to provide long-term protection to the river corridor and encourage the reestablishment of functioning floodplain and healthy in-stream habitat through river corridor management and protection.

The River Corridor Plan for Mill River (2009) includes these recommendations for the town of Wallingford:

Implementation of the Mill River Corridor Management Plan will greatly rely on the inherent ability of Towns and the State to garner expertise and funding. It will be important for Towns and the State to develop strong collaborative relationships with streamside landowners.

At the town level, priority opportunities include:

- *Management of town roads, culverts, crossings, and ditches in ways that protect water quality, prevent excess sediment from entering the Mill River, and allow the river and streams that feed it to pass under roads without creating instability in the streams.*
- *Adoption of town land use policies that prevent wetland loss, floodplain encroachment, and the further restriction of the Mill River.*

Flooding in Wallingford has also occurred as a result of ice jams. However, there is sparse history of ice jams in Wallingford, and therefore not much is known on the extent, impact, or history of the hazard.

Please refer to the Areas of Local Concern Map (Appendix H) for frequently flooded locations, and the Hazard Analysis Map (Appendix G) for floodplain information.

Floods, Fluvial Erosion, and Ice Jams History

Date	Event	Location	Extent¹	Impact²
June 2013	Flooding	Creek Rd	Lack of Documentation	Minor
August 2011	Tropical Storm Irene	River St., Town Garage, Meadow St., Town ballfield, Rt. 7, Rt. 140, Creek Rd., Hartsboro Rd., Homer Stone Rd., Carrara Camp Rd., Centerville Rd., Chapin Rd., Dougway Rd., Earl Wade Rd., Seward Hill Rd., Sugar Hill Rd., West Hill Rd., Parker Rd., Blackwood Rd., Wallingford Pont Rd., Elm Street Ext., Creek Rd. Bridge, Van Wyck Bridge, Homer Stone Bridge, Van Wyck Rd Bridge, Chapin Rd and Hartsboro Rd. culverts, Roaring Brook retaining wall.	8 to 9 inches of rain	Overwhelmed public safety system; evacuations of stranded residents required; shelters opened \$ total: 522,460 in expenses to town; FEMA Public Assistance: \$493,670 for 18 projects (1 for Fire Dept, 17 for Town) Statewide: \$23.2M in individual assistance; \$207M in public assistance from FEMA
April 16-17, 2007	Flooding, heavy rain	County-wide	Mix of snow and rain fell. Up to 4 inches of	\$11,917

			precipitation. High winds.	
December 2000	Flooding	County-wide	Warm and moist air brought 2-3 inches of rain which combined with snowmelt and frozen ground	\$17,500
July 17, 2000	Flooding and severe storms	Town-wide	Up to 6 inches of rain	\$3,188
September 1999	Tropical Storm Floyd	County-wide	Winds up to 60 mph, up to 6 inches of rain	\$1M in FEMA public assistance county-wide
June 1998	Severe storms and flooding	County-wide	Lack of Documentation	(No data on FEMA assistance)
January 1996	Flooding and severe storms	County-wide	Snow followed by warm temperatures and rain caused flooding	\$63,742
1992	Ice Jams	Roaring Branch and Russell Creek	Debris in channel	Caused road flooding and riverbank erosion

¹ Extent: The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data is often not available.

² Impact: The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

Presidential Disaster Declarations related to flooding occurred for the Rutland Region on the following dates:

- June 2013 – 4140-DR (Severe Storms and Flooding); \$3M in FEMA public assistance county-wide.
- August-September 2011 – 4022-DR (Tropical Storm Irene); \$207M in FEMA public assistance and \$23.2M in individual assistance county-wide.
- April 2007 – DR 1698 (Severe Storms and Flooding); \$3.6M in FEMA public assistance county-wide.
- December 2000 – DR 1358 (Severe Winter Storm)
- July 2000 – DR 1336 (Severe Storms and Flooding); \$2.4M in FEMA public assistance county-wide.
- September 1999 - DR 1307 (Tropical Storm Floyd); \$1M in FEMA public assistance county-wide.
- June 1998 – DR 1228 (Severe Storms and Flooding)
- January 1996 – DR 1101 (Storms and Flooding)

With large-scale flooding events like Tropical Storm Irene, there is concern that the town’s emergency shelters will not be adequate. None of the shelters, the elementary school, Boy’s Camp, or the Rotary building, have the bulk fuel tanks required to provide stand-by power generation to withstand a power outage that lasts more than a few days. It is not certain whether the Rotary building would be large enough to service as a shelter. Several other optional emergency shelters, the Grange Hall and the Masonic Temple, may not be adequate in a multi-day emergency because the buildings lack stand-by power generation.

In addition, several critical facilities in town are vulnerable because they are located in the floodplain, including the Fire Department/EMS, town garage, and the elementary school. It would take a huge investment of public funds for this small town to address all of these vulnerabilities in the next five years. Town officials have been more inclined to address these vulnerabilities one-at-a-time and spaced out over time, beginning with emergency services in the Fire District #1 building.

Floods, Fluvial Erosion, and Ice Jams Summary

Hazard	Location	Vulnerable Assets	Extent ¹	Impact ²	Probability ³
Floods, Fluvial Erosion, and Ice Jams	River St., Town Garage, Meadow St., Town ballfield, Rt. 7, Rt. 140, Creek Rd., Hartsboro Rd., Homer Stoen Rd., Carrara Camp Rd., Centerville Rd., Chapin Rd., Dougway Rd., Earl Wade Rd., Seward Hill Rd., Sugar Hill Rd., West Hill Rd., Parker Rd., Blackwood Rd., Wallingford Pont Rd., Creek Rd. Bridge, Van Wyck Bridge, Homer Stone Bridge, Hartsboro Rd. culverts	Emergency services: Fire Dept/ EMS, town garage, elementary school, Lenny Burke Farm, Wallingford House, Wallingford Day Care, After School Program	Up to 9 inches of rain, high winds , debris in channel from ice jams	Up to \$522,000 for storms like TS Irene From ice jams: road flooding and riverbank erosion	High

¹**Extent:** The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data are often not available.

²**Impact:** The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

³**Probability:** Likelihood of hazard occurring based upon past events.

High: Near 100% probability in any given year.

Medium: 10% to 100% probability in any given year (at least once in the next 10 years).

Low: 1% to 10% probability in any given year (at least once in the next 100 years).

Due to the significant damages caused by Tropical Storm Irene—in Wallingford, the Rutland Region, and throughout Vermont—the Town of Wallingford now places a higher priority on flood mitigation. See Section 6.2 for activities that the town has taken to improve flood resilience, and Section 6.5 for flood mitigation projects that the town will pursue in the future.

Hazardous Materials, Radiological and Chemical/Biological Incidents

Hazardous materials accidents can occur anywhere there is a road, rail line, pipeline or fixed facility storing hazardous materials. Almost the entire region is at risk to an unpredictable accident of some type. Most accidents are small spills and leaks, but some result in injuries, property damage, environmental contamination and other consequences. These materials are poisonous, corrosive, flammable, and radioactive or pose other hazards.

Emergencies involving hazardous materials can be expected to range from a minor accident with no off-site effects to a major accident that may result in an off-site release of hazardous or toxic materials. The overall objective of chemical emergency response planning and preparedness is to minimize exposure for a wide range of accidents that could produce off-site levels of contamination in excess of Levels of Concern (LOC) established by the U.S. Environmental Protection Agency. Minimizing this exposure will reduce the consequences of an emergency to people in the area near facilities which manufacture, store and process hazardous materials.

The most common types of spills include heating oil, diesel fuel, and other types of fuel, transformer oil, and hydraulic fluid.

Large volumes of hazardous materials are transported to and through the region by railroad and highway daily. Within Rutland Region, there are a number of public and private fixed facilities that produce or use hazardous materials.

In 2012, there were 7 Tier II sites listed in Wallingford reporting the presence of hazardous materials on-site that hypothetically could be subject to this type of hazard: Ames True Temper (lead and chemicals), Shelburne Limestone/OMYA (fuels, blasting explosives and other chemicals), Verizon Wireless (sulfuric acid), GMP Wallingford Substation (Lead), New Cingular Wireless (lead acid batteries), Cumberland Farms (fuel and chemicals), Town of Wallingford Highway Garage (fuel and chemicals).

Another concern for the town is Sal's, at the corner of Rtes. 7 and 140, where there four 500 gallon propane tanks. The propane tanks at Sal's could potentially endanger vulnerable populations at the elderly housing facility across the street, as well as a daycare nearby.

If there were a hazardous material spill in the Village areas, some structures would be vulnerable and there would be the possibility of environmental damage to the Otter Creek and Mill River (in East Wallingford).

Please refer to the Hazard Analysis Map (Appendix G) for the location of Tier II facilities and the surrounding structures potentially affected by a hazardous material incident.

Wallingford is also within a 50-mile radius of Vermont Yankee Nuclear Power Station.

Another concern relates to the presence of Route 7, 103 and the Rail line along the passing through Wallingford. These transportation corridors present a possibility of hazardous materials accidents can occur anywhere there is a road, rail line, pipeline or fixed facility storing hazardous materials. Almost the entire region is at risk of an unpredictable accident of some type. Most accidents are small spills and leaks, but some result in injuries, property damage, environmental contamination and other consequences. These materials are poisonous, corrosive, flammable, and radioactive or pose other hazards. Major accidents may result in an off-site release of hazardous or toxic materials. The overall objective of chemical emergency response planning and preparedness is to minimize exposure from a wide range of accidents that could produce off-site levels of contamination in excess of Levels of Concern (LOC) established by the U.S. Environmental Protection Agency. Minimizing this exposure reduces the consequences of an emergency to people in the area near facilities which manufacture, store, and process hazardous materials.

Large volumes of hazardous materials are transported daily to and through the region by railroad and highway. Within Rutland Region, there are a number of public and private fixed facilities that produce or use hazardous materials. These facilities must report annually to the Department of Public Safety under the Community Right-To-Know Program. Some typical examples include diesel fuel, gasoline or propane in quantities larger than 10,000 lbs.; greater than 100 lbs. of oxygen, carbon dioxide, paint, lead, ammonia, chlorine, sawdust, sand, road salt, battery acid, hydraulic oils, cement, pesticides, and fertilizers; and explosives in amounts requiring a license from DPS. A more complete list can be found on the Vermont Emergency Management EPCRA website (<http://vem.vermont.gov/programs/epcra>).

Coordinating procedures for hazardous materials response are found in the Region's Emergency Operations Plan for Hazardous Materials. (The Region's Emergency Operations Plan for Hazardous Materials is a plan for use in responding to and recovering from a release of hazardous materials or toxic materials. In 2005, the Rutland Region Local Emergency Planning Committee—LEPC #2—expanded the plan into a DRAFT Rutland Region All Hazard Emergency Response Guide dated Dec. 12, 2005; the draft plan is currently in the process of being updated and adopted.) This plan addresses the range of potential emergency situations and the appropriate measures to be implemented to minimize exposure through inhalation, ingestion or direct exposure.

In terms of radiological incidents, mishandling and improper disposal or storage of medical wastes and low-level radioactive products from medical use are also a hazard to the Rutland Region. In addition, parts of the Southeast section of the Rutland Region are within a critical distance of the Vermont Yankee Nuclear Power Station. Specifically, Mount Holly, Mount Tabor, Danby and Wallingford are within a 50-mile radius of Vermont Yankee Nuclear Power Station. At this distance, the towns are considered to be within the "Ingestion Pathway Zone".

Hazardous Materials, Radiological and Chemical/Biological Incidents History

Date	Event	Location	Extent ¹	Impact ²
1992	Railroad derailment and slurry spill	Railroad St.	Lack of documentation	Minor
1999	Rt. 7 fuel oil spill	White Rocks Auto in South Wallingford	Lack of documentation	Minor

¹ Extent: The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data are often not available.

² Impact: The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

Hazardous Materials, Radiological and Chemical/Biological Incidents Summary

Hazard	Location	Vulnerable Assets	Extent ¹	Impact ²	Probability ³
Hazardous Materials, Radiological and Chemical/Biological (propane and natural gas shipments)	Rt. 7 in Village, railroad lines, Rt. 140, Rt. 103, East Wallingford	Town infrastructure: Town Hall, elementary school and senior housing near rail lines	Despite the lack of data, all incidents of this type were responded to as if they are life-threatening emergencies.	Minor or major depending on severity of event. Environmental and health impacts are likely.	Medium

¹**Extent:** The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data are often not available.

²**Impact:** The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

³**Probability:** Likelihood of hazard occurring based upon past events.

High: Near 100% probability in any given year.

Medium: 10% to 100% probability in any given year (at least once in the next 10 years).

Low: 1% to 10% probability in any given year (at least once in the next 100 years).

Snow and Ice Storms

Wallingford experiences some of the heaviest recorded snowfalls in the county. Precipitation amounts from winter weather events range from 1” to 26”, averaging about 10.5” per snowfall.

In the Rutland Region, most winter weather events occur between the months of December and March. Throughout the season, winter weather events can include snowstorms, mixed precipitation events of sleet and freezing rain, blizzards, glaze, extreme cold, and the occasional ice storm or a combination of any of the above. Events can also be associated with high winds or flooding, increasing the potential hazard.

One of the major problems associated with ice storms is the loss of electrical power. Major electric utility companies have active, ongoing programs to improve system reliability and protect facilities from damage by ice, severe winds and other hazards. Typically, these programs focus on trimming trees to prevent encroachment of overhead lines, strengthening vulnerable system components, protecting equipment from lightning strikes and placing new distribution lines underground.

Other major problems include closed roads and restricted transportation.

In the Rutland Region, most winter weather events occur between the months of December and March. Total regional damages due to winter weather events peak at over \$1,000,000 per month in January, February, and March. The costs of these storms come in the form of power outages due to heavy snow or ice accumulations, damaged trees, school closings and traffic accidents.

The winter season begins in late October and early November with light snowfalls between 1-5 inches. Because these events correspond with the end of the agricultural growing season, crop damages due to heavy frosts are often reported. These early season storms may also be elevation dependent, with snow occurring only in the eastern half of the county, along the Green Mountains.

By mid-November, heavier snowstorms, with significant accumulations are possible. These early season storms vary between heavy, wet snows and mixed precipitation consisting of sleet and freezing rain. Often, these storms are accompanied by gusty winds that, when coupled with precipitation, can lead to power outages and tree damage.

Through the middle of the season, snowstorms with high accumulations are common. In the January 2003, two snowstorms within a week of each other had combined accumulations of over 20 inches. Throughout the middle of the winter season, ice storms have been reported in the Region, but are rare compared to other winter weather events. Much more common are mixed precipitation events consisting of freezing rain or mixed precipitation.

By March, winter events are, like the early season storms, generally characterized by wet snow, sleet, and freezing rain. In 2001, a federal Emergency Declaration (3167) was issued for Rutland County due to a Snowstorm. In March of 2001, the State of Vermont saw snowfalls of 10-30 inches and 10-20 inches within eight days of each other (State HMP 2007, 45). After April, the only winter weather events reported were extreme cold and frost events in the months of May and June. These late season events can lead to widespread crop damage.

Snow and/or ice events occur on a regular basis and with enough preparation most of the region can handle the impacts of these events. More recent problems with road salt shortages have been occurring around the State and in the Rutland Region (for example, winter season 2007-2008). However, towns have been trying to make sure that supplies will be enough to last the winter by increasing their inventory.

Total regional damages due to winter weather events peak at over \$1,000,000 per month in January, February, and March. The costs of these storms come in the form of power outages due to heavy snow or ice accumulations, damaged trees, school closings and traffic accidents. From 2002 to 2010, Rutland County experienced \$1.1 million in property and crop damages from winter storms (State HMP 2013). There has only been one winter storm related Federally Declared Disaster (the ice storm of January 1998 – DR 1201).

Snow and Ice Storm History

Date	Event	Location	Extent ¹	Impact ²
December 11-12, 2008	Moderate snow and significant ice accumulation	County-wide	Freezing rain on top of several inches of snow.	Widespread power outages due to freezing rain in county
April 16-17, 2007	“Norricane” – Heavy rain and high winds	County-wide	Winds up to 53 mph and precipitation (mix of snow and rain) up to 4 inches.	\$3.6M in FEMA public assistance county-wide
October 29, 2006	Lake Effect Snowstorm and strong winds	County-wide	Winds up to 56 mph	Minor disruptions due to drifting of snow
January 1998	Northeast Ice Storm	County-wide	Ice accumulation up to 3 inches	Minor Less than \$1,000.

¹ Extent: The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data are often not available.

² Impact: The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

Although there has only been one winter storm related Federally-declared Disaster (the ice storm of January 1998 – DR 1201), \$5.5 million in damages were recorded between 1960-2008.

Snow and Ice Storms Summary

Hazard	Location	Vulnerable Assets	Extent ¹	Impact ²	Probability ³
Winter storms, ice storms, and power outages	Town-wide; with more remote residences being most affected	More remote residences; everyone due to potential power loss and need for generators	Winds up to 56 mph, snow accumulation up to 26 inches, and ice accumulation up to 3 inches	Moderate effects on essential services \$113,000/year county-wide	Medium

¹**Extent:** The strength, magnitude, or characteristics of the hazard regardless of the people and property affected. Note that for many past and anticipated events, extent information is described in general terms since specific data are often not available.

²**Impact:** The effect of the hazard on people and property, including infrastructure damaged, fatalities, and dollar value of damage.

³**Probability:** Likelihood of hazard occurring based upon past events.

High: Near 100% probability in any given year.

Medium: 10% to 100% probability in any given year (at least once in the next 10 years).

Low: 1% to 10% probability in any given year (at least once in the next 100 years).

6. HAZARD MITIGATION STRATEGY

6.1 Mitigation Goals

- Reduce the loss of life and injury resulting from all hazards.
- Mitigate financial losses incurred by municipal, residential, industrial, agricultural and commercial establishments due to disasters.
- Reduce the damage to public infrastructure resulting from all hazards, especially flooding and fluvial erosion.
- Encourage hazard mitigation planning as a part of the Municipal Planning Process.
- Encourage the adoption and implementation of existing mitigation resources, such as River Corridor Plans and Fluvial Erosion Hazard Maps, if available.
- Recognize the connections between land use, storm-water road design and maintenance and the effects from disasters.
- Ensure that mitigation measures are sympathetic to the natural features of Community Rivers, streams and other surface waters; historic resources; character of neighborhoods; and the capacity of the community to implement them

6.2 Existing Mitigation Programs, Projects, and Activities

Wallingford's ongoing and recently completed hazard mitigation programs, projects, and activities are listed below and in the table outlining policies and plans.

Flooding Issues: Recognizing the need to address the issue of flooding, particularly after Tropical Storm Irene, the Town adopted a Flood Hazard Ordinance and associated regulations.

Emergency Management Planning: Efforts in town include participation in the regional LEPC and coordination with the local elementary school and vulnerable populations to test evacuation and other emergency response procedures. Wallingford has an Emergency Management Committee that consists of the EMC, Fire Chief, Town Administrator, Town Constable, Road Commissioner, and Health Officer. This committee ensures that chain of command is known prior to emergency situations. This committee is also working with the school on the adoption of a Bomb Scare Policy and associated evacuation drills.

Protection of Sensitive Populations: The Fire Department knows the locations of day care facilities, elderly housing and disabled housing in the Town. They regularly practice evacuation drills with the Wallingford House, an elderly care center in Wallingford Village, Lenny Burke Farm and the Elementary School. The Fire Chief is working with another disabled housing facility to begin practicing fire evacuation drills at that facility as well. They also have 3 portable generators that can aid sensitive populations in the event of a power outage.

Emergency Shelter Preparedness: The town has gained Red Cross approval for the Town Hall as the town's emergency shelter. Additional shelters are being pursued, such as the Rotary Building.

Culvert Inventory and Upgrades: A culvert inventory has been prepared to identify trouble spots and maintenance needs. In addition, a number of culverts have been upgraded to handle high water flows in a number of locations that presented problems in the past such as Hartsboro Road, Dugway Road, Homer Stone Road and Wallingford Pond Road. There are still some issues here stemming from flooding from beaver dams. A long-term solution will require discussions with the Agency of Natural Resources of what to do about the beavers. In 2009, new culverts were installed on Seward Hill and Sugar Hill Roads resulting from two Better Back Roads Grants.

Water System Upgrade – Within the last 3 years the town's water supply system (which serves Wallingford Village) has been upgraded to make it safer and more stable. This includes a new well and water storage facilities.

Downtown Fire Protection: Fire hydrants have been installed in the village center, although fighting a large fire could strain the capacity of the municipal water system.

Fire Prevention – In order to help prevent fires, burn permits are required for private burn piles. The Fire Department has a contract with the Green Mountain National Forest that outlines firefighting procedures and responsibilities on the GMNF lands. The Fire Department has a truck and equipment specialized for fighting wildfires.

Highway Safety: A past accident location, the overpass over the railroad tracks on Rte. 7 south of Wallingford Village, has been upgraded by widening the overpass. This has significantly decreased the number of accidents at this location. There are plans for straightening and widening a stretch of Rte. 7 in South Wallingford to alleviate hazardous roadway conditions there.

Disease prevention – The town Health Officer serves on the Emergency Management Committee to address infectious disease and other human health risks associated with emergency events.

Protection of Regionally Significant Facilities: The Green Mountain Power substation is within Wallingford Village. This facility is fenced in, thereby minimally protected from vandalism or acts of terrorism.

Protection of Town Records – The town office has a vault to protect records from damage or theft/vandalism.

River/Stream Corridor planning: SGAs and corridor plans are followed to reduce the risk of fluvial erosion and flood damage.

Town Policies and Plans that Mitigate Hazards

Existing Policies	Description	Gaps in Existing Policies
<i>Town Plan</i>	<p>Policies and vision for future land use that include protection and limited development in the following areas:</p> <ul style="list-style-type: none"> • Floodway • Elevations above 2,500 feet • Low septic suitability • Site specific stream bank buffers • No new roads above 7-10% grade <p>Adopted 2/4/2013.</p>	The Town should update the Town Plan to include language supportive of conserving floodplains and reducing hazards experienced by residents in a large flood.
<i>Zoning Ordinance</i>	<p>Land Use Regulation Amended June 2009.</p> <p>Development in Forest and Recreation District limited to one family dwelling.</p>	Town should include language to prevent development in the FEMA 100 year floodplain and the Fluvial Erosion Hazard Areas.
<i>School Emergency Response Plan</i>	<p>Wallingford Elementary (K-6). Recent renovations to meet building, fire and safety codes.</p>	Ongoing with Fire Department, police and emergency crews working together on plan.
<i>Local Emergency Operations Plan</i>	<p>Adopted 4-21-2014</p>	Plan should recognize that most of the critical facilities in town are in the floodplain. The gage should be monitored and all emergency responder equipment should be moved when a flooding is imminent.
<i>Fire Mutual Aid</i>	<p>Mutual Aid agreements with Clarendon, Danby, East Wallingford, Rutland City, Rutland Town, and Tinmouth.</p> <p>Wallingford Fire District #1</p> <ul style="list-style-type: none"> • 23 volunteers plus Junior Fire Fighters • Initial training plus drills once a month <p>Wallingford Fire District #2</p> <ul style="list-style-type: none"> • 12 active members • Monthly training as well as special firefighting schools 	Completed except for EMS District #10 “Disaster Plan” – coordinated by the State’s Emergency Health Division – which is ongoing?
<i>Maintenance Programs</i>	<p>Culvert inventorying, cleaning and replacement</p>	Culvert, road and bridge inventories complete; ongoing maintenance
<i>Subdivision Regulations</i>	<p>Provisions concerning the parceling of land.</p> <p>Adopted in 1973; updated June 2009</p>	Completed
<i>Emergency Shelters</i>	<p>Large sites for housing in the event of an evacuation or widespread and prolonged</p>	Town Hall is Red Cross-approved. An additional shelter at the Rotary

Existing Policies	Description	Gaps in Existing Policies
	loss of power or other disaster. <ul style="list-style-type: none"> • Elementary School-Red Cross-approved • Boys Camp • Rotary Building • Masonic Hall • Grange Hall • Local churches 	Building is being considered.
<i>Floodplain Ordinance</i>	Ordinance adopted in May 1990; updated in June 2008 and September 2011	Completed
<i>Road and Bridge Standards</i>	Improve safety, reduce lifecycle costs, and address environmental concerns for transportation networks. Approved road and bridge standards in March 2013.	Ongoing
<i>Source Protection Plans</i>	ANR requirements for protection of drinking water	Ongoing
<i>Town Clerks Office – Risk Assessment and Mitigation Survey</i>	Survey of Town Clerk’s Office to determine the risk to town records and town clerk function in September 2003 detailed in Risk Assessment and Mitigation Planning report	Completed
<i>Mill River Corridor Plan</i>	Stream Geomorphic Assessment and river corridor planning. Actions suggested reduce risk of fluvial erosion hazards and flood damage. If implemented the plan will lead to the overall restoration of surface water in town, and will reduce flood hazards.	Completed SGAs for Mill River and the Upper Otter Creek. The studies now need to be developed into corridor plan and Fluvial Erosion Hazard Zones.

6.3 Changes in Development

Damage from Tropical Storm Irene has resulted in the removal of several of the most vulnerable structures in the flood plain. Since adopting Flood Plain Regulations on June 16, 2008, little development has occurred within Wallingford’s SFHA. For several properties that are close to base flood elevation, the required reviews of applications to renovate or construct residential structures were found to be time-consuming and relatively expensive for the property owner. The reviews however clarified what structural improvements or flood insurance were necessary. These review processes and insurance costs are likely to discourage future development in SFHA.

6.4 National Flood Insurance Program (NFIP) Compliance

The National Flood Insurance Program (NFIP) is a voluntary program organized by FEMA that includes participation from 20,000 communities nationwide and 231 Vermont

towns and cities. Combined with floodplain mapping and floodplain management at the municipal level, the NFIP participation makes affordable flood insurance available to all homeowners, renters, and businesses, regardless of whether they are located in a floodplain.

The NFIP was instituted in 1968 to make flood insurance available in those communities agreeing to regulate future floodplain development. As a participant in the NFIP, a community must adopt regulations that: 1) require any new residential construction within the 100 year floodplain to have the lowest floor, including the basement, elevated above the 100 year flood elevation; 2) allow non-residential structures to be elevated or dry flood proofed (the flood proofing must be certified by a registered professional engineer or architect); 3) require anchoring of manufactured homes in flood prone areas. The community must also maintain a record of all lowest floor elevations or the elevations to which buildings in flood hazard areas have been flood proofed.

In return for adopting floodplain management regulations, the federal government makes flood insurance available to the citizens of the community. In 1973, the NFIP was amended to mandate the purchase of flood insurance as a condition of any federally regulated, supervised or insured loan on any construction or building within the 100-year floodplain. In 2012, Congress passed the Biggert-Waters Flood Insurance Reform Act to reduce subsidies for structures built before the NFIP was instituted (called pre-FIRM structures). Over 50 percent of Vermont's NFIP policies are pre-FIRM, which means that flood insurance premiums for many will double or more over the ensuing years.

While the NFIP floodplain management criteria are administered by States and communities through their floodplain management regulations, FEMA's role is to provide technical assistance and to monitor communities for compliance with the minimum NFIP criteria.

Wallingford has participated in the NFIP since 1981, and its current effective map date is August 28, 2008. The town's flood hazard area regulations are outlined in its Floodplain Ordinance adopted in 1990, which has been updated in 2009 and 2011. The town has no repetitive loss properties. It will continue to ensure it is in compliance with NFIP requirements as appropriate.

6.5 Other Incentives for Disaster Mitigation

Vermont's Emergency Relief Assistance Funding (ERAF) provides state funding to match federal Public Assistance after federally-declared disasters. Eligible public costs are reimbursed by federal taxpayers at 75%. For disasters after October 23, 2014, the State of Vermont will contribute an additional 7.5% toward the costs. For communities that take specific steps to reduce flood damage the State will contribute 12.5% or 17.5% of the total cost.

New funding criteria for ERAF:

12.5% for eligible communities that have adopted four mitigation measures:

1. National Flood Insurance Program (participate or have applied);

2. Town Road and Bridge Standards – (annually certify adopted standards that meet or exceed the standards in the current: 2014-2016 *VTrans Orange Book: Handbook for Local Officials*;
3. Local Emergency Operations Plan (adopt annually after town meeting);
4. Local Hazard Mitigation Plan - Adopt a FEMA- approved local plan (valid for five years) or, submit a draft plan to FEMA Region 1 for review.

17.5% ERAF funding for eligible communities that also have adopted:

1. Maintenance of an active rate classification (class #1 through 9) under FEMA’s Community Rating System (CRS) that includes activities that prohibit new structures in mapped flood hazard zones, OR;
2. Adoption of a Fluvial Erosion Hazard (FEH) or other river corridor or floodplain protection bylaw that meets or exceeds the Vermont Agency of Natural Resources FEH model regulations and scoping guidelines.

6.6 Mitigation and Preparedness Actions and Projects

The Wallingford plan committee discussed each mitigation strategy and carefully reviewed the Current Local Hazard Mitigation Actions list. The committee found that many projects are still ongoing or are still relevant. In some cases, strategies were left in place because of their ongoing and cyclic nature, for example, the incorporation of strategies into the town capital budget and planning documents. The Town has completed some strategies, such as examining the current Town Plan and ensuring that identified hazard areas and needed strategies are addressed; examining current zoning and ensuring that identified hazard areas are addressed; and protecting town records.

Flooding Issues: Recognizing the need to address the issue of flooding, particularly after Tropical Storm Irene, the Town is including a number of flood hazard mitigation measures in this current plan, including ensuring flood hazard areas are addressed in zoning, identifying fluvial erosion hazard areas, moving a fire house out of the flood zone, and dredging projects and culvert inspection and upgrades.

The committee considered additional mitigation strategies, such as:

- | | |
|--|---|
| <input type="checkbox"/> Building Design/Codes/Use Regulations | <input type="checkbox"/> Protection/Retrofit of Infrastructure & Essential Facilities |
| <input type="checkbox"/> Community Preparedness Activities | <input type="checkbox"/> Public Awareness/Training & Education |
| <input type="checkbox"/> Financial & Tax Incentives | <input type="checkbox"/> Public Health/Emergency Medical Care/Education |
| <input type="checkbox"/> Hazard Control & Protective Works | <input type="checkbox"/> Public Protection |
| <input type="checkbox"/> Insurance Programs | <input type="checkbox"/> Laws/Ordinances/Inspections |
| <input type="checkbox"/> Land Use Planning/Management | |
| <input type="checkbox"/> Science & Technology | |
| <input type="checkbox"/> Mitigation Committee | |

The following identified programs, projects and activities are categorized as future Mitigation and Preparedness Strategies for the Town of Wallingford. These mitigation strategies have been chosen by the town as the most appropriate policies and programs to lessen the impacts of potential hazards.

Several new mitigation actions and projects have been removed from the New Mitigation Actions and Projects list since this new single jurisdictional plan was first submitted on October 7, 2014.

--*Protecting town records* has been removed because town officials do not consider this to be a high risk. Since it actually represents a *vulnerability* rather than hazard, it has largely been removed from the plan.

--*Identify and implement solutions to water contamination problems caused by sewer system overflow* has been removed because the Town of Wallingford has completed this action as of June 1, 2015.

--*Dredging Roaring Brook* has been removed from the list because town officials have decided it is no longer a priority because it does not mitigate flooding. Dredging is more likely to increase downstream flooding and destabilize waterways and negatively impact downstream communities.

--*Petition the state for a blinking light on Rt. 7 at north end of Hartsboro Road* has been removed from the list because town officials have decided it is no longer a high priority, it is not an effective use of town resources, and it will do little to mitigate the hazard of highway accidents in the town.

The strategies were prioritized using action evaluation and prioritization criteria (see Appendix E) and each potential project was scored and ranked according to priority (see Appendix F). The scoring matrix includes STAPLEE criteria, which includes benefit-cost considerations. Mitigation actions and projects proposed in this plan should undergo more rigorous benefit-cost analysis by the town before action is taken.

New Mitigation Actions and Projects

Priority Score	Hazards Mitigated	Mitigation Action	Local Leadership	Funding Resources	Target Start	Target End
23	Flooding	Relocate Fire District #1 building at 120 Railroad St. which is in flood hazard area	Prudential Committee (elected governing body of town's Fire District #1)	Grants, loans, Fire District, HMPG	5/2015	12/2020
18	Flooding	Replace culverts: two culverts on West Hill Road (24" each); three culverts on Sugar Hill Road (1 – 36" and 2 – 18"). Upon annual review, additional culverts will be added to the list to be replaced.	Road Commissioner	Local funds; culvert budget was increased from \$2,000 in FY15 to \$2,800 for FY16	5/2015	12/2020
16	All emergency situations: flooding, storm-related power outages, hazardous materials incidents	Install fuel tanks, portable generators, and wiring needed for portable generators in Town Hall (designated Emergency Operations Center) and Wallingford Elementary School (designated Emergency Shelter).	Selectboard	Local Funds	12/2018	12/2020
16	Hazardous Materials Incidents	Install arms on all railroad crossings	Selectboard	State and Vermont Railway funding	12/2015	12/2020

Preparedness Actions and Projects

Priority Score	Hazards Mitigated	Preparedness Action	Local Leadership	Funding Resources	Target Start	Target End
28	Flooding	Examine current zoning and flood hazard ordinances and develop recommendations.	Local planning commission	State funding: Municipal Planning Grant	5/2015	12/2015
19	Highway and Railroad accidents; hazardous materials incidents	Continue evacuation/emergency preparedness drills with vulnerable populations	Local Planning Commission is doing this on an ongoing basis.	Local funds	8/2015	No end date; will be done each year
18	Hazardous Materials Incidents	Training for EMS responders	Fire Districts, Police, EMS	State Public Safety grants	5/2015	No end date; will be done each year
17	All hazards	Examine current Town Plan and ensure that identified hazard areas and needed strategies are addressed	Selectboard and Planning Commission	State funding such as Municipal Planning Grant.	1/2016	3/2018
16	All emergency situations: flooding, storm-related power outages, hazardous materials incidents	Obtain Red Cross approval of other town emergency shelters	Town Hall is Red Cross-approved. Training volunteers still needs to be done.	Local funds; Red Cross	12/2015	12/2017
12	All hazards	Incorporate proposed strategies into Annual Budget; amended to delete CIP which town does not have.	Selectboard	Local funds	12/2015	12/2020

7. PLAN MAINTENANCE PROCESS

7.1 Routine Plan Maintenance

The Hazard Mitigation Plan is dynamic. To ensure that the plan remains current and relevant, it is important that it be monitored, evaluated, and updated periodically. The plan will be evaluated and monitored annually at an April Selectboard meeting along with the evaluation of the town's Local Emergency Operations Plan (LEOP). The town Emergency Management Coordinator (EMC) will lead this. This meeting will allow the Selectboard and EMC, along with the public, to monitor the town's progress in implementing mitigation actions, identify future activities, and update the plan as needed; as well as evaluate the plan by discussing its effectiveness at accomplishing the mitigation goals identified in it. A large component of this meeting involves having the Selectboard and EMC check in (either before or after the annual meeting) with the lead agencies on each of the identified mitigation actions in section 6.6 of this plan to monitor the progress made on each project. The State Hazard Mitigation Officer is available to work with the town on updating its plan. Town officials should also incorporate elements of this Hazard Mitigation Plan when updating the municipal plan, zoning regulations, flood hazard bylaws, etc.

The plan should be updated every five years in accordance with the following procedure:

1. The Selectboard will appoint a team to convene a meeting of the Review/Update committee six months before the plan expires. The town's Emergency Management Director will chair the committee, and other members should include local officials such as Selectboard, Fire Chief, Zoning Administrator, Constable, Road Commissioner, Planning Commission, and the public. The Rutland Regional Planning Commission and town organizations should be involved as well. Town Administrator Sandi Switzer will be tasked with maintaining and updating the plan.
2. The committee will discuss the process to determine if the evaluation criteria are still appropriate or modifications or additions are needed due to changing conditions since the last update occurred. Data needs will be reviewed, data sources identified and responsibility for collecting information will be assigned to members.
3. A draft report will be prepared based on these evaluation criteria and in conformance with the FEMA *Local Mitigation Plan Review Guide* document.
 - Changes in community and government processes, which are hazard-related and have occurred since the last review.
 - Progress in implementation of plan initiatives and projects.
 - Effectiveness of previously implemented initiatives and projects.
 - Evaluation of unanticipated challenges or opportunities that may have occurred between the date of adoption and the date of the report.

- Evaluation of hazard-related public policies, initiatives and projects.
 - Review and discussion of the effectiveness of public and private sector coordination and cooperation.
4. The Selectboard will review the draft report. Consensus will be reached on changes to the draft.
 5. Changes will be incorporated into the plan. The draft plan will be made available for public comment by posting at the town office. Any public feedback received will be addressed appropriately in the plan.
 6. The plan will be submitted to the State Hazard Mitigation Officer (SHMO). Any SHMO comments will be addressed in the plan.
 7. The plan will be submitted to FEMA Region 1, and FEMA comments will be addressed in the plan until FEMA Approval-Pending-Adoption (APA) is achieved.
 8. The Selectboard will notify and schedule a public meeting and the hazard mitigation committee will prepare a presentation.
 9. A public meeting will be held where the public will review the plan update.
 10. The Selectboard will adopt the plan and distribute to interested parties.
 11. The final plan (with adoption certificate) will be submitted to FEMA Region 1 for final approval.

Programs, Initiatives, and Projects Review

Although the plan should be reviewed in its entirety every five years as described above, the Town may review and update its programs, initiatives and projects more often directly with the State Hazard Mitigation Officer based on changing local needs and priorities.

For instance, the Town of Wallingford will examine its current Town Plan and ensure that identified hazard areas and needed strategies are addressed. In addition, it will incorporate proposed mitigation strategies into the town annual budget.

7.2 Post-Disaster Review Procedures

Should a declared disaster occur, a special review will occur in accordance with the following procedures:

1. Within 6 months of a declared emergency event, the Town will initiate a post disaster review and assessment. Members of the State Hazard Mitigation Committee will be notified that the assessment process has commenced.
2. This post disaster review and assessment will document the facts of the event and assess whether existing Hazard Mitigation Plans effectively addressed the hazard.
3. A draft After Action Report of the review and assessment will be distributed to the review/update Committee.
4. A meeting of the committee will be convened by the Selectboard to make a determination whether the plan needs to be amended. If the committee determines that NO modification of the plan is needed, then the report is distributed to local communities.
5. If the committee determines that modification of the plan IS needed, then the committee drafts an amended plan based on the recommendations and forwards to the Selectboard for public input.
6. The Selectboard adopts the amended plan.

7.3 Continued Public Participation

Maintenance of this plan and implementation of the mitigation strategy will require the continued participation of local citizens, agencies, and other organizations. To keep the public aware of and involved in local hazard mitigation efforts, the town will consider taking the following measures:

- Discuss the plan at least annually at a Selectboard meeting to determine if a review is necessary
- Provide hazard mitigation information at Town Meeting
- Post the plan on the town website
- Selectboard will review past plan update/review committee members and consider whether new members should be added. Representatives of local businesses, nonprofits, academia, etc. should especially be considered.
- Notify the public of committee meetings through town bulletin boards, newsletter, newspaper, website, Front Porch Forum, etc.
- Solicit public input at Selectboard meetings.

APPENDIX A

**CERTIFICATE OF ADOPTION
Town of Wallingford, Vermont
Selectboard**

**A Resolution Adopting the Town of Wallingford,
Vermont Local Hazard Mitigation Plan**

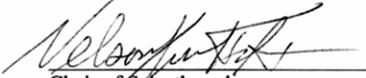
WHEREAS, the Town of Wallingford has worked with the Rutland Regional Planning Commission to identify natural and human-caused hazards, analyze past and potential future damages due to disasters, and identify strategies for mitigation of future damages; and

WHEREAS, the Town of Wallingford, Vermont Local Hazard Mitigation Plan analyzes hazards and assesses risks within the community; and

WHEREAS, the Town of Wallingford, Vermont Local Hazard Mitigation Plan recommends the implementation of actions specific to the community to mitigate against damage from hazard events; and

NOW, THEREFORE BE IT RESOLVED that the Town of Wallingford adopts the Town of Wallingford, Vermont Local Hazard Mitigation Plan.

Duly adopted this 21 day of September, 2015.


Chair of Selectboard


Member of Selectboard


Member of Selectboard


Member of Selectboard


Member of Selectboard

ATTEST

Town Clerk

APPENDIX B

Selectboard Minutes - December 2, 2013

4/24/2014

December 2 2013

Wallingford Selectboard Minutes*

***These are unofficial Minutes subject to the approval at the next regular meeting.**

[Selectboard Minutes Index](#)

[Home](#)

December 2, 2013

Select Board Present: Bill Brooks, Nelson Tift, Mark Tessier, and Gary Fredette

Others Present: Julie Sharon, Sandi Switzer, Barbara Pulling, Diane Baker, and Lisa Marchinkoski

Chair B. Brooks called the regular Selectboard meeting to order at 6:30 p.m. at the Town Hall.

Minutes. N. Tift moved to approve the minutes of November 18; G. Fredette seconded the motion. Motion carried (4-0).

Selectboard Orders. G. Fredette made a motion to approve the pay orders totaling \$78,586.35; motion seconded by N. Tift. Motion carried (4-0).

Local Hazard Mitigation Plan. Barbara Pulling from Rutland Regional Planning Commission informed the board RRPC has a pre-disaster planning grant to assist Wallingford in updating the local Hazard Mitigation Plan. She said FEMA wants towns to have updated plans in place in order to assure federal funds in case of emergencies. Ms. Pulling indicated she would need up to 5 local volunteers to assist with the project with the goal of submitting the document to the state in the spring. She said there would be no cost to the town. B. Brooks made a motion indicating the Select Board's support for the process of reviewing and updating the Local Hazard Mitigation Plan with the assistance of RRPC and volunteers; M. Tessier seconded the motion. The motion passed (4-0).

FY 15 Public Safety Budget. The board reviewed documents provided by Constable Jerry Tift in support of a 10 percent increase in the constable budget from \$6000 to \$6600. G. Fredette made a motion to increase the budget 10 percent; M. Tessier seconded the motion. The motion passed (3-0). N. Tift abstained.

There was discussion regarding increasing the Dog Warden budget. N. Tift noted the sheriff's department had quoted \$3000 for the service. B. Brooks made a motion to increase the Dog Warden budget from \$500 to \$1200; G. Fredette seconded the motion. The motion carried (3-0).

The board will wait to hear from Rutland County Sheriff's Department before setting that portion of the Public Safety budget.

APPENDIX E

Mitigation Strategy Scoring Criteria

New local hazard mitigation strategies were prioritized using the following scoring system: list documents the questions (criteria) considered in establishing an order of priority. Each of the following criteria was rated according to a numeric score of “1” (indicating poor), “2” (indicating average) and “3” (indicating good).

- Does the action reduce damage?
- Does the action contribute to community objectives?
- Does the action meet existing regulations?
- Does the action protect historic structures or structures critical to town operations?
- Can the action be implemented quickly?
- Is the action socially acceptable?
- Is the action technically feasible?
- Is the action administratively possible?
- Is the action politically acceptable?
- Is the action legal?
- Does the action offer reasonable benefits compared to its cost of implementation?
- Is the action environmentally sound?

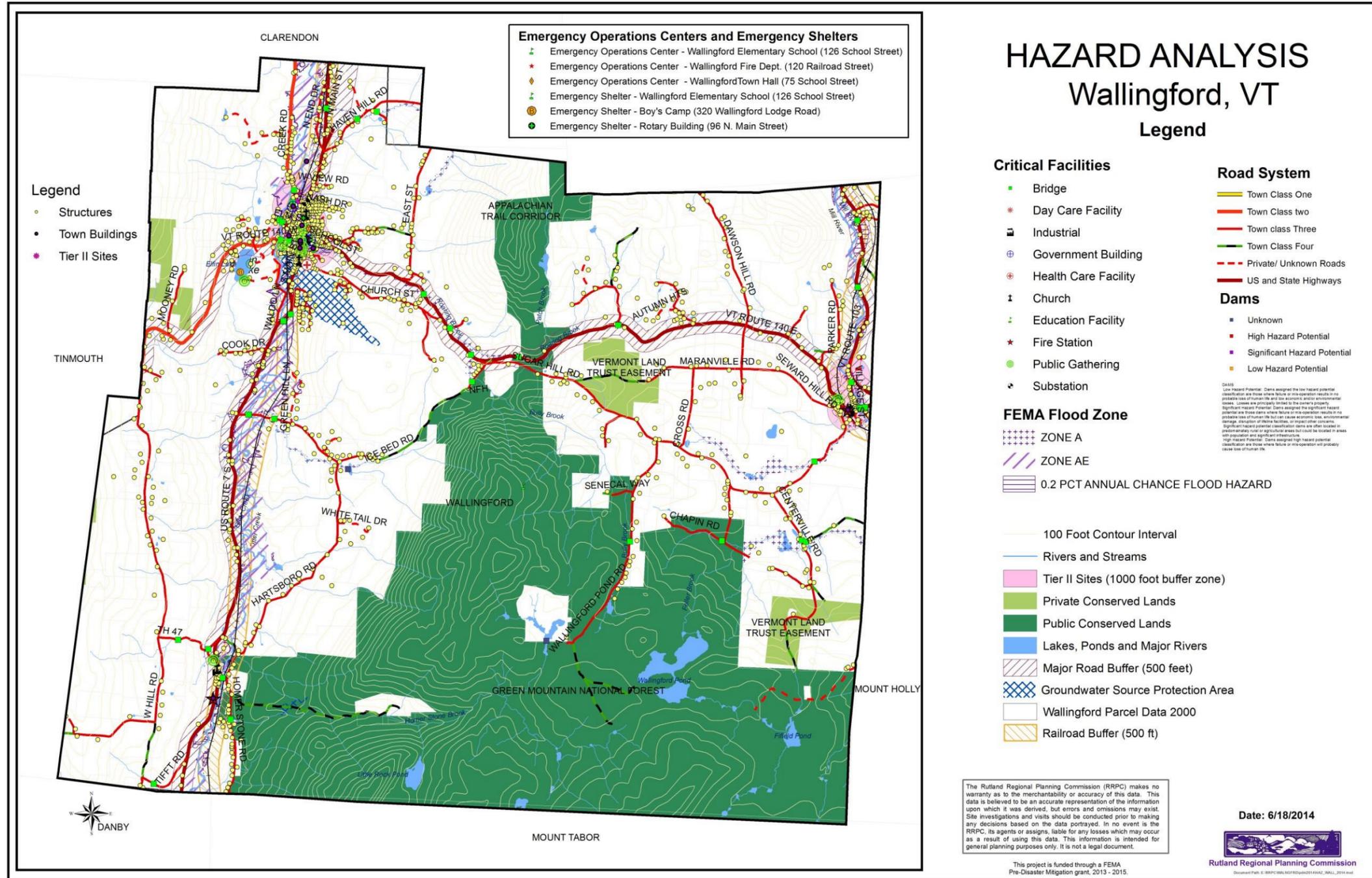
APPENDIX F

Mitigation Strategy Scoring Sheets

Action Evaluation and Prioritization Matrix					Town: Wallingford								
Mitigation Action	3 = Good 2 = Average 1 = Poor				Implemented quickly	Socially acceptable	Technically Feasible	Administratively Realistic	Politically Acceptable	Legal	Reasonable cost to benefit	Environmentally sound	Total
	Reduce Damage	Contribute to Town Objectives	Meet Regulations	Protect sensitive structures									
Move Fire District #1 Building at 120 Railroad St. - which is in flood hazard area.	3	3	3	3	1	1	1	1	2	1	1	3	23
Training for EMS responders	3	2	2	2	1	1	1	2	1	1	1	1	18
Install arms on all railroad crossings	2	1	2	2	1	1	1	1	2	1	1	1	16
Dredge Roaring Brook	3	1	3	3	1	1	1	1	2	1	1	1	19
Identify and implement solutions to water contamination problems caused by sewer system overflow.	3	2	3	2	1	1	1	1	2	1	1	1	19
Incorporate proposed strategies into Annual Budget.	1	1	1	1	1	1	1	1	1	1	1	1	12
Examine current Town Plan and ensure that identified hazard areas and needed strategies are addressed.	3	2	2	2	1	1	1	1	1	1	1	1	17
Continue evacuation/emergency preparedness drills with vulnerable populations.	3	2	3	3	1	1	1	1	1	1	1	1	19

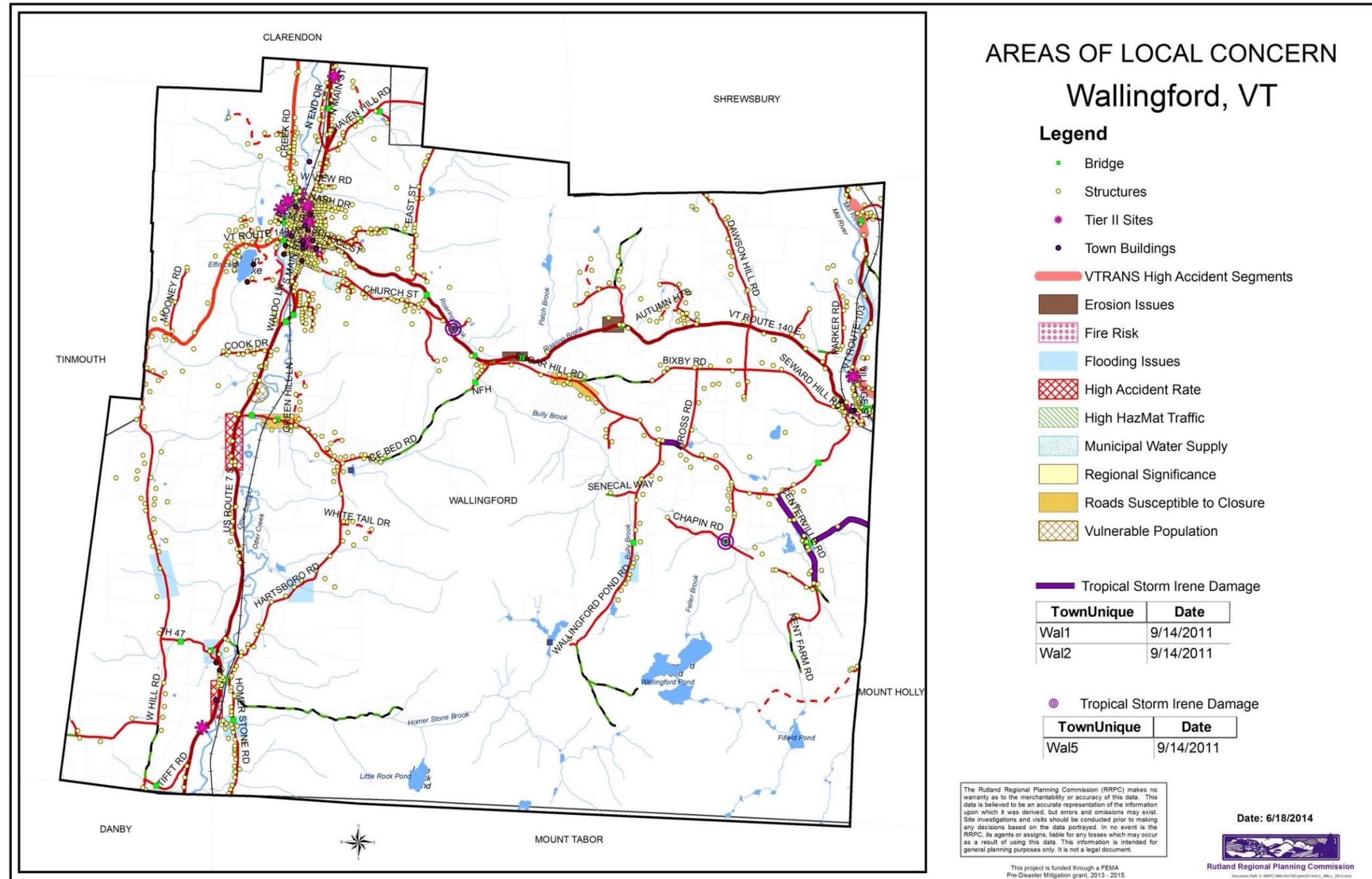
Mitigation Action	Reduce Damage	Contribute to Town Objectives	Meet Regulations	Protect sensitive structures	Implemented quickly	Socially acceptable	Technically Feasible	Administratively Realistic	Politically Acceptable	Legal	Reasonable cost to benefit	Environmentally sound	Total
Protect town records	3	2	2	3	1	1	1	1	1	1	1	1	17
Obtain Red Cross approval of other town emergency shelters.	3	2	2	2	1	1	1	1	1	1	1	1	16
Install wiring needed for installation of portable generators in Town Hall (designated Emergency Operations Center) and Wallingford Elementary School (designated Emergency Shelter).	1	3	3	2	1	1	1	1	1	1	1	1	16
Follow recommendations in Mill River Corridor Plan and Roaring Brook SGA to address fluvial erosion hazards. Create Fluvial Erosion Hazard Zones.	1	1	1	1	1	1	1	1	1	1	1	1	11
Continue to upgrade culverts as needed to accommodate high water flow.	3	2	2	2	1	1	1	2	1	1	2	1	18
Examine current zoning and ensure that identified hazard areas are addressed.	3	3	3	3	2	2	3	2	3	1	3	1	28
Blinking light on Rt. 7 at north end of Hartsboro Road.	1	1	1	1	1	1	1	1	1	1	1	1	11

Hazard Analysis Map – Wallingford

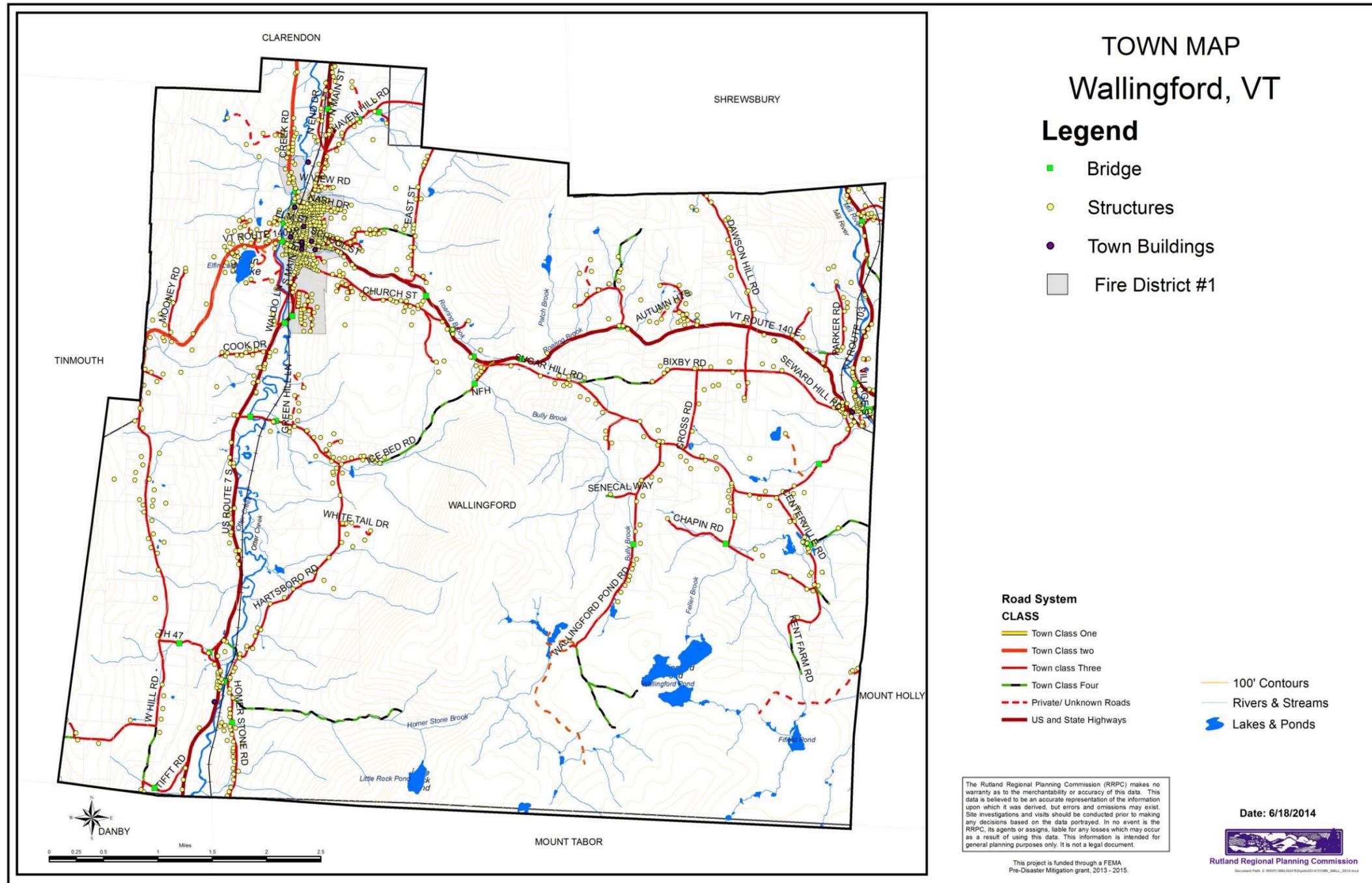


APPENDIX H

Areas of Local Concern – Wallingford



Town Map - Wallingford



APPENDIX J

Public Comment Period Notice

Notice of Public Comment Period for Draft Local Hazard Mitigation Plans

The Towns of Killington, Tinmouth, Wallingford, and West Haven are preparing Local Hazard Mitigation Plans. A 15 day public comment period for each draft plan will be held from June 25, 2014 to July 9, 2014, pursuant to 44 CFR Chapter 1 Section 201.6(a). Each plan can be found for review on the Rutland Regional Planning Commission website: <http://www.rutlandrpc.org>. For those towns with official town websites, the plans are also available on those sites. To request a hard copy of a plan, contact Laura Keir at the Rutland Regional Planning Commission, (802)775-0871. Copies of the plans are available at the Rutland Regional Planning Commission, 67 Merchants Row in Rutland, as well as at the town offices of Killington, Tinmouth, Wallingford, and West Haven. Please submit plan comments by email to lkeir@rutlandrpc.org, or by mail to Rutland Regional Planning Commission, P.O. Box 965, Rutland, VT 05702. Comments must be submitted by July 9, 2014 to be considered. Please direct questions to Laura Keir, Rutland Regional Planning Commission, (802)775-0871.