

Wallingford, Vermont Local Hazard Mitigation Plan



FEMA Approval Pending Adoption Date:
Municipal Adoption Date:
FEMA Formal Approval Date:

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Table of Contents

1	Introduction	1
2	Purpose	1
3	Community Profile	1
4	Planning Process	5
	Plan Developers.....	5
	Plan Development Process.....	5
	Changes Since the 2015 Plan	7
5	Hazard Identification and Risk Assessment	8
	Local Vulnerabilities and Risk Assessment.....	8
	High Risk Hazard Profiles.....	9
	Inundation/Flash Flooding/Fluvial Erosion	9
	High Wind.....	10
	Extreme Cold/Snow/Ice/Wind.....	11
	High Risk Hazard History	13
	Vulnerability Summary	13
6	Hazard Mitigation Strategy	14
	Mitigation Goals	14
	Community Capabilities	14
	Administrative and Technical	14
	Planning and Regulatory	15
	Financial	16
	Education and Outreach.....	16
	National Flood Insurance Program Compliance	16
	State Incentives for Flood Mitigation	16
	Mitigation Action Identification	17
	Local Plans and Regulations	17
	Structure and Infrastructure Projects	17
	Natural Systems Protection.....	18
	Education and Awareness Programs.....	18
	Mitigation Action Evaluation and Prioritization.....	18
	Mitigation Action Implementation	18
	Process for Incorporating Plan Requirements into Other Planning Mechanisms.....	22
7	Plan Maintenance	23
	Monitoring and Evaluation.....	23
	Updating.....	23

Figure 1 : VTrans Transportation Resiliency Planning Tool Identified Locally Important Routes for Through-Ways, Detours, Short-Cuts, and Access to Critical Facilities	4
Figure 2. FEMA Community Lifelines and Associated Components	22

Table 1: Power Outage Summary	3
Table 2: Plan Development Process	6
Table 3: Existing Plans, Studies, Reports & Technical Information	7
Table 4: Community Hazard Risk Assessment	8
Table 5: Mitigation Action Evaluation and Prioritization	19
Table 6: Mitigation Action Implementation.....	21

Appendix A: Certificate of Adoption	A-1
Appendix B: Local Hazards and Vulnerabilities Map.....	A-2
Appendix C: Mitigation Actions from the 2015 Plan	A-3
Appendix D: <i>Wallingford Standard</i> Articles	A-4

1 Introduction

The impact of expected, but unpredictable natural events can be reduced through community planning and action. The goal of this Plan is to provide a natural hazards local mitigation strategy that makes Wallingford (the Town) more disaster resistant and more resilient after disaster has struck.

Hazard Mitigation is any sustained policy or action that reduces or eliminates long-term risk to people and property from natural 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 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 and policies that can be implemented to reduce the severity of the hazard.

2 Purpose

The purpose of this Plan is to assist the Town in identifying all natural hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risks from those hazards. Once adopted, this Plan is not legally binding; instead, it outlines goals and actions to reduce the degree of injury and inconvenience to the townspeople and their private and municipal property.

The benefits of mitigation planning include:

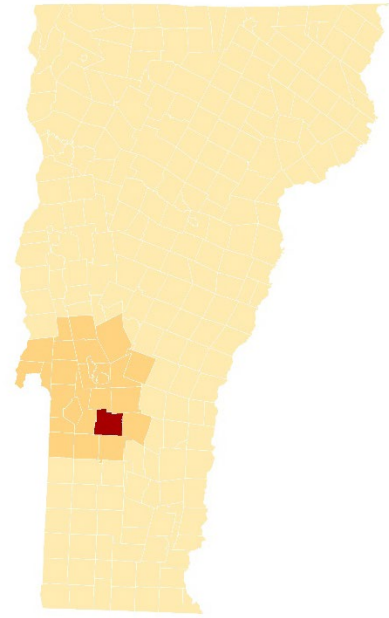
- Identifying actions for risk reduction that are agreed upon by stakeholders and the public;
- Focusing resources on the greatest risks and vulnerabilities;
- Increasing education and awareness of threats and hazards, as well as their risks;
- Communicating priorities to State and Federal officials;
- Making certain FEMA funding sources available to complete mitigation work; and
- Aligning risk reduction with other community objectives.

Furthermore, the Town seeks to be in accordance with the 2018 State Hazard Mitigation Plan.

3 Community Profile

Development Patterns and Land Use

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 9,025 acres in the Town of Wallingford. The Green Mountain National Forest comprises 32.5% of Wallingford's land area. The National Forest 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 is comprised primarily of sand and gravel extraction as well as a few light industrial uses.

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 Town is part of the region known as the Vermont Valley. This part of 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 Route 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 Town west of the valley. This area is relatively small, covering mainly the area known as West Hill.

Demographics and Growth Potential

The 2018 American Community Survey Five-Year Estimates prepared by the U.S. Census Bureau shows an estimated population of 2,094, and 1,171 housing units. Between 2010 and 2018, the population has held relatively steady.

The median age of Wallingford residents is 49 years old. Wallingford's median age is 14% higher than the Vermont median age of 42.8. The portion of the population over 60 is 28%, compared to 25% in Vermont and 20.9% in the country.

Vulnerable populations in Wallingford include:

- Lenny Burke Farm, Route 7 South, disabled housing
- Wallingford House, N Main Street, elderly housing
- Serenity House, Church Street, rehab center
- Emma's Place, S Main Street, rehabilitation center
- Housing for those with disabilities, River Street
- Housing for those with disabilities, School Street
- Wallingford Elementary School, School Street
- After School/Summer Rec Programs, School Street

Growth potential for the Town is mixed. Residential growth is somewhat limited by the fact that a large portion of the Town lies within either floodplain or National Forest lands and/or restricted zoning regulations. There is opportunity for commercial/retail growth as there are currently several vacant commercial sites within the Town.

Precipitation and Water Features

Average annual precipitation is 44 inches of rain; with July being the wettest month. Average annual snowfall is 83 inches, which is about average compared to other places in Vermont, with January being the snowiest month.

The Otter Creek is the largest flowing body of water in the state and one of the most prominent aquatic features in Wallingford. Other surface water resources include Roaring Brook, Homer Stone Brook, Elfin Lake, Little Rocky Pond, and Wallingford Pond.

Drinking Water and Sanitary Sewer

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

Fire District # 1 serves approximately 355 customers in Wallingford Village and the areas surrounding the Wallingford Lodge. This gravity-fed system includes a gravel well, 400,000 gallon water storage tank, and approximately four miles of transmission/distribution piping. The well is in the Otter Creek floodplain off Meadow Street.

The South Wallingford Cooperative serves ± 26 households on Homer Stone, Hartsboro, and US Route 7 S. It is a gravity-fed spring with a treatment house located on Homer Stone Road.

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

Sewer service in Wallingford is also provided by Wallingford Fire District # 1 to approximately 370 customers. The core of the Village is serviced by a series of gravity-fed lines to the treatment plant on Creek Road behind True Temper in the Village. The only exception to the gravity collection system is an air ejector station on US Route 7 S.

The 1960s vintage sewer treatment plant includes two pump stations, an oxidation ditch, chlorine clarifiers, and sludge drying beds. This facility is located within the Otter Creek floodplain on Creek Road.

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

The present network of ± 50 miles of roads in Wallingford serves the needs of current residents. US Route 7 is a main north/south transportation route through the state and passes directly through the center of Wallingford Village. VT Route 140 is the main east/west route. In addition to US Route 7 and VT Route 140, there are several other roads that have been identified as locally important for use as throughways, detours, short-cuts, and access to critical facilities such as the fire stations, town garage, town office, and school. These routes are shown in orange on the map in **Figure 1**.

According to the Town's Road Stormwater Management Plan, nearly 65% of the Town's roads are hydrologically connected - meaning they are within 100-feet of a water resource (i.e., perennial/intermittent stream, wetland, lake, or pond). Proximity to water resources can make these roads more vulnerable to flooding and fluvial erosion.

Wallingford has a total of 26 bridges that span over 20 feet and ± 520 culverts. Nineteen bridges are state-owned and seven are town-owned. In addition, there are 11 town-owned bridges/structures that span less than 20 feet. The local transportation network is maintained by the Town Highway Department crew, whose garage is located on River Street.

Rail freight service passes through Wallingford and East Wallingford on two railroads operated by Vermont Rail System. Vermont Rail System continues to do standard track maintenance on both the Vermont Railway and the Green Mountain Railroad. The State of Vermont, through its Bridge Management Program, continues to inspect rail bridges along both rail lines. VTrans applied for and was awarded a Federal Rail Administration BUILD grant for the rehabilitation of 29 railroad bridges between Rutland, Vermont and Hoosick, New York along a 57.82 mile section of the former Bennington and Rutland Railroad, now operated by Vermont Railway and owned by VTrans. This project will take place over the next four years to upgrade bridges along this rail line.

Electric Utility Distribution System

Electric service to approximately 1,215 customers is provided by Green Mountain Power via two circuits. Average annual outage statistics between 2015 and 2019 are summarized in **Table 1**.

Table 1: Power Outage Summary

5-Year Average (2015-2019)	
Avg # of times a customer was without power	1.96
Avg length of an outage in hours	6.36
# of hours the typical customer was without power	12.48
2019 only	
Avg # of times a customer was without power	2.21
Avg length of an outage in hours	5.61
# of hours the typical customer was without power	12.39

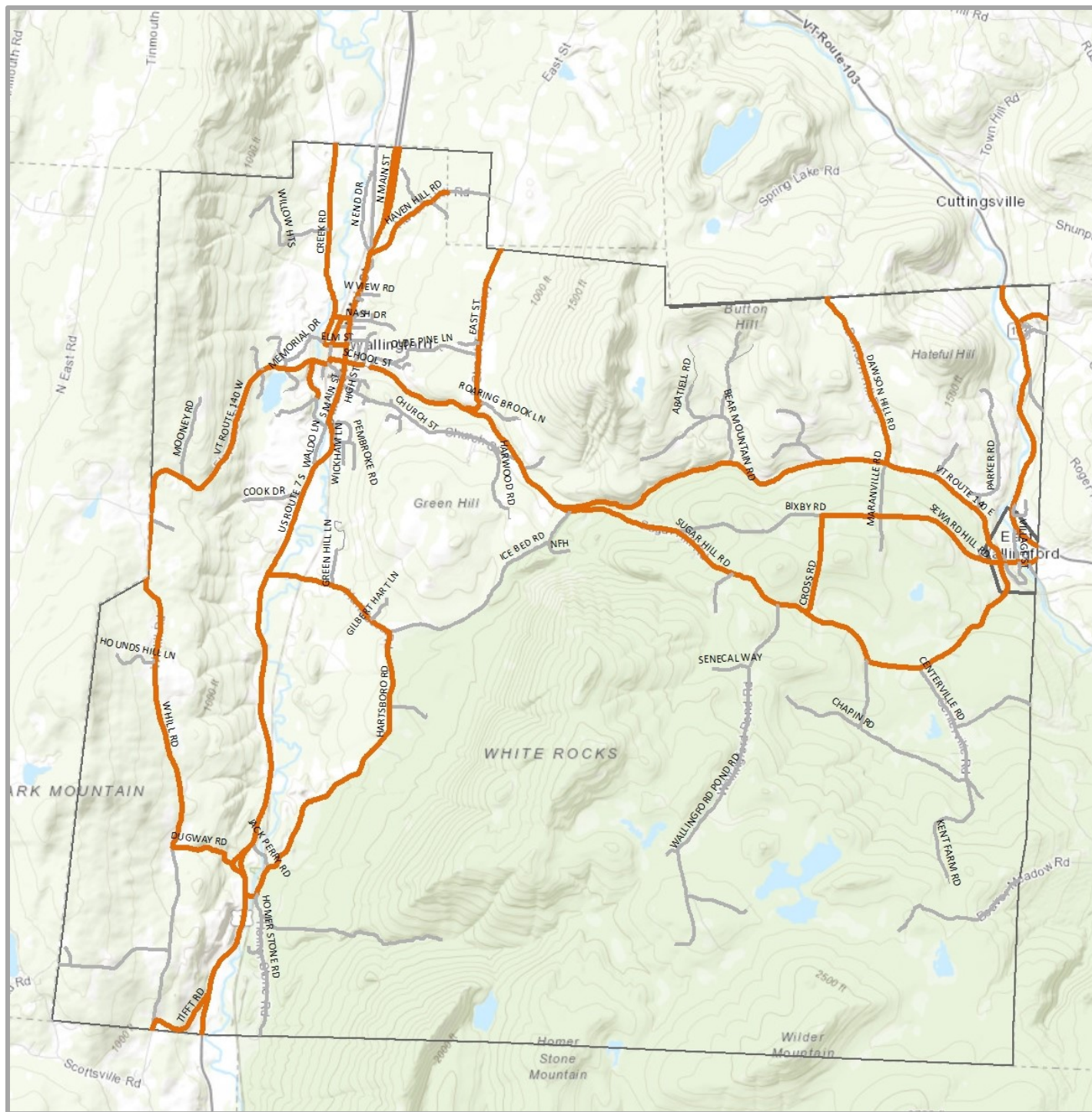


Figure 1 : VTrans Transportation Resiliency Planning Tool Identified Locally Important Routes for Through-Ways, Detours, Short-Cuts, and Access to Critical Facilities

The longest power outage affecting the greatest number of customers between 2015 and 2019 was 45.27 hours long and impacted 42 customers. During this same time period, there was a 67.47 hour long outage that impacted only 3 customers.

Public Safety

Wallingford Fire District # 1 provides fire protection service to all of Wallingford, including Wallingford Village and South Wallingford. The Fire Station is on River Street in Wallingford Village.

Wallingford Fire District #2 provides fire protection service to East Wallingford. The Fire Station is at 5988 VT Route 140 East.

Law enforcement is provided by the Rutland County Sheriff's Department on a contract basis. The current constable does not have law enforcement authority.

The nearest hospital is the Rutland Regional Medical Center. Ambulance service is provided by Wallingford Rescue except for a portion of East Wallingford, which is served by Mount Holly Rescue.

Emergency Management

The Town has an appointed Emergency Management Director (EMD) who works with others in town to keep the Local Emergency Plan up-to-date as well as to coordinate with nearby towns and regional emergency planning efforts.

4 Planning Process

Plan Developers

Steffanie Bourque, an Emergency Management Planner at the Rutland Regional Planning Commission (RRPC), assisted the Town with updating its Local Hazard Mitigation Plan. Hazard Mitigation Grant Program funds from FEMA supported this process.

The Hazard Mitigation Planning Team members who assisted with the update include Selectboard members, Town Administrator, Town Clerk, Fire Chief, and Road Commissioner.

Plan Development Process

The 2020 Wallingford Local Hazard Mitigation Plan is an update to the single jurisdiction mitigation plan drafted for the Town in 2015.

A summary of the process taken to develop this Plan is provided in **Table 2**.

In addition to the local knowledge of Planning Team members and other relevant parties, several existing plans, studies, reports, and technical information were utilized in the preparation of this Plan. A summary of these is provided in **Table 3**.

Table 2: Plan Development Process

June 9, 2020: Hazard Mitigation Planning Team kick-off meeting. Planning Team members were confirmed. Discussed what a LHMP is; the benefits of hazard mitigation planning; current plan status; the planning process; outreach strategy; and plan sections.

June 11, 2020: Public notice posted on RRPC and Town social media (website, Front Porch Forum, Facebook) that the Town is engaged in hazard mitigation planning and updating their LHMP. Prudential Committee for Fire District #1 and South Wallingford Cooperative notified of planning efforts. Emailed notice to officials in neighboring towns of Clarendon, Shrewsbury, Mount Holly, Mount Tabor, Danby, and Tinmouth. Name and contact information provided in notices for more information. Prudential Committee members from Fire District #1 and South Wallingford Cooperative provided input on system components for the Community Profile.

July 2020: LHMP update article included in the *Wallingford Standard*, a monthly community newsletter – see Appendix D.

July 7, 2020: Planning Team meeting – confirmed the plan purpose and completed work on the community profile and community hazard risk assessment. Began work on storm history and identifying assets vulnerable to the highest risk natural hazards.

August 5, 2020: Planning Team meeting – completed work on the storm history and assets vulnerable to the highest risk natural hazards. Completion of the hazard identification and risk assessment is a critical milestone in the plan update process. Draft readied for public input.

August 12 & August 17, 2020: Working draft LHMP presented at public meetings of the Wallingford Planning Commission and Selectboard to encourage input from local government and public that could affect the plan's conclusions and better integrate with related Town initiatives. Working draft posted on RRPC and Town websites. Notice of the public comment period also posted on Front Porch Forum and Town Facebook page. Comments on the draft plan were accepted until September 8, 2020. [placeholder for input received]

August 17, 2020: Working draft LHMP shared with Vermont Hazard Mitigation Officer and Rutland Natural Resources Conservation District for review and comment.

September 2020: LHMP update on plan development process and information on how to comment on current working draft article in the *Wallingford Standard* – see Appendix D.

September 16, 2020: Planning Team meeting -

Changes Since the 2015 Plan

[placeholder for a description in land use development changes since the 2015 plan]

[placeholder for description of changes in mitigation priorities since 2015 plan]

Hazard mitigation actions from 2015 are presented in **Appendix C**. The Hazard Mitigation Planning Team reviewed these actions and reported on the status of each.

Table 3: Existing Plans, Studies, Reports & Technical Information

2020 Local Emergency Management Plan

2020 FEMA NFIP Insurance Reports

2019 Wallingford Stormwater Master Plan

2019 Road Stormwater Management Plan

2019 Transportation Resiliency Planning Tool

2019-2015 Green Mountain Power Outage Data

2018 Wallingford Town Plan

2018 State of Vermont Hazard Mitigation Plan

2018 American Community Survey Five-Year Estimate

2015 Zoning Regulations

2011 Flood Hazard Area Regulations

RRPC Local Liaison Reports of Storm Damage

National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database

FEMA Disaster Declarations for Vermont

OpenFEMA Dataset: Public Assistance Funded Project Summaries for Vermont

U.S. Geological Survey National Water Information System- Stream Gage Data

FEMA Flood Insurance Rate Maps

5 Hazard Identification and Risk Assessment

Local Vulnerabilities and Risk Assessment

One of the most significant changes from the 2015 Plan is the way hazards are assessed. To be consistent with the approach to hazard assessment in the 2018 State Hazard Mitigation Plan, the Hazard Mitigation Planning Team conducted an initial analysis of known natural hazard events¹ to determine their probability of occurring in the future.

The Planning Team then ranked the hazard impacts associated with the known natural hazard events based on the probability of occurrence and potential impact to life, the economy, infrastructure, and the environment. The ranking results are presented in **Table 4**.

After engaging in discussions, the Town identified the following “highest risk hazards” that they believe their community is most vulnerable to:

- Thunderstorms with associated flash flooding, fluvial erosion, inundation flooding, and high winds.
- Winter Storms with associated extreme cold, snow, ice, and high winds.

Each of these “highest risk hazards” (**orange** in **Table 4**) are further discussed in this section and depicted in the Local Hazards and Vulnerabilities Map in **Appendix B**.

The “lower risk hazards” that are considered to have a low probability of occurrence and low potential impact are not discussed. For information on these hazards, consult the State Hazard Mitigation Plan.

Table 4: Community Hazard Risk Assessment

Hazard Event	Hazard Impacts	Probability	Potential Impact					Score
			Life	Economy	Infrastructure	Environment	Average	
Thunderstorm	Flash Flooding/ Fluvial Erosion	4	2	3	4	2	2.75	11
Tropical Storm/Hurricane								
Landslide	Inundation Flooding	4	1	3	3	1	2.00	8
Ice Jam	High Winds	4	2	3	2	2	2.25	9
Tornado	Hail	2	1	2	2	1	1.50	3
Winter Storm	Cold/Snow/ Ice/Wind	3	3	3	2	2	2.50	7.5
Drought	Heat	2	1	2	2	2	1.75	3.5
	Drought	2	1	2	2	2	1.75	3.5
Wildfire	Wildfire	1	1	1	1	1	1	1
Earthquake	Earthquake	1	1	1	1	1	1	1
*Score = Probability x Average Potential Impact								

	Frequency of Occurrence: Probability of a plausibly significant event	Potential Impact: Severity and extent of damage and disruption to population, property, environment and the economy
1	Unlikely: <1% probability of occurrence per year	Negligible: isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption
2	Occasionally: 1–10% probability of occurrence per year, or at least one chance in next 100 years	Minor: isolated occurrences of moderate to severe property and environmental damage, potential for injuries, minor economic disruption
3	Likely: >10% but <75% probability per year, at least 1 chance in next 10 years	Moderate: severe property and environmental damage on a community scale, injuries or fatalities, short-term economic impact
4	Highly Likely: >75% probability in a year	Major: severe property and environmental damage on a community or regional scale, - multiple injuries or fatalities, significant economic impact

¹This Plan defines natural hazards as atmospheric, hydrologic, geologic, and wildfire phenomena. Hazards not necessarily related to the physical environment, such as infectious disease, were excluded from consideration by the Planning Team.

High Risk Hazard Profiles

Inundation/Flash Flooding/Fluvial Erosion

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.

As noted in the State Hazard Mitigation Plan, “Flooding is the most common recurring hazard event in Vermont” (2018: 55). There are two types of flooding that impact communities in Vermont: inundation and flash flooding. Inundation is when water rises onto low lying land. Flash flooding is a sudden, violent flood which often entails fluvial erosion.

Inundation flooding of land adjoining the normal course of a stream or river is a natural occurrence. If these floodplain areas were left in their natural state, floods likely would not cause significant damage.

While inundation-related flood loss is a significant component of flood disasters, the more common mode of damage in Vermont is associated with fluvial 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 2018). The Town does not have a high incidence or high probability of ice jams, except for at the intersection of Route 140 W and Florence Avenue along Roaring Brook. When ice jams do occur in this location, they typically do not result in flooding or other infrastructure damage.

Several major flooding events have affected the state in recent years, resulting in multiple Presidential Disaster Declarations. From 2003 to 2010, Rutland County experienced roughly \$1.4 million in property damages due to flood events.

The worst flooding event in recent years came in August of 2011 from Tropical Storm Irene (DR4022), which dropped up to 10-11 inches of rain in some areas of Rutland County. Irene caused 2 deaths and \$55,000,000 in reported property damages and \$2.5 million in crop damages in Rutland County. Although the storm was technically a tropical storm, the effects of the storms are profiled in this flooding section, since the storm brought only large rainfall and flooding to the Town, not the high winds typically associated with tropical storms. This caused most streams and rivers to flood in addition to severe fluvial erosion.

From 2012 to 2019, Rutland County experienced approximately \$3.5 million in property damages; with \$1.9 million due to a flash flood event in July 2017 (DR4330) and \$1 million due to a flash flood event in April 2019 (DR4445).

In Wallingford, flooding is a risk. Damages from Tropical Storm Irene were significant, resulting in approximately \$1,076,000 in impacts (\$196,928 in Individual Assistance; \$274,952 in Public Assistance; \$604,334 in National Flood Insurance). In Wallingford, damage due to flooding usually consists of impacts to roads, culverts, bridges, and on occasion critical facilities (Wallingford Fire/Rescue, town garage), municipal recreation fields, municipal sewer utilities, and residential buildings.

As shown on the Local Hazards and Vulnerabilities Map in **Appendix B**, Wallingford is vulnerable to inundation flooding:

- River Street (from Elm Street Extension to Creek Road) along Otter Creek.
- Hartsboro Road (from US Route 7 to Bridge 22) along Otter Creek.
- Meadow Street along Otter Creek.
- Railroad Street (from Elm Street to Depot Street) along Otter Creek.
- Earl Wade Road along a tributary to Mill River.

Currently there are 91 structures in Town located in the Special Flood Hazard Area. These include residential, commercial, and municipal properties. According to FEMA, there are 34 flood insurance policies issued in Wallingford. In total, these policies cover \$6,511,300 in value. There are two repetitive loss properties. Information about what type of properties these claims pertained to was not available due to access rights issues that the State of Vermont is currently working on with FEMA.

The Fire District #1 well is sited in the Otter Creek floodplain off Meadow Street. It is housed in a flood-proofed vault and therefore not compromised during a flood. However, the entire sewer treatment plant and several sewer manhole structures on Meadow Street, River Street, Creek Road, and Railroad Street are also in the Otter Creek floodplain and are susceptible to flooding. During Tropical Storm Irene, the plant was under 4-feet of flood waters. Following Irene, all controls were relocated above base flood elevation; however, the back-up generator remains vulnerable to flooding.

Flash flooding can impact areas in Town that are located outside of designated floodplains, including along streams confined by narrow valleys. Flash flooding events periodically wash out sections of several roads – Homer Stone, Hartsboro, West Hill, Wallingford Pond, Carrara Camp, Centerville, Chapin, Blackwood, Parker, Bear Mountain, Seward Hill, and Kent Farm.

In 2009, a river corridor plan was prepared for the Mill River watershed. Of the approximate 45,610 acre watershed that drains through East Wallingford, 6,895 acres (15%) is in Wallingford. That plan summarized information about the physical condition of the Mill River watershed; identified factors that are influencing the stability of the system; and synthesized the information to identify restoration and management priorities.

The Mill River corridor plan includes five locations in Wallingford with projects to protect the river corridor, restore incised reaches, restore riparian buffers, and remove berms.



West Hill Road – July 2017 (DR4330) Storm Damage

During Tropical Storm Irene, fluvial erosion on a tributary to Mill River significantly damaged Sugar Hill Road. Dugway Road (TH47) was significantly impacted by fluvial erosion on a tributary to Mill River during the July 2017 storm (DR4330).



Dugway Road Damages from July 2017 (DR4330) Fluvial Erosion

In 2019, the Town completed an inventory (Road Stormwater Management Plan) of all hydrologically-connected roads for the Municipal Roads General Permit and a Stormwater Master Plan. Both plans identify areas vulnerable to fluvial erosion and flash flooding and recommend actions.

High Wind

Severe thunderstorms can produce high winds, lightning, flooding, rains, large hail, and even tornadoes. Thunderstorm winds are generally short in duration, involving straight-line winds and/or gusts more than 50 mph. Thunderstorm winds can cause power outages, transportation and economic disruptions, significant property damage, and pose a high risk of injuries and loss of life. From 2004 to 2010, for thunderstorms that caused more than \$200,000 in damage, Rutland County experienced nearly \$2 million in property damage.

From 2011 to 2019, thunderstorms resulted in just under \$2.2 million in property damage in Rutland County, with \$525,000 due to a high wind event in May 2017.

Hail is a form of precipitation composed of spherical lumps of ice. Known as hailstones, these ice balls typically range from 5–50 mm in diameter on average, with much larger hailstones forming in severe thunderstorms. The size of hailstones is a direct function of the severity and size of the thunderstorm that produces it. Much of the hail activity in Rutland County is scattered and varies in intensity, and the resulting damage usually takes form in uprooted trees, downed power lines, and crop damage.

Violent windstorms are possible here; Wallingford is susceptible to high directional winds. Past storms have resulted in isolated impacts town-wide. Many storms with high winds result in downed trees, damaged phone, and power lines. Wallingford is vulnerable to power outages, which can disrupt operations at all or many of the public buildings/critical facilities. The only municipal facility with backup power is the sewer treatment plant. The plant was equipped with back-up power in 2015 to ensure operations can be maintained through an extended power outage.

None of the following have backup power: Town Office (which serves at the local emergency operations center), Elementary School (which serves as the primary local shelter), Wallingford Lodge (the alternate local shelter), and Town Garage. If a power outage coincided with a large scale sheltering event, the Town could be faced with a serious situation.

There is no back-up power for the Fire District #1 well; however, in situations where Wallingford lost all power, there are four to five days' worth of water in the storage tank. A secondary emergency source would be one manual hydrant.

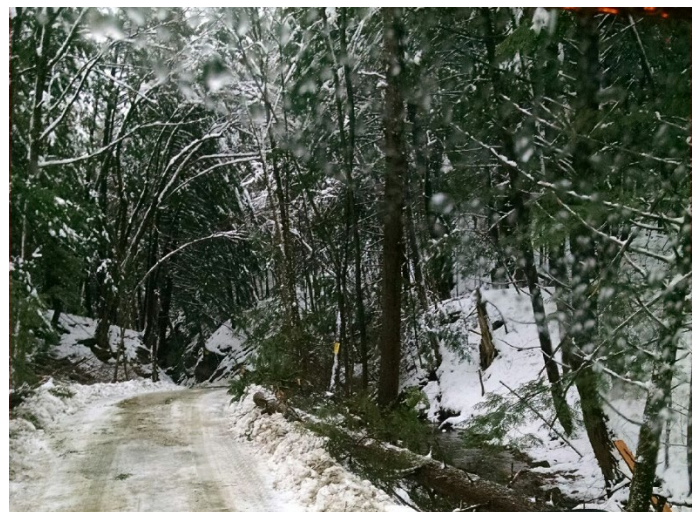
Although there is no back-up power at the sewer air ejector station on US Route 7 S, there is storage capacity in the system for approximately two days.

Extreme Cold/Snow/Ice/Wind

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, 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.

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. From 2011 to 2019, Rutland County experienced \$1.5 million in property damage, with \$300,000 due to a 10" to 20" heavy, wet snowfall across the county on December 9, 2014.



Dugway Road – December 2014 (DR4207) Storm Damage

There have been four winter storm-related federally declared Disasters in the county (the ice storm of January 1998 – DR 1201; severe winter storms in December 2000 and 2014 – DR 1358 and DR 4207, respectively; and severe storm and flooding in April 2007 – DR 1698).

Typically, towns' vulnerability to snow and ice storms are power outages and loss of road accessibility. As previously described, the Town is not prepared for a power outage caused by ice/wet snow accumulation on power lines or trees falling on powerlines due to weight of ice accumulation in a storm, especially if the outage coincided with a large scale sheltering event.

In general, snow accumulation has not made the Town vulnerable to loss of road accessibility. The Town's fleet of snowplows has ensured that roads are accessible, even in major snow accumulation events. Areas prone to drifting on Sugar Hill, Maranville, Hawkins, and Cross Roads are maintained accordingly.

High Risk Hazard History

Note: These are the most up to date significant events impacting Wallingford. Federal declarations are depicted in **bold**.

Inundation/Flash Flooding/Fluvial Erosion

6.20.2019: 6" rain; no reported local damage
 4.15.2019: **DR4445** 1-2" rain with significant snow melt: no reported local damage
 7.1.2017: **DR4330** 3-4" rain the previous 3-4 days with flash flooding on 7/1/17: **\$229,235 local damage**
 6.25-7.11.2013: **DR4140** with heavy rain over multiple days: **no damage reported**
 8.28.2011: **DR4022** Tropical Storm Irene with +/-5" rain: **\$1,076,214 local damage** (\$196,928 Individual / \$274,952 Public / \$604,334 NFIP)
 3.23.2010: heavy rain/snow melt: \$2,000 local damage
 6.12.2007: flash flood producing rain: \$20,000 local damage

High Wind

2.24.2019: 48 mph winds: \$25,000 regional damage
 4.1.2018: 55 mph winds: \$50,000 regional damage
 10.30.2017: 40 mph wind: \$100,000 regional damage
 5.5.2017: 40 mph winds: \$25,000 regional damage
 10.28.2015: 40 mph wind: \$50,000 regional damage
 12.21.2012: 60 mph wind: \$50,000 regional damage
 9.8.2012: 60 mph wind: \$50,000 local damage
 8.4.2012: 50 mph wind: \$1,000 local damage
 7.13.2011: 50 mph wind: \$1,000 local damage
 8.25.2007: high winds: \$600,000 regional damage
 7.6.2007: thunderstorm wind: \$5,000 local damage
 6.19.2006: thunderstorm wind: \$3,000 local damage

Extreme Cold/Snow/Ice/Wind

2.1.2015: Record cold month with 15 to 20+ days below zero: no reported impact
 1.7.2015: 0 to 10 degrees with winds of 15-30 mph Creating wind chills colder than -20 to -30 below zero: no reported impact
 3.13.2018: 24" snow: \$10,000 regional damage
 3.7.2018: 20" snow: \$20,000 regional damage
 12.12.2017: 13" snow: \$10,000 regional damage
 12.9.2014: **DR4207** with 10-20" snow: **\$13,789 local damage**
 11.26.2014: 11" snow: \$25,000 regional damage
 2.13.2014: 24" snow: \$10,000 regional damage
 12.26.2012: 12": \$10,000 regional damage
 2.23.2010: 6-30" snow: \$200,000 regional damage
 4.15-16.2007: **DR1698** "Nor'icane" with 3" snow and rain with winds of 60 to 80 mph: **\$8,677 local damage**
 3.20.2002: 8" snow: \$30,000 regional damage
 3.5.2001: **EM3167** 26" snow: **\$4,454 local damage**
 2.5.2001: 10" snow: \$75,000 regional damage
 12.16.2000: **DR1358**: **\$8,677 local damage**

Vulnerability Summary

Inundation/Flash Flooding/Fluvial Erosion

Location¹: *Inundation Flooding:* River St (Elm St Ext to Creek Rd), Hartsboro Rd (from US Route 7 to B22), Meadow St, and Railroad St (from Elm St to Depot St) along Otter Creek; Earl Wade Rd along a tributary to Mill River
Flash Flooding: Homer Stone, Hartsboro, West Hill, Wallingford Pond, Carrara Camp, Centerville, Chapin, Blackwood, Parker, Bear Mountain, Seward Hill, Kent Farm
Fluvial Erosion: Sugar Hill Rd, Dugway Rd

Vulnerable Assets¹: Roads, culverts, bridges, homes, recreational fields, public buildings (town garage, elementary school, fire station), wastewater treatment plant and sewer manholes

Extent: 6" rain; extent data for fluvial erosion is unavailable

Impact: \$1,076,214 local damage

Probability: Highly Likely

High Wind

Location¹: Town-wide

Vulnerable Assets¹: Phone and power lines, buildings, trees

Extent: 60 mph winds

Impact: \$50,000 local damage

Probability: Highly Likely

Extreme Cold/Snow/Ice/Wind

Location¹: Town-wide; Drifting on Sugar Hill Rd, Maranville Rd, Hawkins Rd, and Cross Rd

Vulnerable Assets¹: Roads, culverts, bridges, trees, power and phone lines

Extent: Up to 30" of snow; 80 mph winds; 15 to 20+ days below zero

Impact: \$200,000 regional / \$13,789 local damages

Probability: Likely

¹ See **Appendix B: Local Hazards and Vulnerabilities Map**

CERTIFICATE OF ADOPTION
TOWN OF Wallingford, Vermont Selectboard
A RESOLUTION ADOPTING THE Wallingford, Vermont 2020 Local Hazard Mitigation Plan

WHEREAS, the Town of Wallingford has historically experienced severe damage from natural hazards and it continues to be vulnerable to the effects of the hazards profiled in the **2020 Wallingford, Vermont Local Hazard Mitigation Plan**, which result in loss of property and life, economic hardship, and threats to public health and safety; and

WHEREAS, the Town of Wallingford has developed and received conditional approval from the Federal Emergency Management Agency (FEMA) for its **2020 Wallingford, Vermont Local Hazard Mitigation Plan (Plan)** under the requirements of 44 CFR 201.6; and

WHEREAS, the **Plan** specifically addresses hazard mitigation strategies, and Plan maintenance procedures for the Town of Wallingford; and

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

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

RESOLVED by Town of Wallingford Selectboard:

1. The **2020 Wallingford, Vermont Local Hazard Mitigation Plan** is hereby adopted as an official plan of the Town of Wallingford;
2. The respective officials identified in the mitigation action plan of the **Plan** are hereby directed to pursue implementation of the recommended actions assigned to them;
3. Future revisions and **Plan** maintenance required by 44 CFR 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution; and
4. An annual report on the process of the implementation elements of the Plan will be presented to the Selectboard by the Emergency Management Director or Coordinator.

IN WITNESS WHEREOF, the undersigned have affixed their signature and the corporate seal of the Town of Wallingford this ____ day of _____ 2020.

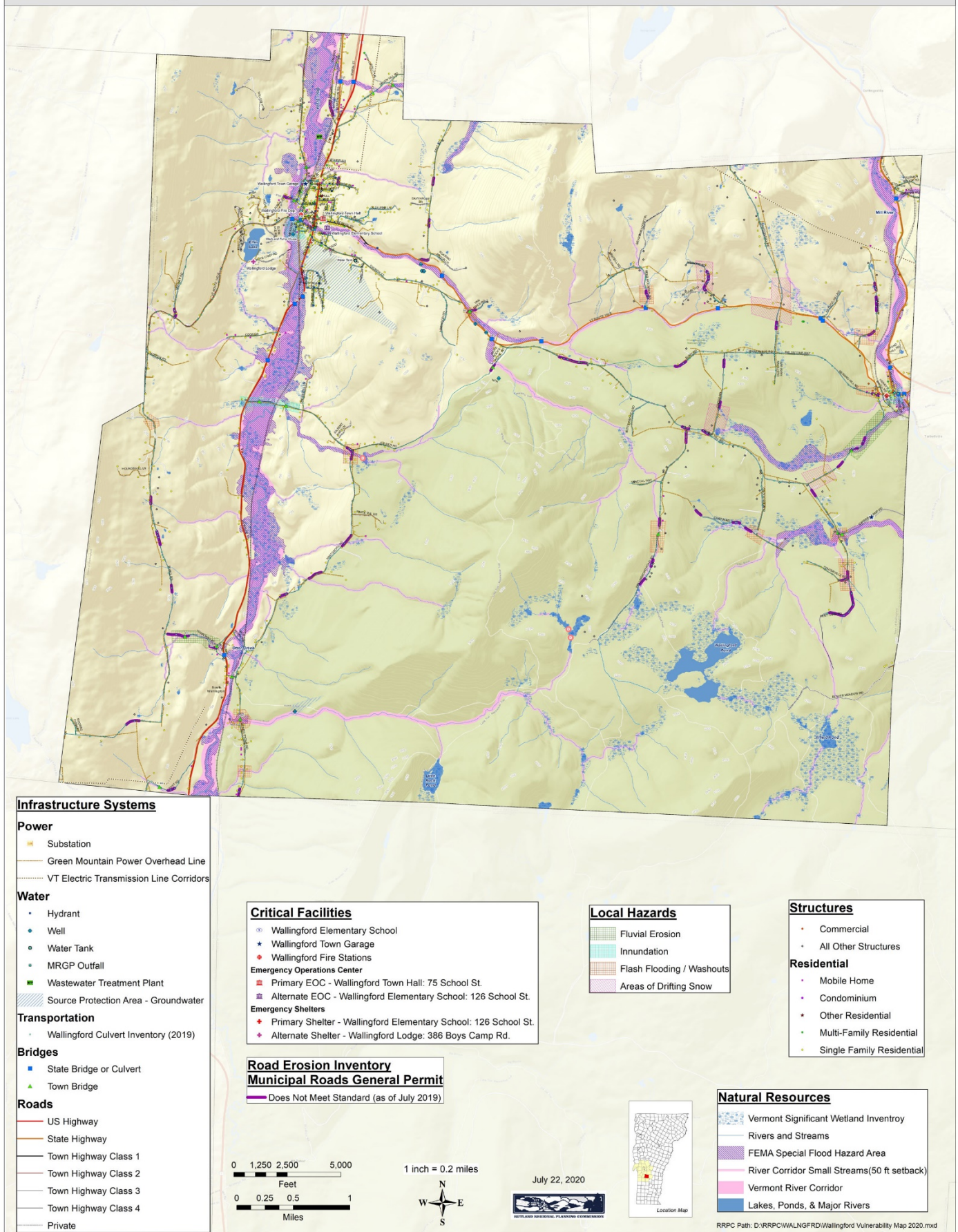
Selectboard Chair

Selectboard Member

ATTEST

Town Clerk

Wallingford, Vermont: Local Natural Hazards and Vulnerabilities Map



[placeholder for mitigation actions from 2015 plan]

COVID-19 UPDATE

- The SB approved a COVID-19 Control Plan as mandated by the state. The Plan features requirements for visitors, including mandatory face masks, use of hand sanitizers, safe distancing practices, appointments for researchers, and a limit on the total number of people (employees and visitors) inside Town Hall at any one time. And of course, anyone feeling ill or those who have been exposed to COVID-19 or those who have been in close contact to anyone with the virus are not allowed in the building. Those municipal employees whose jobs allow them to work remotely will continue to do so.
- Elfin Lake will NOT be open to the public this year per orders of the Selectboard on May 4, 2020. There will be NO lifeguards, concessions or public restrooms.
- The Great Elfin Lake 5K race has been cancelled for this summer.

Selectboard Meeting Highlights

06/01. The Selectboard approved the road commissioner's request to purchase a culvert for Centerville Road; appointing Charlie Woods as temp road foreman in S. Lanfear's absence; reviewed a report of voter approved funds and their separate bank accounts; deferred decision on unused budget monies until the 7/6 meeting; reviewed the Investment Policy and semi-annual Investment Report; approved the state-mandated COVID-19 Control Plan; approved a maintenance chore list for the Lake this summer; approved the acceptance of appliances and construction debris at the Transfer Station, voted not to run the Summer Program this year; tabled a decision on holding a basketball tournament; voted not to hold Wallingford Day this summer as it would draw crowds; approved the annual agreement with NEMRC for assessor services; agreed to include review of the Driveway Policy at the next meeting; agreed to continue municipal meetings via Zoom; took no action on Recreation Committee appointments until a public forum is held to gather community input on bike trails at Stone Meadow; and approved employees carrying over unused vacation time as a result of COVID-19.

06/15. The Selectboard tabled the paving bids until the next meeting when the Road Commissioner can attend; approved next year's contract with the Sheriff Department; agreed to go out to bid on the new basketball court rehab; denied a request for new trees for Elfin Lake; approved the Conservation and Energy Committees meeting at Town Hall; reviewed the energy audit list for energy efficiency improvements at Town Hall; agreed to send out the annual letter to owners of unlicensed dogs; tabled a decision to apply for a grant for a stormwater master plan until feedback is received from WFD #1 and MRUUSD personnel; appointed Elaine Warzocha as Auditor; approved having the road crew spread chloride on East Street this week; approved a payout of some grandfathered Combined Time Off to C. Woods; approved a temporary increase for C. Woods who will assume the road foreman post in S. Lanfear's absence; and approved paying Summer Rec Directors L. Cotrupi and L. Roundy for work related to the summer program.

Wallingford Local Hazard Mitigation Plan

The Town of Wallingford's Local Hazard Mitigation Plan (LHMP) must be updated every five years. A committee comprised of Selectboard members Nelson Tift and Bruce Duchesne, Road Foreman Steve Lanfear, Road Commissioner Phil Baker, Town Clerk and Treasurer Julie Sharon, Town Administrator Sandi Switzer, and Wallingford Volunteer Fire Dept. Fire Chief Michael Hughes will work with Steffanie Bourque, Emergency Management Planner with the Rutland Regional Planning Commission (RRPC), on the update. A Kick-Off Meeting was held on June 9.

The purpose of the LHMP is to assist the Town in identifying natural hazards facing our community, ranking them according to local vulnerabilities, and then identify strategies to reduce risks from vulnerabilities of highest concern.

As the committee works through the update process expected to take several months, public hearings will be scheduled to seek input from residents and business owners alike. Your participation would be greatly appreciated. In the meantime, if you have any immediate questions or comments, please contact me and I will share your input with committee members.

The planning process will include; a Project Kick-Off Meeting with Planning Team; Compile Hazards Information & Complete Vulnerability Assessment; Present Hazard Identification & Vulnerability Assessment in Public Meeting; Develop Mitigation Strategy; Present Mitigation Strategy in Public Meeting; Submit Plan to Vermont Emergency Management (VEM) and Revise if Needed; Submit Plan to FEMA, Revise if Needed, and Adopt Plan.

The plan is expected to be finalized late fall.

Submitted by Sandi Switzer, LHMP Committee Member
townadmin@wallingfordvt.com

[placeholder for September article]