

Town of Pomfret, Vermont
2023 Local Hazard Mitigation Plan

***Prepared by the Two Rivers-Ottawaquechee Regional Commission and
the Town of Pomfret***

Date of Town Adoption: February 21, 2024

Date of Final Approval by FEMA: February 26, 2024



TOWN OF POMFRET, VERMONT

SELECTBOARD

RESOLUTION ADOPTING THE TOWN OF POMFRET 2023 LOCAL HAZARD MITIGATION PLAN (LHMP)

WHEREAS, like many towns across the State of Vermont, the Town of Pomfret historically has experienced severe weather events and other natural hazards and continues to be vulnerable to such hazards, which may cause property damage, economic loss, and present other threats to public health and safety;

WHEREAS, to prepare for and minimize the severity of these threats, the Town of Pomfret has developed a 2023 Local Hazard Mitigation Plan (the 2023 LHMP) in accordance with the requirements of 44 C.F.R. § 201.6;

WHEREAS, the Town of Pomfret has received conditional approval from the Federal Emergency Management Agency (FEMA) of its 2023 LHMP;

WHEREAS, the 2023 LHMP addresses hazard mitigation strategies and plan maintenance procedures for the Town of Pomfret;

WHEREAS, the 2023 LHMP recommends several hazard mitigation actions (projects) that will provide mitigation for specific natural hazards that impact the Town of Pomfret with the effect of protecting people and property from loss associated with those hazards; and

WHEREAS, adoption of the 2023 LHMP will make the Town of Pomfret eligible for funding to alleviate the impacts of future hazards.

NOW THEREFORE BE IT RESOLVED, the 2023 LHMP attached to these resolutions is adopted as the Local Hazard Mitigation Plan of the Town of Pomfret;

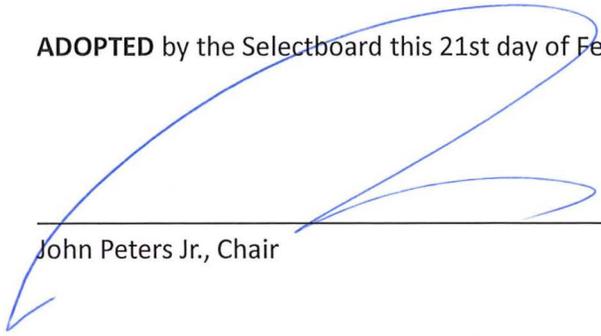
RESOLVED FURTHER, that the respective officials identified in the mitigation actions of the 2023 LHMP are hereby directed to pursue implementation of the recommended actions assigned to them;

RESOLVED FURTHER, that future revisions and plan maintenance required by 44 C.F.R. § 201.6 and FEMA are hereby adopted as part of this resolution for a period of five (5) years from the date hereof; and

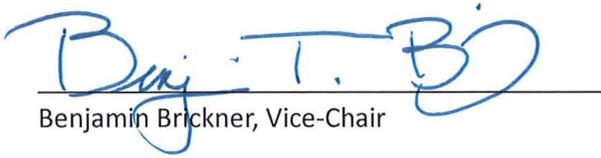
RESOLVED FURTHER, that the Emergency Management Director identified in the 2023 LHMP be directed to report annually to the Selectboard on the process of the implementation of the recommended actions.

[Remainder of page intentionally blank. Signature page follows.]

ADOPTED by the Selectboard this 21st day of February, 2024.



John Peters Jr., Chair



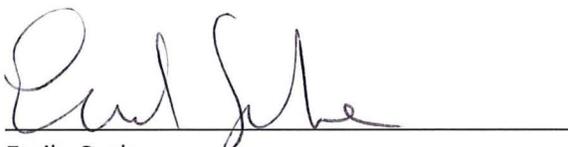
Benjamin Brickner, Vice-Chair



Meg Emmons



Steve Chamberlin



Emily Grube

[Remainder of page intentionally blank. 2023 LHMP follows.]



FEMA

March 22, 2024

Stephanie A. Smith, State Hazard Mitigation Officer
Vermont Emergency Management
45 State Drive
Waterbury, Vermont 05671-1300

Dear Stephanie Smith:

As outlined in the FEMA-State Agreements for FEMA-4744-DR-VT, FEMA-4720-DR-VT, FEMA-4695-DR-VT, FEMA-4621-DR-VT, FEMA-4532-DR-VT, and FEMA-4474-DR-VT, your office has been delegated the authority to review and approve local mitigation plans under the Program Administration by States Pilot Program. Our Agency has been notified that your office completed its review of the *Town of Pomfret 2023 Local Hazard Mitigation Plan* and approved it effective **February 26, 2024** through **February 25, 2029** in accordance with the planning requirements of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; and Title 44 Code of Federal Regulations (C.F.R.) Part 201.

With this plan approval, the Town of Pomfret, VT is eligible to apply to the Vermont Emergency Management for mitigation grants administered by FEMA. Requests for funding will be evaluated according to the eligibility requirements identified for each of these programs. A specific mitigation activity or project identified in this community's plan may not meet the eligibility requirements for FEMA funding; even eligible mitigation activities or projects are not automatically approved.

The plan must be updated and resubmitted to the FEMA Region 1 Mitigation Division for approval every five years to remain eligible for FEMA mitigation grant funding.

Stephanie A. Smith, State Hazard Mitigation Officer
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Thank you for your continued commitment and dedication to risk reduction demonstrated by preparing and adopting a strategy for reducing future disaster losses. Should you have any questions, please contact Alexis Meehan at (202) 394-6439 or Alexis.Meehan@fema.dhs.gov.

Sincerely,

Melissa A. Surette, D.LP, MSEM, CEM
Floodplain Management and Insurance Branch Chief
DHS, FEMA Region 1 Mitigation Division

cc: Ben Rose, Recovery and Mitigation Section Chief, VEM
Caroline Paske, State Hazard Mitigation Planner, VEM
Matthew Hand, State Hazard Mitigation Planner, VEM
Dean Savramis, Mitigation Division Director, DHS, FEMA Region 1
Alexis Meehan, Community Planner, DHS, FEMA Region 1

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I. Introduction

Natural and human-caused hazards may affect a community at any time. They are not usually avoidable; however, their impact on human life and property can be reduced through community planning.

Accordingly, this Local Hazard Mitigation Plan (hereafter referred to simply as the Plan) seeks to provide an all-hazards mitigation strategy that will make the community of Pomfret more disaster resistant.

“Mitigation” is defined as any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Previous Federal Emergency Management Agency (FEMA), State and Regional Project Impact efforts have demonstrated that it is less expensive to anticipate disasters than to repeatedly ignore a threat until the damage has already been done. While hazards cannot be eliminated entirely, it is possible to identify prospective hazards, anticipate which might be the most severe, and recognize local actions that can be taken ahead-of-time to reduce the damage. These actions, also known as ‘hazard mitigation strategies’ can (1) avert the hazards through redirecting impacts by means of a structure or land treatment, (2) adapt to the hazard by modifying structures or standards or, (3) avoid the hazard through improved public education, relocation/removal of buildings in the flood zone, or ensuring development is disaster resistant.

II. Purpose of the Plan

The purpose of this Plan is to assist Pomfret in identifying all hazards facing the town, ranking them according to local vulnerabilities, and identifying strategies to reduce risks from priority hazards of highest concern. Implementation of this plan will make our community more resistant to harm and damages in the future and will reduce public costs.

The Town of Pomfret seeks to be in accordance with the strategies, goals, and objectives of the State Hazard Mitigation Plan.

The 2016 Pomfret Local Hazard Mitigation Plan was the first stand-alone mitigation plan drafted for the Town. Previously, the Town had a town-specific 2009 Annex in the Regional Pre-Disaster Mitigation Plan. This new Plan updates the 2016 plan, adding new information to make the plan stronger and more useful for those Pomfret Town officials and residents who will implement the hazard mitigation strategies in the future.

III. Community Profile

The Town of Pomfret, consisting of approximately 26,000 acres, is located in the foothills of the Green Mountains. Dominated by hilly wooded topography, headwaters drain into the White and Ottauquechee Rivers. Residents are primarily scattered along Pomfret and Stage Roads. The Appalachian Trail runs through the middle of town. In 2020, the population of Pomfret was 912.

The Town lies within the service area of Green Mountain Power (GMP), which supplies electrical power to all sections of town.

Pomfret currently has one volunteer fire department, the Pomfret-Teago Fire Department, Inc. The volunteer fire department has two stations, one located in North Pomfret and the other in South Pomfret. Pomfret's fire protection is enhanced through mutual aid agreements with neighboring towns. A long-range plan for fire protection was accepted at the 1995 Town Meeting and will continue to be implemented and supported by municipal funds annually, as well as by donations and grants.

The Pomfret FAST Squad is a group of volunteers with either First Responder or Emergency Medical Training who respond to medical emergencies in the Town. They are dispatched at the same time an ambulance is called but arrive sooner and administer first aid and stabilize the patient until the ambulance arrives. Their equipment is purchased with donated funds.

Ambulance service in Pomfret is provided by the Town of Woodstock which has two ambulances and full-time dispatch service. The Town pays an annual assessment to have this service available, and the patients are charged for actual usage. Unpaid bills are charged to the Town.

The Selectboard can appoint First and Second Town Constables. The Town Constable handles violations of the dog ordinance and assists in other emergencies. If the citizens want a higher level of protection, options include hiring a sheriff to be available certain hours, having the Town Constable trained, certified and officially on call for emergencies, or sharing an "outpost" trooper with a neighboring town.

For several years, the Town has hired a Windsor County Sheriff to patrol roads to enforce speed limits. Pomfret residents depend on the Vermont State Police in Bethel for police protection. The State Police outpost there covers twenty-two towns, sometimes with only one or two officers available to respond to emergencies. Often no officers are on the road between 2:30 and 7 a.m., although they are "on call" during those hours.

IV. The Planning Process

A. Plan Developers

Michael Storace, formerly a planner at the Two Rivers-Ottauquechee Regional Commission (TRORC), initially assisted the Town of Pomfret with updating its previous Local Hazard Mitigation Plan. Connor Rigney, a planner at TRORC, continued Hazard Mitigation planning with the Committee. Committee members who assisted with the revisions include:

This section of the Plan satisfies 44 CFR 201.6(b)(1) and 201.6(c)(1) (or, A3.a and A3.b of FEMA's Local Mitigation Plan Review Guide, 2011).

Name	Role/Organization
Kevin Rice	Fire Chief, Pomfret Fire Department; Pomfret Emergency Management Director
Emily Grube	Pomfret Selectboard Chair
Bill Emmons	Pomfret Planning Commission Chair
Jim Potter	Pomfret Road Foreman

B. Plan Development Process

The 2009 Pomfret Annex was originally part of the 2008 multi-jurisdictional Regional Hazard Mitigation Plan, drafted by Two Rivers-Ottawaquechee Regional Commission, and approved by FEMA on September 30, 2008 with its first local annex.

The Pomfret Annex was subsequently reconstructed as a single jurisdiction, stand-alone Pomfret Local Hazard Mitigation Plan that was submitted for individual approval to FEMA and approved on April 26, 2017. The plan expired on April 26, 2022 and this document is the updated plan submitted to FEMA for review and approval. As part of this update, the following changes were made to the plan:

This section of the Plan satisfies the Element A: Planning Process requirements set out in 44 CFR 201.6.

- **General**
 - Data updates: new hazard incidents, structure and property vulnerability, and the Town’s existing hazard mitigation efforts and resources;
 - Hazards have been reevaluated;
 - Status updates on mitigation strategies/actions identified in the 2016 Plan;
 - Updates to the discussion of plan development process;
 - New hazard mitigation strategies
- **Hazards Analysis**
 - Ice Jams, Flash Flood / Flood / Fluvial Erosion, Tropical Storms/Hurricanes, and Extreme Cold / Snow / Ice Storm remain on the list of “top hazards,” which reflect town officials’ beliefs that Pomfret is still vulnerable to these hazards, and the Town’s intentions to continue mitigation planning for these hazards;
 - Changes to the “top hazards” list to better align with community concerns and priorities:
 - Severe weather and Structure Fire have been removed from the list of “top hazards,” for reasons articulated in the “Hazard Identification” section of this plan.

The following represent the avenues taken to draft the Pomfret Hazard Mitigation Plan:

- **Activities**
 - 12/13/2022: TRORC staff sent emails to the Pomfret Planning Commission and Selectboard to begin the process of forming a hazard mitigation plan (HMP) committee to update the plan. Bill Emmons, Emily Grube, Kevin Rice, and Jim Potter volunteered.
 - 01/19/2023: TRORC staff met with the Pomfret HMP committee members and introduced the update/plan development process, reviewed Pomfret’s existing Hazard Mitigation Plan (adopted in 2016); and considered the status of various mitigation actions, potential hazards, and the data collection/research process. At this meeting, the committee also discussed and ranked hazards to determine the “Top Hazards” in the Town. TRORC staff then explained to the committee what the next steps in the process would be (draft plan and schedule a meeting to review and discuss it). The following stakeholders were represented by committee members in attendance: Fire Department, Emergency Management Director, Selectboard, and Planning Commission. This meeting was open to the public and was properly warned through the Pomfret Listserv. No comments from the public were received.
 - 02/16/2023: TRORC staff met with the Pomfret HMP committee to generate and discuss mitigation strategies to the previously ranked top hazards that pose the greatest threat to life and property in the Town of Pomfret. The following stakeholders were represented by committee members in attendance: Fire Department, Emergency Management Director, Selectboard, and Planning Commission. This meeting was open to the public and was properly warned through the Pomfret Listserv. The meeting followed procedure set forth by open meeting law. No comments from the public were received.
 - 4/13/23: TRORC staff met with the Pomfret HMP committee to review a draft of the updated plan. The following stakeholders were represented by committee members in attendance: Fire Department, Emergency Management Director, Selectboard, and Planning Commission. This meeting was open to the public and was properly warned through the Pomfret Listserv. The meeting followed procedure set forth by open meeting law. No comments from the public were received.
 - 9/21/23: TRORC staff met with the Pomfret HMP committee to review comments from the state and make revisions to the draft plan. The following stakeholders were represented by committee members in attendance: Fire Department, Emergency Management Director, and Selectboard. This meeting was open to the public and was properly warned through the Pomfret Listserv. The meeting followed procedure set forth by open meeting law. No comments from the public were received.
- **Public participation and involvement (44 CFR 201.6(b)(1))**
 - Four community meetings were held (1/19/23, 2/16/23, 4/13/23, 9/21/32). All of these meetings were open to the public and warned appropriately. No community members attended the meetings and no public comments were received. For more details about these meetings, see “Activities,” above.

- January 2023: A notice was placed in the Two Rivers-Ottauquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard mitigation planning and updating their Hazard Mitigation Plan. The newsletter is distributed to interested local government officials, organizations, and residents across a 30-town region, including all of the towns surrounding Pomfret. Contact information was provided in the notice to allow those interested in Pomfret's efforts to receive more information and to find out about upcoming meetings. A copy of the newsletter notice is appended to this Plan. No comments were received.
- Throughout the planning process, the Pomfret ListServ was used as a public meeting warning tool. The Pomfret ListServ sends an email directly to subscribers. Pomfret leaders consistently herald the ListServ as being the best single way to reach a large and diverse swathe of the community. Currently, there are 811 subscriptions to the ListServ. Without taking into account businesses subscribed to the list, the total number of individual residents reached by the ListServ is approximately 450, or roughly half of the town's population. However, others that subscribe to the ListServ include most, if not all, local businesses, educational institutions, and interested third parties. Examples include:
 - Town of Woodstock
 - Town of Thetford
 - The Vermont Standard
 - Valley News
 - Mountain Views Supervisory Union
 - Hartford School District
 - Dartmouth College
 - Mount Ascutney Regional Commission
 - Greater Upper Valley Solid Waste District
 - Abbott Memorial Library
 - Artistree Community Arts Center
 - Norman Williams Public Library
 - Ottauquechee Health Foundation
 - Special Needs Support Center
 - Teago General Store
 - The Thompson Center
 - Upper Valley Habitat for Humanity
 - Vital Communities (Nonprofit organization)
 - Visiting Nurse and Hospice for VT & NH
 - Woodstock Inn (includes Saskadena Six Ski Area)
 - Woodstock Recreation Center
 - Windham & Windsor Housing Trust
 - Zack's Place (special needs support center)

Recipients of meeting announcements via the Listserv were invited to email questions and comments to Connor Rigney of Two Rivers-Ottauquechee Regional Commission. No

questions or comments were received. Appended to this plan is an example of the meeting announcements distributed via the listserv.

- **Governmental participation and involvement (44 CFR 201.6(b)(2))**
 - Emily Grube, Selectboard Chair, attended all meetings for this plan update.
 - Karen Hewitt Osnoe, Pomfret’s Zoning Administrator, was consulted on permitting activity since the adoption of the previous local hazard mitigation plan. She provided data to demonstrate that recent development has not increased the Town’s vulnerability to hazards.
- **Neighboring community participation and involvement (44 CFR 201.6(b)(2))**
 - January 2023: A notice was placed in the Two Rivers-Ottawaquechee Regional Planning Commission Newsletter alerting recipients that Pomfret was engaging in hazard mitigation planning and updating their Hazard Mitigation Plan. Contact information was provided in the notice to allow those interested in Pomfret’s efforts to receive more information and how to find out about upcoming meetings. The newsletter is distributed to interested local government officials, organizations, and residents across a 30-town region, including all 8 towns that border Pomfret (Royalton, Sharon, Norwich, Hartford, Hartland, Woodstock, Bridgewater, and Barnard). A copy of the newsletter notice is appended to this Plan. No comments were received.
 - 12/27/2023: TRORC sent revised draft to neighboring towns’ Selectboards for comment and provided contact information for receiving comments via email.
 - Towns of: Sharon, Hartford, Woodstock (Town Selectboard), Bridgewater, Royalton, and Barnard.
- **Review of existing plans, studies, reports, and technical information (44 CFR 201.6(b)(3))**
 - Pomfret Hazard Mitigation Plan (Adopted 04/05/2017)
 - This Plan was referenced extensively during the plan development process, especially in regard to the worst threats and mitigation action strategies previously identified.
 - Pomfret Town Plan (Adopted 08/17/2016)
 - The Town Plan provided TRORC’s staff with background information on the community, as well as more detail on their emergency services.
 - Pomfret Zoning Ordinance (Adopted 5/6/2020)
 - The Zoning Ordinance was referenced for general knowledge of Pomfret’s regulatory authority.
 - Pomfret Flood Hazard Area Regulations (Adopted 05/02/2007)
 - The Pomfret Flood Hazard Area Regulations were referenced for knowledge of the Town’s flood hazard regulations, and incorporated into the Flash Flood/Flood Fluvial Erosion section of this Plan. The Town’s Flood Hazard Area

This section of the Plan satisfies 44 CFR 201.6(b)(3) (or, A4.a and A4.b of FEMA’s Local Mitigation Plan Review Guide, 2011).

Regulations incorporate by reference the latest Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS), both of which are dated 09/28/07.

- Pomfret Local Emergency Management Plan (LEMP) (Adopted 04/19/2023)
 - The Pomfret LEMP was referenced for general knowledge regarding the Town's emergency operations.
- Flood Insurance Study for Windsor County, Vermont (Dated 09/28/2007)
 - The Flood Insurance Study was referenced for general knowledge of the Ottauquechee and White Rivers and peak discharge information.
 - Relevant peak discharge information for the Ottauquechee River can be found on page 24 of Volume 1, and information regarding the White River can be found on pages 26 and 27 of Volume 1.
 - This information was incorporated into the mapping/GIS components of this Plan; specifically in determining the number of structures that are vulnerable to SFHA, and into the Flash Flood/Flood/Fluvial Erosion and Severe Weather sections of this Plan.

C. Status Update on Mitigation Actions Identified in 2016

The following table outlines the mitigation actions that were proposed in Pomfret’s 2016 Local Hazard Mitigation Plan (adopted on April 5, 2017).

This section of the Plan satisfies the requirements of 44 CFR 201.6(d)(3).

Participants in the new Plan update process reviewed these actions and reported on the status of each:

Hazards Mitigated	2016 Mitigation / Preparedness Action	Time Frame	Status (2023)
All Hazards	Address Teago intersection traffic hazard by only creating an outlet onto Stage Road for the Artistree Community Center. Outlet will protect the health of residents from vehicular accidents at this perilous location	Summer 2018 - Summer 2019	Not complete. A study was completed and the Town is applying for grants to implement the study’s recommendations.
Structural Fire	Install dry hydrants on Caper St. and Rudge Rd. in north Pomfret to reduce the loss of life and infrastructure from structure fires.	Summer 2020 - Fall 2020	Not complete. The Town has determined that this project would be financially infeasible and technically challenging.
	Initiate a public awareness fire prevention campaign to spread awareness about proper smoke detector use. Fire department will reach out to rental and single family homes to distribute and install smoke detectors and to inspect households for fire hazards. This campaign will reduce the loss of life and infrastructure from structure fires.	Summer 2018 - Fall 2018	Completed. The Town purchased smoke detectors and distributed them as part of this public outreach campaign.
Extreme Cold/Snow/Ice Storm	Communicate with Green Mountain Power to clear and maintain utility corridors, which will protect town and utility infrastructure	Summer 2017 – Fall 2017	Not completed. This is not possible because Green Mountain Power has a policy of not communicating with Towns about regular maintenance needs.
	Prevent residents from plowing snow from private driveways into streams and brooks in Pomfret which will reduce the effect of springtime flooding on town infrastructure	Winter 2017 – Spring 2017	Completed. The Town Road Foreman communicates regularly with private landowners about plowing issues.

Hazards Mitigated	2016 Mitigation / Preparedness Action	Time Frame	Status (2023)
Ice Jam and Flood/Fluvial Erosion	Upgrade Bridge 9 at Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in South Pomfret.	Summer 2021 – Fall 2022	Not completed. The state evaluated the bridge and determined that the bridge does not need to be upsized. Moreover, replacing it would be very challenging.
	Upgrade Bridge 5 at Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in South Pomfret.	Summer 2023 – Fall 2024	Not completed. The state studied the bridge and determined that the project was not feasible due to topographical constraints.
	Upgrade Bridge 7 at Teago General Store. Upsized bridge will allow more water quality to be cleared and will protect road and building infrastructure at this critical juncture in South Pomfret.	Summer 2020 – Fall 2021	Not completed. This strategy was included in the 2016 plan in error. There is no Bridge #7 at the Teago General Store.
	Obtain an Emergency Protective Measure Stream Alteration Permit to remove debris from streams, especially that frequently flood or that are a risk for ice jams. Removed debris would otherwise divert stream flows normally constrained in channel and present a threat to life or property.	Spring 2017 (one time action)	Not complete. This was discussed with Vermont Agency of Natural Resources (ANR). This is not a priority for ANR.
Flood/Fluvial Erosion	Develop a schedule and capital budgeting program to replace undersized culverts to allow for greater volumes of water to be cleared, therefore protecting town infrastructure.	Spring 2020	Completed. The Town determined that it did not need to produce a planning document, but it has maintained an updated inventory of culverts and integrates that information into its annual budgeting work.
	Consider adopting river corridor regulations which will incorporate ANR's river corridor maps, which will help residents and planners know what land is necessary for riparian functions and to prevent the threat to current and future development.	Spring 2021 – Spring 2022	Not complete. The Town determined that this is not a priority because there wasn't political support among residents for adopting such regulations.

Hazards Mitigated	2016 Mitigation / Preparedness Action	Time Frame	Status (2023)
	Prohibit the removal of natural vegetation along streambanks. Riparian vegetation improves stream floodplains and also reduces the damaging effects of stream channel erosion on town and private infrastructure	Spring 2019 – Spring 2020	Complete. The Zoning Ordinance addresses this. Ongoing public education is needed.
	Elevate existing buildings in Special Flood hazard Areas in Pomfret so that they are one foot above base flood elevations. Elevation of structures located in areas vulnerable to flooding will reduce the risk to flooding and will reduce the loss of private infrastructure.	Summer 2021 – Summer 2025	Complete. The Town’s Flood Hazard Area Regulations address this. The Zoning Administrator enforces the regulations when they are applicable.
	Require residents to clean and maintain driveway culverts, or contract with residents to have the town maintain driveway culverts	Summer 2022 – Summer 2025	Not completed. The Town does not have capacity for a broad outreach effort. The Road Foreman talks to individual landowners as needed.
	Conduct a road erosion inventory to determine projects for stormwater improvement to reduce erosion sources from town road infrastructure	Summer 2018 – Fall 2018	Completed in 2019.
	Request an updated flood map from FEMA that more accurately identifies areas that are subject to flooding, therefore diminishing the loss of health and property from development in these areas	Fall 2020 – Winter 2021	Not complete. The Town does not need to initiate a request; FEMA is planning to revise the floodplain maps over the next few years.
All hazards	Complete designation of a proposed Red Cross shelter at Pomfret Elementary School. Designated emergency sites will provide a focal point for residents and will reduce loss of human health in a hazard.	Spring 2020 – Spring 2021	Not complete. This project was determined to be infeasible because the site is in a floodplain
	Designate Artistree Community Center as a secondary shelter to be especially utilized in the case of a flooding hazard. Designated emergency sites will provide a focal point for Pomfret residents and will reduce the loss of human health in a hazard	Spring 2022 – Fall 2023	Not complete. This project was determined to be infeasible because the site is in a floodplain

Hazards Mitigated	2016 Mitigation / Preparedness Action	Time Frame	Status (2023)
	Enlist statewide fire education trailer for use at Pomfret Elementary School and at community events, which will help residents identify fire hazards in their homes	Fall 2017	Complete. The state team has participated in community events, most recently at Artistree in summer 2022.
	Alert residents to upcoming hazards, bad weather, and potentially treacherous travel conditions by means of Pomfret Listserv. This town-wide notification system will reduce the loss of life during a hazard	Winter 2017 and ongoing	Complete. Pomfret does this on an ongoing basis.
	Ensure that Pomfret's Local Emergency Operations Plan is kept up-to-date and identifies vulnerable areas and references this Plan	Spring 2017 and re-occurring yearly	Complete. It has been renamed the Local Emergency Management Plan and is updated on an annual basis
	Consistently document infrastructure damage after weather events	Summer 2017 and will occur after weather events	Complete. Pomfret does this on an ongoing basis.
	Stock Pomfret Elementary School with blankets, MREs, cots, and water bottles	Fall 2019	Not completed. It was determined that the school should not serve as an emergency shelter because it is located in the floodplain.
Flood/Fluvial Erosion	Keep up-to-date with Vermont Road and Bridge Standards so that Pomfret effectively maintains its road infrastructure to be resilient to hazard events	Spring 2017	Complete. Pomfret does this on an ongoing basis.
Structural Fire	Ensure that fire department personnel maintain their firefighter certifications	Spring 2017	Complete. Pomfret does this on an ongoing basis.
	Distribute fire prevention fliers at the school.	Once per year in the fall	Complete. Pomfret does this on an ongoing basis.
	Maintain and clean existing dry hydrants. Proper maintenance of hydrants will reduce the loss of life and infrastructure from structure fires	Reoccurs yearly	Complete. Pomfret does this on an ongoing basis.
	Continue to maintain mutual aid agreements with surrounding towns	Spring 2017, yearly	Complete. Pomfret does this on an ongoing basis.

Hazards Mitigated	2016 Mitigation / Preparedness Action	Time Frame	Status (2023)
Extreme Cold/Snow/Ice Storm	Clear and maintain town road rights-of-way, which will reduce the loss of life and infrastructure damage during snow and ice storms	Summer 2018 and occurring yearly	Complete. Pomfret does this on an ongoing basis.
	Plan for, budget, and maintain roads for safe winter travel	Ongoing	Complete. Pomfret does this on an ongoing basis.
	Distribute safe winter driving informational materials to residents by means of the Pomfret Listserv. Safe winter driving mitigates the loss to human health.	Late fall 2021 and will reoccur yearly in the fall	Not complete. It was determined that this action was not necessary because the weather reports serve this purpose.
	Update and maintain existing list of populations that are vulnerable to extreme cold and other hazards. Call and visit vulnerable residents, if necessary, in the event that a hazard occurs. By maintaining this list, the health of vulnerable populations will be protected.	Ongoing	Complete. Pomfret does this on an ongoing basis.

Changes in Town Priorities and Vulnerabilities Since the 2016 Plan

This 2023 Pomfret Hazard Mitigation Plan reflects the evolution of the Town of Pomfret’s priorities since 2016. Some of the “top hazards” identified in the 2016 Plan are retained in this plan, but there have also been some significant changes. Structural Fire was analyzed as a “top hazard” in the 2016 Plan, but is not examined in depth here because periods of increased fire risk are now more easily predictable through meteorology. The Pomfret Fire Department routinely issues fire safety warnings whenever the risk of accidental fires is sufficiently high. Severe summer weather was likewise highlighted in the 2016 plan, in conjunction with hurricanes and tropical storms. It is not considered a top hazard in this plan update because the primary threat from severe summer weather, flooding, is already addressed by the analysis of flash flood / flood / fluvial erosion as a top hazard for the Town.

This 2023 Plan update also includes changes to the Town’s mitigation strategies. New strategies were developed for each of the Town’s “top hazards”. One of the strategies from the 2016 plan that was not completed (modifications to the Teago intersection) has been carried forward to this 2023 update. Most of the 2016 plan’s mitigation strategies that were not completed are not included as strategies in this 2023 update. These are listed below, along with brief notes on why they were not included in the 2023 plan (for more details, see chart above):

- Install dry hydrants on Caper St. and Rudge Rd. in north Pomfret to reduce the loss of life and infrastructure from structure fires. *(This was determined to be infeasible.)*

- Communicate with Green Mountain Power to clear and maintain utility corridors, which will protect town and utility infrastructure. *(This was determined to be infeasible.)*
- Upgrade Bridge 9 at Teago General Store. *(This was determined to be infeasible.)*
- Upgrade Bridge 5 at Teago General Store. *(This was determined to be infeasible.)*
- Upgrade Bridge 7 at Teago General Store. *(This 2016 strategy was written in error. There is no Bridge 7 at that location.)*
- Obtain an Emergency Protective Measure Stream Alteration Permit to remove debris from streams, especially that frequently flood or that are a risk for ice jams. *(This does not align with state policies / priorities.)*
- Consider adopting river corridor regulations which will incorporate ANR's river corridor maps, which will help residents and planners know what land is necessary for riparian functions and to prevent the threat to current and future development. *(There is no local support for such regulation.)*
- Require residents to clean and maintain driveway culverts, or contract with residents to have the town maintain driveway culverts. *(There is no local capacity for this work.)*
- Request an updated flood map from FEMA that more accurately identifies areas that are subject to flooding, therefore diminishing the loss of health and property from development in these areas. *(This is no longer needed because FEMA is undertaking an update.)*
- Complete designation of a proposed Red Cross shelter at Pomfret Elementary School. *(This was determined to be infeasible.)*
- Designate Artistree Community Center as a secondary shelter to be especially utilized in the case of a flooding hazard. *(This was determined to be infeasible.)*
- Stock Pomfret Elementary School with blankets, MREs, cots, and water bottles. *(This was determined to be infeasible.)*
- Distribute safe winter driving informational materials to residents by means of the Pomfret Listserv. *(This is not needed, as existing communication channels are sufficient.)*

Since January 1, 2016, there have been 57 permits for new construction in Pomfret. All of this new development was residential in character. 28 of the permits were for homes, and 29 of the permits were for accessory structures. Only 1 of these permits was located with the Flood Hazard Overlay District; it was an accessory structure that was determined not to be at flood risk through the Letter of Map Amendment process. These data suggest that the vulnerability of Pomfret to flooding has not significantly increased since 2016. However, it should be noted that structures located outside of the flood hazard overlay area might still be at risk in a 500-year flood, and they could be vulnerable to fluvial erosion. None of the permits issued since 2016 have been located within the south Pomfret Hamlet Area, which is highly vulnerable to ice jams due to the alignments of the two streams running through the area.

At the time of this Plan's drafting, there are no immediate plans for large-scale development in Pomfret. The Town therefore does not anticipate heightened risk resulting from future development. Climate

change impacts may change floodplain boundaries and increase flooding/erosion vulnerability within the Town. The strong focus on flooding and fluvial erosion in this updated Plan is consistent with the Town’s understanding of its future vulnerability to these hazards. Since 2016, Pomfret has completed a number of mitigation actions that have reduced its vulnerability to flooding and fluvial erosion:

- 2 culverts were upsized on Cloudland Road.
- 1 culvert was upsized on Pomfret Road (north of Dana Road)
- Wing walls were installed on a bridge on Sugar House Road.
- 2 culverts were upsized on Caper Street.
- All culverts on Howe Hill Road were upsized.

D. Existing Hazard Mitigation Programs, Projects & Activities

The Town of Pomfret is currently engaged in the following hazard mitigation programs, projects and activities:

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3).

	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
Community Preparedness Activities	Program—Annual update of Pomfret’s Local Emergency Management Plan (LEMP). Last updated and approved on 04/19/2023.	Updated by the Town Selectboard, assistance from TRORC and funding from Vermont DEMHS.	This document is reviewed and updated each year to ensure that the contact information of emergency response personnel is up-to-date. This information is then sent to Vermont Emergency Management for their records. The current program works well, no need to expand or improve on.
	Incomplete Action— Designated Red Cross Shelter—Pomfret Elementary	Staff time from the Town Clerk and volunteer time from other emergency management personnel. Funding from American Red Cross.	This is not able to be designated a Red Cross Shelter as it is in a floodplain. Very few town buildings are able to be designated red cross shelters.

	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
	Program— Participation/attendance in the Local Emergency Planning Committee District 12 (LEPC 12)	Volunteer time from the Pomfret Selectboard Chair, Emily Grube, and emergency management personnel; meetings convened by TRORC. Funding from Vermont DEMHS.	Currently there is no need to expand or improve on attendance, as it is satisfactory.
Insurance Programs	<p>Authority/ Program—participation in National Flood Insurance Program (NFIP)</p> <p>The Town participates and complies with the NFIP through their enforcement of the “Flood Hazard Area Regulations,” last adopted on 05/02/2007.</p> <p>[Note: This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3)(ii).]</p>	<p>Assistance from TRORC and Vermont ANR. Funding from local resources—annual budget.</p> <p>The Zoning Administrator is the Town’s NFIP administrator. The Zoning Administrator is responsible for reviewing and regulating all proposed development (new construction, repairs, and improvements) in the floodplain, with assistance from the Pomfret Zoning Board of Adjustment as detailed in the Town’s Flood Hazard Area Regulations.</p>	<p>The Town’s initial Flood Hazard Boundary Map (FHBM) was dated 11/01/1974. The Town’s initial Flood Insurance Rate Map (FIRM) was dated 09/18/1985. The Town’s FIRM and Flood Insurance Study (FIS) have been updated, and the current effective date for both is 09/28/07. FEMA will update the FIRM in the near future.</p> <p>The Flood Hazard Area Regulations are kept up-to-date and regulate all development in the Special Flood Hazard Area (SFHA).</p>
	Policy/Program— Pomfret Town Plan Adopted on 08/17/2016	Volunteer time from the Planning Commission, and assistance from TRORC and other state agencies on specific subject matter. Funding from Municipal Planning Grants.	Normally, the Town Plan is reviewed/updated every eight years, as required by statute. The Planning Commission may expand or improve on any section it deems necessary, or that is required by changes in state statute.
Land Use Planning	<p>Completed Authority— Pomfret Zoning Ordinance</p> <p>Last updated on 05/06/2020, includes regulations protecting Ridgeline and Hillside Conservation Areas.</p> <p>Pomfret does not have local building codes, but the zoning ordinance does regulate some aspects of building design such as height, lot line and riparian setbacks, and sign design and placement.</p>	Volunteer time from the Planning Commission, and assistance from TRORC and other state agencies on specific subject matter. Funding from Municipal Planning Grants.	When the Zoning Ordinance was being updated in 2020, all relevant Town planning documents (including the Local Hazard Mitigation Plan) were reviewed and relevant information was integrated into the bylaw if it aligned with the Town’s priorities at the time. During the regular Town Plan review/update period, the Zoning Bylaws are also reviewed and updated if needed. Currently, there is no need to expand or improve on the zoning regulations.

	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
	<p>Authority—Pomfret Flood Hazard Area Regulations</p> <p>Adopted 05/02/2007</p>	<p>Volunteer time from the Planning Commission, and assistance from TRORC and possibly Vermont ANR. Funding from Municipal Planning Grants.</p>	<p>During the Town Plan review/update period, these Regulations are also reviewed and updated if needed. At this time, local officials believe the flood regulations are satisfactory.</p>
	<p>Authority— Pomfret Subdivision Regulations</p> <p>Adopted on 12/20/2011; effective 01/11/2012</p>	<p>Volunteer time from the Planning Commission. Funding from Municipal Planning Grants.</p>	<p>The Subdivision Regulations may be updated when deemed appropriate by the Selectboard. Currently, there is no need to expand or improve on these regulations.</p>
Hazard Control & Protection of Critical Infrastructure & Facilities	<p>Policy/Program— Pomfret Hazard Mitigation Plan</p> <p>Adopted on 4/5/2017.</p>	<p>Updated with volunteer time from local officials and assistance from TRORC and Vermont DEMHS. Funding from DEMHS/FEMA.</p>	<p>The 2023 Pomfret Hazard Mitigation Plan will replace the 2016 Plan. Future iterations of the Town’s LHMP will be updated by the Town at least every five years.</p>
	<p>Authority— 2013 Town Road and Bridge Standards</p> <p>Adopted 03/20/2013</p>	<p>Adopted by the Selectboard, implemented by the Road Foreman, and assistance from TRORC. Funding from VTrans and the local budget to implement.</p>	<p>Specifies minimum construction standards for roadway, ditches, culverts and bridges and guardrails. VTrans updates the Town Road and Bridge Standards on a fairly regular basis. The Town has the authority to require above-and-beyond what is written in the policy.</p>
	<p>Authority—Town of Pomfret Highway Ordinance</p> <p>Adopted 12/02/2009</p>	<p>Adopted by the Selectboard, implemented by the Road Foreman, and assistance from VTrans/TRORC. Funding from VTrans and the local budget to implement.</p>	<p>Regulates maintenance, upgrading and construction of the Town’s highways. May be amended as needed.</p>
	<p>Program—Better Backroads culvert inventory completed in fall 2013 for the Town of Pomfret</p> <p>This inventory includes georeferenced locations and attributes for all culverts in Pomfret. The Town received targeted assistance in the culvert inventory and specific priority projects were identified.</p>	<p>Staff time from the Pomfret Road Foreman; assistance from TRORC. Funding from Better Backroads grant; local personnel time.</p>	<p>The Town is currently using the culvert inventory to further its culvert improvement program, and seeking funding through various sources for implementation projects. Routine in-house updates occur on an on-going basis. There is no need to expand or improve upon this program at this time.</p>
Education/ Public Outreach	<p>Completed Action— Public training related to Red Cross Shelter designation</p> <p>The training was held in April 2012 in Strafford, Vermont and there were 5 attendees.</p>	<p>Staff time from the Town Clerk and volunteer time from the Emergency Management Director/Coordinator and other emergency management personnel. Funding from American Red Cross.</p>	<p>This was a one-time action, and improving/expanding upon it is not necessary. Red Cross shelter designation was not feasible.</p>

	Type of Existing Authority / Policy / Program / Action	Resources: Staffing & Funding	Ability to Expand/Improve On
	Action/Program— Weather-related information is posted on the website	Staff time from the Town Clerk’s office. Funding from local budgets (Town/, emergency services).	This is an ongoing action/program, and currently works well so there is no need to expand/improve on it at this time.

E. Plan Maintenance

This Plan (the Pomfret Local Hazard Mitigation Plan) will be monitored and evaluated annually at an April Selectboard meeting along with the annual review of the Local Emergency Management Plan (LEMP). At this meeting, the Selectboard will monitor the implementation of the hazard mitigation and preparedness strategies outlined in this Plan by noting those that have been completed, assessing whether remaining strategies are on track with the projected timeline, and identifying the next steps required to implement the Plan’s remaining strategies. They will also evaluate whether the Plan’s vulnerabilities analyses are still valid, whether the mitigation strategies are furthering the Plan’s goals, and whether the mitigation strategies are still appropriate for the Town (considering effectiveness of implemented projects or actions, as well as changes in Town priorities, capabilities, and vulnerabilities). This meeting will constitute an opportunity for the public and other town officials to hear about the town’s progress in implementing mitigation strategies and to give input on future activities and Plan revisions. If during the course of this annual review, it is determined that changes to the plan are needed, such changes will be documented in the Selectboard meeting minutes and in addenda attached to the plan itself. These annual updates will not undergo a formal re-adoption process.

Pomfret’s Emergency Management Director will be the principal point of contact for this annual review process and will take primary responsibility for the monitoring, evaluation, and update process described here. They will bring the Plan’s maintenance activities to the Selectboard’s agenda and discussions.

Within three months after every federal disaster declaration directly impacting the Town of Pomfret, the Town will monitor, evaluate, and update this Local Hazard Mitigation Plan at a Selectboard meeting, per the process outlined in Appendix C. This post-disaster review will take into consideration the comments and updates gathered during the annual review process. Interested members of the community will have an opportunity to participate in this publicly-warned meeting and their comments will be integrated into the plan as appropriate. The revised plan will be submitted to the state for approval, then will undergo formal re-adoption. The Emergency Management Director will be responsible for leading this process, and the Selectboard may appoint a committee to assist.

This section of the Plan satisfies 44 CFR and 201.6(c)(4)(i), 201.6(c)(4)(ii), and 201.6(c)(4)(iii).

At least one year before the Plan expires, an update process will begin. That process will take into account the previous annual monitoring, evaluation, and updates that occurred in April Selectboard meetings. The Emergency Management Director will lead the process and Two Rivers-Ottawaquechee Regional Commission (TRORC) will help with Plan updates if assistance is requested by the Selectboard and if funding is available. If TRORC is unable to assist the Town, then Pomfret's Emergency Management Director, Town Clerk, Administrative Assistant, or Selectboard will update the Plan, or the Selectboard may appoint a committee of interested citizens (including the current local Emergency Director) to draft changes. Ultimately, it will be the Town's responsibility to update their Local Hazard Mitigation Plan.

The process of evaluating and updating the plan will include continued public participation through public notices posted on the municipal website, notice within the municipal building, notice in The Valley News, and the TRORC newsletter and blog. These notices will invite the public to the scheduled Selectboard (or specially scheduled) meeting. The public will be given the opportunity to comment during this process. Additional stakeholders may be invited to the meeting; these include: the Woodstock Ambulance Service, VTrans, and the Vermont Agency of Natural Resources (VT ANR). VT ANR will be invited because they can provide assistance with NFIP outreach activities in the community, models for stricter floodplain and river corridor zoning regulations, delineation of fluvial erosion hazard areas, and other applicable initiatives. These efforts will be coordinated by the Town Clerk.

Pomfret shall also incorporate mitigation planning into their long-term land use and development planning documents. The 2013 Vermont Legislature passed a law requiring all towns to incorporate flood resiliency elements into town plans that are adopted after July 2014. To do so, flood hazard and fluvial erosion hazards will be identified, and strategies and recommendations will be provided to mitigate risks to public safety, critical infrastructure, historic structures and public investments. This Local Hazard Mitigation Plan will help the town to comply with the new community flood resiliency requirement for town plans adopted after July 2014. The Pomfret Planning Commission will incorporate hazard mitigation strategies developed and identified in this Local Hazard Mitigation Plan directly into goals, policies, and recommendations in future updates to the Pomfret Town Plan. The Town Plan is updated at least every 8 years. When the Town's zoning regulations, subdivision regulations, and flood hazard area regulations are being updated, the Planning Commission will ensure that they are responsive to and consistent with the priorities and approaches outlined in this Local Hazard Mitigation Plan. The Town shall also consider reviewing any future TRORC planning documents for ideas on future mitigation projects and hazard areas.

V. Community Vulnerability by Hazard

A. Hazard Identification

Mitigation efforts must be grounded in the rational evaluation of hazards to the area and the risks these hazards pose. This is done through a process, which in essence asks and answers three basic questions:

- What bad things can happen?
- How likely are they to occur?
- How bad could they be?

This process, which is laid out in the table below, is an attempt to inventory the known hazards, establish the likelihood of them occurring in the future, and assess the community's potential vulnerability to each. In performing this analysis, we are then able to prioritize actions that are designed to mitigate the effects of each of these disaster types and ultimately make Pomfret a safer place.

It is important that we learn from the past in order to avoid the same disasters and their outcomes. Disasters that have occurred within the Town of Pomfret, the larger region, and the State of Vermont can give us good information about what types of disasters we can expect in the future and what kinds of damage they might cause. This historical data can inform our perspective of what might happen in the future, but it is by no means a prophecy. While Pomfret might not have been impacted by a specific hazard in the past, this does not necessarily mean it will never be affected in the future. Indeed, the advance of climate change means that old weather patterns may not hold. For instance, in recent years, Vermonters have seen an increase in the number and severity of storms, especially high intensity rainfall events. Armed with historical data and a healthy respect for climate change and the unknown, we have tried our best to identify hazards and prepare for the future.

The following table reflects the hazards that we believe can be expected, or are at least possible, in the central Vermont area. We have considered factors such as frequency of occurrence, warning time and potential community impact to rank each and determine which hazards pose the greatest threats to life and property in Pomfret.¹ The worst threats (bolded in the table, below) are then followed-up with discussion and mitigation strategies throughout the rest of this Plan.² It should be noted that hazards assigned with the same "Hazard Score" are not in order, and their placement in the table should not be assumed to reflect their potential to create hazards for the town.

¹ The ranking methodology used in this Plan (see Appendix A) is closely modeled on that which is used by the Vermont Emergency Management (VEM) in the state hazard mitigation plan, though changes were made to reflect the more limited geographical scope of this analysis, Town capabilities for mitigation, and Town needs and priorities. The Hazard Score is the sum of the numerical values assigned to Frequency, Warning Time, and Potential Impact.

² It's important to note that those hazards which were not found to pose the greatest threats may still occur in Pomfret's future; however, they are not the focus of this Plan. The Town has chosen to focus this plan on higher scoring hazards in an effort to maximize the benefits derived from investments in mitigation. For discussion of lower scoring hazards, refer to the Vermont State Hazard Mitigation Plan.

	Frequency of Occurrence	Warning Time	Potential Impact	Hazard Score
Ice Jams	Highly Likely	None	Minor	10
Flash Flood/Flood/Fluvial Erosion	Likely	None-Minimal	Moderate	10
Severe Summer Storms (Thunderstorm, Lightning, High Wind)	Likely	3-6 hours	Minor	8
Hail	Likely	None-Minimal	Negligible	8
Extreme Heat	Highly Likely	12+ hours	Minor	7
Extreme Cold / Snow / Ice Storm	Highly Likely	6-12 hours	Moderate	9
Infectious Disease	Highly Likely	12+ hours	Minor	7
Wildfire/Brushfire	Occasionally	None	Minor	8
Landslides/Mudslides/Rockslides	Occasionally	None-Minimal	Minor	8
Tropical Storms / Hurricanes	Likely	6-12 hours	Major	9
Hazardous Material Spill	Unlikely	None	Minor	7
Earthquake	Occasionally	None	Negligible	7
Tornado	Unlikely	3-6 hours	Minor	6
Invasive Species/Infestation	Highly Likely	12+ hours	Minor	7
Drought	Occasionally	12+ hours	Negligible	4
Dam Failure (There are no High Hazard Potential Dams (HHPD) in Pomfret.)	N/A	N/A	N/A	N/A
Tsunami (Vermont is landlocked.)	N/A	N/A	N/A	N/A

After engaging in discussions using their best available knowledge and incorporating the increasing risks of global climate change, Pomfret’s HMP Committee identified the following “top hazards” that they believe present the largest risk to the community.

- Ice Jams
- Flash Flood/Flood/Fluvial Erosion
- Extreme Cold/Snow/Ice Storm
- Tropical Storms/Hurricanes

The selection of top hazards for in-depth analysis and strategy development in this plan was informed by the HMP committee’s understanding of community needs, priorities, and capacity for mitigation. Structural Fire was analyzed as a “top hazard” in the 2016 Plan, but is not examined in depth here because periods of increased fire risk are now more easily predictable through meteorology. The Pomfret Fire Department routinely issues fire safety warnings whenever the risk of accidental fires is sufficiently high. Severe summer weather was likewise highlighted in the 2016 plan, in conjunction with hurricanes and tropical storms. It is not considered a top hazard in this plan update because the primary threat from severe summer weather, flooding, is already addressed by the analysis of flash flood / flood / fluvial erosion as a top hazard for the Town.

Each of these “top hazards” will be discussed in the following sections. Within each section, previous occurrences of each hazard will be listed, including the County-wide FEMA Disaster Declarations (DR-#), where applicable. Hazards information was gathered from local sources (ex., town history book), the National Climatic Data Center’s (NCDC’s) Storm Events Database (1950-2023), the Spatial Hazard Events and Losses Database for the United States (SHELDUS) 1960-2023, and Special Reports produced by the National Weather Service in Burlington, Vermont. This section also includes a description of each “top hazard” and a hazard matrix that will include the following information (please see each hazard profile for a hazard-specific matrix):

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Type of hazard.	General areas in community that may be vulnerable to the hazard.	Community structures, systems, populations, or other assets as defined by the community that are susceptible to damage and loss from hazard events.	The strength or magnitude and details of the most notable event(s).	Financial impact from an event and/or the number of structures that are impacted.	<u>Occasionally</u> : 1–10% probability of occurrence per year, or at least one chance in next 100 years <u>Likely</u> : >10% but <100% probability per year, at least 1 chance in next 10 years <u>Highly Likely</u> : 100% probable in a year

B. Hazard Profiles for “Top Hazards”

1. Ice Jams

Ice jams are a flooding hazard of special concern, and they occur less frequently than typical riverine flooding in Pomfret, but can be more destructive to the health and property of residents. Ice jams occur due to the accumulation of ice in a river, stream, brook, or other flowing water body that inhibits the ability of that water body to carry the flow while also increasing the elevation of surface of that water body.³ There are several different types of ice jams, but the most frequent form that is exhibited in Pomfret is the breakup-type jam. Breakup jams typically occur in late winter or early spring, and are associated with the slight warming of ice that initiates river flow and the increase of rainfall and spring runoff that increases surface water volume.⁴

Ice jam events are a serious concern throughout the State of Vermont, owing to the vast number of waterways within the state’s footprint. Such events can occur with little to no warning and quickly escalate into life-threatening situations, thereby increasing the impact of such events when they happen.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Ice Jams**.

Ice jams are most prone to occur when heavy rains and rising temperatures cause rapid snow melt. Rivers, as a consequence, swell and ice layers begin to break, which then flow downstream and create obstructions around natural and man-made barriers. The majority of ice jams happen between the months of January and March, and the lead time for an ice jam or flow can range anywhere from a few hours to only one hour. The flows can cause water to rise by multiple feet per hour or even multiple feet within minutes. This can mean that there is insufficient time to prepare for rising water and ice levels.

While flooding from ice jams is not often major, it has the possibility to be catastrophic, particularly in places that have an historic pattern of growth along waterways. Ice jams can have a disastrous impact on waterways and surrounding structures and infrastructure, and they can cause severe erosional issues along with endangering local fish and wildlife populations. There are no state buildings or facilities in Pomfret that may be immediately endangered by ice jams; however, basic infrastructure and private property are at high risk. Specific ice jams data, in terms of river height in feet and actual size of ice jams, were unavailable for the follow events.

³ Federal Emergency Management Agency. (2003). Guidelines and Specifications for Flood Hazard Mapping Partners. Appendix F: Guidance for Ice-Jam Analysis and Mapping. *Map Modernization*.

⁴ (FEMA, 2003).

History of Occurrences:

Date	Event	Location	Extent and Impacts
03/09/ 2008	Ice Jam	White River, along Route 110	VT State Highway Dept. reported an ice jam forming along the First Branch of the White River along Route 110 in the S. Royalton, Tunbridge, and Chelsea areas. No reports of flooding confirmed in this instance
03/15/2007	Ice Jam	White River, along Route 110	VEM reported an ice jam formation in a large culvert/bridge on Rt. 110. Ultimately impacted 10 residences, 3 commercial buildings, and mostly caused basement flooding. Fire Dept. was on the scene to pump water out of buildings. Also caused some driveway/sidewalk erosion. No flood depth data available for this event.
03/21/2003	Ice Jam	First Branch	According to the NWS, a breakup ice jam was reported on the First Branch of the White River just south of Chelsea. No flood depth data available for this event.
03/11/1992— 03/18/1992 (DR-938 VT)	Ice Jam, Flooding	White River	This event resulted in approximately \$43,000 in damage to Town roads,—Town Highways #1-11—and caused by heavy rain, ice jams and flooding. No flood depth data available for this event.

There is a history of ice jams occurring at bridge #9, at the driveway of 2026 Pomfret Road, in South Pomfret, at the Pomfret-Teago Fire Department station entrance.

Please note; although no data records were found to support or flesh out their claims, according to local officials, there have been additional instances of ice jams occurring in the Town of Pomfret. Overall, these ice jams were relatively small in scale and caused minor damage.

In order to prepare for the possibility of ice jams, Town officials monitor the weather conditions that contribute to ice jams. However, no concrete plan exists for responding to an ice jam in the Town of Pomfret. Town officials are also continuing to look into how to lessen ice jam risk at bridge #9. By ensuring that development is safe from flood risk, and road infrastructure is properly sized, the risk of damage from ice jams will also be reduced.

Hazard	Location	Vulnerability	Extent	Estimated/Potential Impact	Likelihood/Probability
Ice Jams	In particular, bridge #9 at the entrance of the Pomfret-Teago Fire Department station	All property and infrastructure adjacent to Town waterways	Incident-specific, but can severely endanger life and property. The 1992 event flooded 11 Town Highways. Flood depth / coverage data not available.	The 1992 event caused \$43,000 in damage to Town Roads.	Highly Likely

2. Flash Flood/Flood/Fluvial Erosion

The most frequent form of flooding in the State of Vermont and the Town of Pomfret is riverine flooding, or overbank flooding, which occurs to rivers when they receive more rain or snowmelt from their watershed than they typically experience. Flooding causes the inundation of land that is normally dry. Overbank flooding is experienced more

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Flash Flood/Flood/Fluvial Erosion**.

frequently in mountainous and hilly areas where water moves with higher velocities. Flash floods occur when severe storms drop high amounts of rainfall in short periods of time. Flash floods occur more frequently in areas with steep slopes and narrow stream valleys. Riverine erosion is the gradual wearing away of land masses by rivers and streams. River channels are constantly changing. As rivers flow and water moves downstream, water exerts energy upon riverbanks and causes erosion.

Flooding is one of the worst threats to Pomfret's residents and infrastructure. Past instances of flooding in Pomfret have included rain and/or snowmelt events that cause flooding in the major rivers' floodplains and intense rainstorms over a small area that cause localized flash-flooding. Both kinds of events can be worsened by the build-up of ice or debris, which can contribute to the failure of important infrastructure (such as culverts, bridges, and dams).

The worst flood disaster to hit the Town of Pomfret, as well as the overarching region and the State of Vermont, occurred on November 3, 1927. This event was caused by up to 10 inches of heavy rain from the remnants of a tropical storm that fell on frozen ground. Eighty-four Vermonters, including the Lieutenant Governor, were killed. The flooding in the White River valley was particularly violent, with an estimated 120,000 to 140,000 cubic feet/second (cfs) flowing out of the White River at West Hartford, Vermont. Like many towns in the region, the Town of Pomfret received heavy precipitation, seeing roughly 7-8 inches of rainfall over the storm period.

A more recent flooding event that devastated the region and the state was the result of Tropical Storm Irene, which occurred on August 28, 2011. Record flooding was reported across the state and was responsible for several deaths, as well as hundreds of millions of dollars of home, road and infrastructure damage. Due to strong winds, 50,000 Vermont residents were initially without power, and many did not have electricity restored to their homes and businesses for over a week. Despite the damage wrought, the flooding caused by Tropical Storm Irene is considered to be the second greatest natural disaster in 20th and 21st century Vermont, second only to the Flood of 1927.

The most recent flooding event occurred over three weeks in late June and early to mid-July in 2013. The flooding was widespread and severe enough for a Federal Disaster Declaration, DR-4140, to be issued for Windsor and other counties in Vermont. The road and infrastructure damaged during this flooding event was located on Pomfret Road, Cloudland Road and Galaxy Hill Road. The damage was mostly due to washouts and erosion.

The Town of Pomfret suffered significant damage to property and infrastructure during Tropical Storm Irene, although no lives were lost. It is estimated that Tropical Storm Irene dropped 4-5" inches of rain

over the Town of Pomfret in a very short span of time. The precipitation totals averaged 4-7” over Windsor County. In some areas, it is thought that the flooding that occurred as a result of Tropical Storm Irene was close to being a full-fledged 500-year flood, or a flood that has a .2% chance of occurring annually.

A number of Pomfret’s roads/bridges were damaged by the storm, including parts of: Bartlett Brook Road, Cloudland Road, Starbuck Road, Wayside Road, Blackmer Road, Sessions Meadow, Wild Apple Road, Barber Hill Road, Bunker Hill Road and White River Lane. See Appendix C for more road-specific damage information. The county-wide damage for Windsor County totaled over \$32.5 million.

More recently, a series of storms that occurred during the summer of 2013 brought heavy downpours and caused localized flooding and fluvial erosion in many parts of the state. So much so, that a federal disaster declaration was issued for the period of time from June 25, 2013 to July 11, 2013 (DR-4140 VT). In Pomfret, parts of Pomfret Road, Cloudland Road, and Galaxy Hill Road were damaged due to washouts/erosion. Over the established disaster period, more than 7 inches of rain fell in Pomfret.

Unfortunately, flooding is very common across the region, with many events impacting the Town of Pomfret specifically. Flooding is one of the worst threats to Pomfret’s residents and infrastructure. The following list indicates the history of occurrence with regard to this hazard in Windsor County (given the small population of Pomfret, town-specific data is limited); an asterisk “*” denotes the instances in which town-specific data is available, and federal disaster numbers are listed where appropriate. Specific data regarding number of acres of land lost to fluvial erosion and amount of fill used to replace fluvial erosion were not available for events in Pomfret.

History of Occurrences:

Date	Event	Location	Extent and Impacts
06/25/2013— 07/11/2013 (DR-4140 VT)*	Severe Storms and Flooding	Pomfret, County-wide	Severe storms caused flooding throughout the region, which resulted in damage to some infrastructure and facilities. In Pomfret, the following impact was sustained: at 7090 Pomfret Road a culvert washout occurred on July 2, 2013 (the 42 inch culvert was recently replaced with an upsized 80 inch culvert); a washout/erosion on Cloudland Rd; a washout/erosion on Galaxy Hill Road; a washout/erosion on Pomfret Road from Labounty Road to the area of Howe Hill Road; stream bank erosion at 7658 Pomfret Road; and erosion from the Mill Brook on Pomfret Road from Starbuck Road to Freeman Road. More than 7 inches of rain fell in Pomfret during the disaster period. There were scattered power outages throughout the disaster period. On 6/25/2013 an outage affected 132 Green Mountain Power customers from 2.8 hours to 3.9 hours. On 7/5/2013 81 customers were affected for 2 hours.
08/28/2011 (DR-4022 VT, TS Irene)*	Tropical Storm	Pomfret, County-wide	Widespread rainfall amounts of 3-5 inches occurred across Vermont with 5 to 7+ inches across much of southern, central Vermont. Devastating flash flooding occurred across much of central and southern Vermont mountain valleys with substantial and some record breaking flood stages on larger rivers. This flood event will likely rank second to the November 1927 flood in the scope of meteorological and hydrological conditions/impacts as well as loss of life (84 in 1927), but likely first in monetary damage ((approx.. \$500. million statewide v. \$350 million (1927 in 2010 dollars)). There were nearly 2,400 roads, 800 homes/businesses, 300 bridges and a half dozen railroad

Date	Event	Location	Extent and Impacts
			tracks destroyed or damaged from the flooding caused by Irene. 4.66" of rain was reported in South Pomfret. \$852,116.71 in damages according to FEMA's Public Assistance database (captures at least 70% of the total damage). There were 609 customers who lost power for 30 hours. There were many more who lost power for longer durations, including a group of 243 who lost power for 50 hours, and another smaller group of 21 who lost power for more than 4 days.
04/27/2011	Flooding	County-wide	Heavy rains, snowmelt from an above-normal snowpack, and high temps caused significant flooding in the region. Pomfret received 1 inch of rain in 24 hours. No significant power outages occurred.
10/01/2010	Flooding	County-wide	Heavy rains from the remnants of TS Nicole hit Vermont, dumping multiple inches of rain in the White River Valley, and washing out local roads. Pomfret received 4.89 inches of rain in 48 hours. As a result of this rain event, 160 Pomfret power customers lost power for 2.6 hours.
07/21/2008— 08/12/2008 (DR-1790 VT)	Flooding	County-wide	Showers and thunderstorms produced significant rainfall across the region, causing severe flash flooding in places. Flood waters originating in Addison County traveled down the White River, causing portions of Route 100 to flood. Pomfret received 6.86 inches of rain over the disaster period. Altogether 107 customers lost power during the disaster period for durations that ranged from 1.5 hours to 5.6 hours.
07/11/2007 (DR 1715 VT)	Flash Flooding	County-wide	Localized heavy rainfall exceeded 3 inches within a two hour time frame. Some localized storm totals approached 6 inches across very hilly or mountainous terrain, which resulted in flash flooding of several communities. As a result of this flooding event, 52 customers lost power for 1.6 hours, and customers lost power for 2.2 hours.
04/15/2007— 04/21/2007 (DR-1698 VT)	Severe Storms and Flooding	County-wide	Severe storms caused flooding throughout the region, causing damage to some infrastructure and facilities. Pomfret received a period of hard rainfall during the period, which consisted of 1.14 inches in 24 hours. From 4/15 through 4/23 346 total Green Mountain Power customers in Pomfret lost power from short periods of 1.8 hours to much longer periods of longer than 2 days.
05/14/2006	Flooding	County-wide	Rainfall totals from a large storm system brought 3-6" of precipitation to the county, leading to flooding and minor washouts on several roads in the region and overflowing banks of streams. A total of \$25k in county-wide damages was reported. No significant power outages occurred.
01/18/2006	Flooding	County-wide	A powerful storm and rising temperatures led to rainfall of 1.5-2.5" and additional snowmelt. This led to field flooding and ponding of water on area roadways in the region. \$3k in damages was reported for Windsor County. 162 power customers lost power for 4.3 hours.
10/07/2003— 10/09/2003	Flooding	County-wide	Heavy rains resulted in minor flooding throughout Windsor County and caused \$20k in property damage. Specific rainfall damage for this event could not be found. Specific outage data for this event could not be found.
10/29/2003	Flooding	County-wide	Heavy rains fell on already-heavily saturated soils, and streams and rivers, including the White River, rose rapidly. Low land and field flooding occurred in the watershed. Pomfret received 2.93 inches of rain in 72 hours. Specific outage data for this event could not be found.
07/21/2003— 08/18/2003	Severe Storms and Flooding	County-wide	Severe storms caused flooding throughout the region, causing damage to some infrastructure and facilities. Pomfret received a period of high intensity rainfall, with 1.9 inches falling in 24 hours. Specific outage data for this event could not be found.

Date	Event	Location	Extent and Impacts
04/13/2002— 04/14/2002	Flooding	County-wide	Snowmelt and 1-3" of rainfall across the region led to flooding along rivers in the county. \$50k in damages was reported throughout the county. Specific outage data for this event could not be found.
07/11/2001 (DR-1715)	Flash Flooding	County-wide	Tropical-like showers and thunderstorms caused heavy localized flooding. Rainfall exceeded 3" within a 2 hour time frame, with some areas getting nearer to 6". Many roads washed out, basements flooded, and homes were damaged or destroyed. Specific outage data for this event could not be found.
07/14/2000— 07/18/2000 (DR-1336)	Flash Flooding	County-wide	Slow-moving thunderstorms resulted in heavy rainfall, particularly across mountainous portions of the region. Flooding ensued, causing a reported \$500k in damage across Windsor County. Pomfret received 3.77 inches in 48 hours. Specific outage data for this event could not be found.
04/04/2000	Flash Flooding	County-wide	A storm system moved across New York and New England Tuesday, April 4th, with steady rain. Mild temperatures resulted in melting mountain snows. As a result, many streams and rivers rose to bankfull or above with some flooding. \$10k in damage reported across Windsor County. Pomfret received 1.08 inches of rainfall in 24 hours. Pomfret experienced widespread and lengthy power outages during the Tropical Storm. Specific outage data for this event could not be found.
09/16/1999— 09/21/1999 (DR-1307)	Severe Storms and Flooding	County-wide	TS Floyd brought heavy rains, high winds, and flooding to the region, causing extensive damage to public property. 5.5 inches of rain fell in 24 hours in Pomfret. Specific outage data for this event could not be found.
06/27/1998	Flash Flooding	County-wide	An area of low pressure tracked across New York and New England during the late night of Friday (June 26) and morning of Saturday (June 27). Heavy convective rains fell with 3 to 6 inches across northern portions of the county. Extensive flooding occurred along Windsor County's waterways. Specific outage data for this event could not be found.
07/13/1996	Flooding	County-wide	Remnants of Tropical Storm Bertha moved into the region, bringing heavy rainfall that caused road washouts and mudslides in the county. \$10k in damage was reported county-wide. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
05/11/1996— 05/12/1996	Flooding	County-wide	Rain and snowmelt led to many rivers swelling and minor field flooding in places. \$5k in damage was reported in the county. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
01/19/1996— 01/20/1996	Flooding	County-wide	A deadly storm brought above normal temperatures, strong winds, and flooding to the region. Snowmelt and rainfall hit the region, washing out numerous roads and flooding other areas. Numerous power outages were reported. \$900k in damage was reported for the county. Specific rainfall data for this event was unavailable. Specific outage data for this event could not be found.
06/28/1973— 06/30/1973 (DR-397)	Flooding	County-wide	Rainfall totaled as much as 6 inches in 24 hours in some locations. There were 3 deaths and \$64 million. Specific outage data for this event could not be found.
11/02/1927— 11/04/1927 ("Flood of 1927")*	Flooding	Pomfret, County-wide	Considered to be one of VT's most devastating events, the flood took out 1285 bridges, miles of roads and railways, and countless homes and buildings. 84 people were killed. Rainfall totaled 4-9" statewide, following a month with 150% the normal amount of rain. Pomfret and the nearby areas saw from 7-8" of rainfall during the storm. Specific outage data for this event could not be found.

The Town of Pomfret has standalone flood hazard regulations entitled the Pomfret Flood Hazard Area Regulations. These regulations were adopted on May 02, 2007. The Town's Flood Hazard Area Regulations restrict development in the Special Flood Hazard Area. Streams and brooks with mapped special flood hazard areas include Broad Brook, Barnard Brook, Mill Brook and other unnamed brooks in North Pomfret, Dimick Brook, Whitman Brook, Cloudland Brook, Pomfret Brook and part of Bartlett Brook. New development within the floodway is prohibited, with a limited number of exceptions for transportation facilities, public utilities, and health and safety measures. Within the special flood hazard area, conditional use review by the Zoning Board of Adjustment is required for new buildings, any fill or excavation, development in the floodway, and substantial improvement of existing buildings. (Substantial improvement is defined as any reconstruction, rehabilitation, addition, or other improvement that costs 50% or more the market value of the structure prior to the improvement. This includes repairs to buildings that have suffered substantial damage, i.e. damage amounting to 50% or more of the market value of the structure prior to the damage.) In the Special Flood Hazard Area, new development and existing buildings to be substantially improved must be elevated so that the lowest floor, including the basement, is at least 1 foot above base flood elevation.

There are 37 residential and 8 commercial/industrial/public structures in the 100-year floodplain. If all of the residential and 8 commercial/industrial/public properties were damaged/destroyed in a severe flooding event, the damage would equal \$15,056,527. There are two critical facilities located in the 500-year floodplain, both of which are hazardous material storage facilities. Specific businesses and facilities located in the flood hazard area include Artistree Community Art Center, Abbott Memorial Library, The Teago General Store, Saskadena Six Ski Area, Riverbend Home & Garden Supply Company, and Andrew's Furniture. In an effort to help protect structures and road infrastructure, it is important to restore floodplain, improve floodplains areas, and increase the number of areas for retention of floodwaters. These actions will reduce the risk to structures and road infrastructure wherever possible.

Additionally, there are 19 structures that reside within the River Corridor area, which was mapped by the Vermont Agency of Natural Resources. The River Corridors accurately represent the area where rivers and streams will move over time, and depict areas that are at risk of erosion due to the river or stream's lateral movement. Mapped river corridor areas in Pomfret are similar to the mapped special flood hazard areas within the Town. Mapped River Corridor areas include Broad Brook, Barnard Brook, Mill Brook and other unnamed streams in North Pomfret, Whitman Brook, Cloudland Brook, and Pomfret Brook. The locations of these brooks and streams, river corridor areas, special flood hazard areas, and vulnerable structures located within these frequently flooded areas are illustrated in Attachment A: Map of Pomfret.

Across Vermont, most child and elder care facilities are not registered with the State. Most child day care is private in-home care in Pomfret, but there are also two registered childcare home located at 670 Vermont Route 12 and 1582 High Pastures Road. Neither of these homes is located within the river corridor or 100-year floodplain. There are no elder care facilities in the Town of Pomfret. Finally, low income housing is not registered with the State, and there are currently no manufactured home parks located in Pomfret that are registered with the state.

Recent studies have shown that the majority of flooding in Vermont occurs along upland streams, as well as along road drainage systems that fail to convey the amount of water they are receiving. These areas are often not recognized as being flood prone, and property owners in these areas are not typically required to have flood insurance. It should be noted that, while small, mountainous streams may not be mapped by FEMA in NFIP FIRMs (Flood Insurance Rate Maps), flooding along these streams is possible and should be expected and planned for. Flash flooding in these reaches can be extremely erosive, causing damage to road infrastructure and to topographic features including stream beds and the sides of hills and mountains. The presence of undersized or blocked culverts can lead to further erosion and stream bank/mountainside undercutting. Furthermore, precipitation trend analysis suggests that intense, local storms are occurring more frequently. Pomfret will experience high intensity rain events in the future based on these trends. Due to Pomfret’s topography of steep slopes and narrow river valleys, fluvial erosion also has a high probability of future occurrence.

Pomfret maintains an up-to-date list of culverts and culvert condition, and has engaged in culvert upgrading since the 2009 Pomfret Annex was drafted. Approximately 200 culverts have been replaced and/or upgraded since Tropical Storm Irene occurred in 2011. No development projects are planned in Pomfret in areas that would be vulnerable to flooding. There are no repetitive loss properties in the Town of Pomfret on FEMA’s NFIP list. No detailed data was available for fluvial erosion damage in Pomfret in terms of numbers of acres lost during each event.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Flash Flood/ Flood/ Fluvial Erosion	Many of Pomfret’s roads are vulnerable to erosional flooding due to steep terrain. Some of the most vulnerable for fluvial erosion or flooding include: Bartlett Brook’s lower section (floods regularly in the spring); Pomfret Brook, which runs along Pomfret/Stage Road; Gulf Stream along VT Route 12; Cloudland Brook; Mill Brook; and streams with past modification.	Culverts, bridges, road infrastructure are vulnerable. There are 37 residential and 8 commercial/industrial/public structures in the 100-year floodplain. Major commercial facilities that are vulnerable include Artistree community art center, Abbott Memorial Library, Teago General Store, Saskadena Six Ski area, Andrews Furniture, and Riverbend Home and Garden Supply. If all were damaged/destroyed in a severe flooding event, the damage would equal \$15,056,527.	Tropical Storm Irene: 4-7” across county (4.66” in South Pomfret). Specific data regarding number of acres of land lost to erosion were not available for events in Pomfret.	From Tropical Storm Irene (DR-4022 VT) \$852,116.71 in Pomfret in damages according to FEMA’s Public Assistance database (captures at least 70% of the total damage). For DR-4140 VT, parts of Pomfret Road, Cloudland Road and Galaxy Hill Road were damaged due to washouts/erosion.	Likely

3. Hurricanes and Tropical Storms

Hurricanes (storms with sustained winds greater than 74 mph) rarely reach as far inland as Vermont; more often, they have weakened to tropical storms. In either case, the high winds, heavy rains, and large affected areas from hurricane or tropical storms can make these rare events major disasters. The most infamous example of an actual

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Hurricanes and Tropical Storms**.

hurricane hitting the state was the disastrous “Long Island Express” Hurricane of 1938. On September 21, 1938 a very fast-moving hurricane hit Vermont in the early evening, but was moving so fast that wind damage was more severe than damage from rain in places. However, there was severe flooding, as over 4 inches of rain accompanied the storm and followed upon the heels of preceding storms that had saturated the ground and raised river levels. Buildings were lost, power lines downed, and millions of trees were felled. Much more recently, Tropical Storm Floyd in September 1999 caused flooding and wind damage in parts of Vermont, as well as one fatality, and resulted in a federal disaster declaration.

Another flood that devastated Vermont, Windsor County, and Pomfret was the result of Tropical Storm Irene, which occurred on August 28, 2011. Record flooding was reported across the state and was responsible for several deaths, and millions of dollars of home, road and infrastructure damage. Due to the strong winds, there were 117,000 power outages across the state, and many did not have power restored for over a week. The damage and flooding caused by Tropical Storm Irene is considered to be the second greatest natural disaster in 20th and 21st century Vermont, second only to the Flood of 1927.

The following list indicates the history of occurrence with regard to this hazard in Windsor County (given that small population of Braintree, town-specific data is limited); an asterisk “*” denotes the few instances in which town-specific data is available, and federal disaster numbers are listed where appropriate.

History of Occurrences:

Date	Event	Location	Extent
08/28/2011* (DR 4022 VT for period of 8/26/2011 – 9/2/2011) (Tropical Storm Irene)	Severe Flash Flooding	Pomfret, county-wide	Tropical Storm. No wind speed data available. 4.66” of rain was reported in South Pomfret. Pomfret suffered \$852,116.71 in damages according to FEMA’s Public Assistance database (captures at least 70% of the total damage).

Date	Event	Location	Extent
9/16/1999 – 9/21/1999 (DR 1307 VT) (Tropical Storm Floyd)	High winds, flooding	County and state-wide	Tropical Storm Floyd’s rains and winds caused road and culvert washouts. 5.5 inches of rain fell in 24 hours in Pomfret. Specific power outage data for this event was unavailable. Wind speed for Windsor County was recorded as 34 knots.
9/21/1938 (“The Great New England Hurricane”)	High winds, flooding	State-wide	Hit Vermont as a Category 1 storm. High winds severely damaged trees, buildings, power lines. No available data on the size of the land area that was impacted. No wind speed or flood depth data available.

The primary impacts from tropical storms and hurricanes are high winds and flooding.

Historically, high winds have caused damage in Windsor County and in the Town of Pomfret specifically. Damage caused by high winds has included downed trees and power lines, and, as a result, power outages. Power outages can be particularly serious for “power critical customers” that do not have the luxury of having a generator. All parts of the Town are at risk of power outages during a tropical storm or hurricane event.

As described in the Flash Flood/Flood/Fluvial Erosion hazard analysis above, the following areas in Town particularly vulnerable to flooding: Bartlett Brook’s lower section; Pomfret Brook; Gulf Stream along VT Route 12; Cloudland Brook; Atwood Brook; Mill Brook. The Town of Pomfret completed a geo-referenced culvert inventory with assistance from Two Rivers-Ottawaquechee Regional Commission in 2013. The Town continuously updates the inventory and works to upgrade culverts. A considerable number of culverts have been upgraded in the Town of Pomfret as part of the Town’s recovery from Tropical Storm Irene. Since 2016, the Town has upsized culverts on Cloudland Road, Pomfret Road, Caper Street, and Howe Hill Road.

Hazard	Location	Vulnerability	Extent**	Observed Impact**	Likelihood/Probability
Tropical Storms and Hurricanes	Town wide for wind impacts. Generally speaking, the entire Town is vulnerable to flooding but "hot spots" include the following roads/areas: Bartlett Brook's lower section (floods regularly in the spring); Pomfret Brook running along Pomfret/Stage Road; Gulf Stream along VT Route 12; Atwood Brook; Cloudland Brook; and Mill Brook.	Town buildings, private buildings, utilities, culverts, bridges, and road infrastructure.	Tropical Storm Irene- 4-7" across county (4.66" in South Pomfret).	From Tropical Storm Irene (DR-4022 VT): \$852,116.71 in damages according to FEMA's Public Assistance database (captures at least 70% of the total damage). For declaration DR-4140 VT, parts of Pomfret Road, Cloudland Road and Galaxy Hill Road were damaged due to washouts and erosion.	Likely

****Note:** The main hazard caused by tropical storms and hurricanes is typically flooding (though not always). In addition, flooding is often the most expensive hazard caused by such storms. Therefore, the Extent and Impact categories for Tropical Storms and Hurricanes will reflect the data reported in the Flash Flood/Flood/Fluvial Erosion category, as it represents the higher limits of damage caused by severe weather.

4. Extreme Cold/Snow/Ice Storm

Winter storms are a regular occurrence in Vermont. They can consist of extremely low temperatures, intense wind chills, high snow accumulation levels, and/or ice accumulation. Severe winter storms can cause serious damage, including collapse of buildings due to overloading with snow or ice, brutal wind chills, downed trees and power lines, and stranded vehicles. People can be at risk of freezing in extended power outages if they lack wood heat or backup power. Individuals shoveling large accumulations of snow can also be at risk from frostbite, hypothermia, and heart attacks caused by cold and overexertion. While snow removal from the transportation system is standard fare in Vermont winters, extreme snow or ice can close rail and road systems, further jeopardizing any stranded persons that are in danger of freezing or needing medical assistance.

Severe winter storms include a blizzard on February 15-17 in 1958, which dumped over 30 inches and resulted in 26 deaths in New England. On December 26-27 in 1969, another blizzard left 18-36 inches of snow in northwestern Vermont and a whopping 45 inches in nearby Waitsfield. A string of storms in March 2001 hit the state, beginning with 15-30 inches on March 5-6th (later declared a federal disaster), 10-30 inches on the 22nd, and 10-20 inches on the 30th. Recent years have seen wet snow storms that have toppled trees and caused widespread power outages.

The worst winter storm in terms of damage to hit the state recently was not a snow storm, but an ice storm. In January of 1998, just the right combination of precipitation and temperature led to more than three inches of ice in spots, closing roads, downing power lines, and snapping thousands of trees. This storm was estimated as a 200-500 year event, meaning it has a .5%-.2% chance of occurring every year. Power was out up to 10 days in some areas, and 700,000 acres of forest were damaged in Vermont. Amazingly, Vermont suffered no fatalities, unlike Quebec where 3 million people lost power and 28 were killed. The Town of Pomfret was significantly impacted by this ice storm.

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(2)(i), 201.6(c)(2)(ii), and 201.6(c)(2)(iii) for **Extreme Cold/Snow/Ice Storm**.

Over the past few winters, Pomfret has received numerous snow storms that have dropped significant amounts of snow over a one or two day period. However, the details of these events and the damage they caused are overshadowed by winter weather events of the past. This is not to say such extreme events will not repeat themselves. It should be assumed that extreme winter weather events will occur at some point in the future. The following table documents the occurrence of extreme cold/snow/ice storms in the Town of Pomfret and in Windsor County.

History of Occurrences:

Date	Event	Location	Extent and Impacts
Period from 3/13/23 – 3/15/23	Winter Storm	County-; region-wide	A heavy, wet snow fell across the county with a general 10 to 24+ inches of snow, the higher totals at higher elevations. Damages included downed trees and numerous power outages.
2/3/2023	Extreme Cold	Pomfret; County-; region-wide	An arctic airmass entered Vermont. The daytime temperature range was 0 to -15 degrees F, with windchills of 20 to 40 degrees (F) below 0. Overnight lows were 15 to 30 degrees (F) below zero with minimum wind chill values of 30 to 45 degrees below zero.
Period from 12/16/2022- 12/17/2022	Winter Storm	Pomfret; County-; region-wide	A heavy wet snow fell across Windsor county, totaling 22 inches in Pomfret. There were numerous power outages that lasted several days.
Period from 1/14/2022 – 1/15/2022	Extreme Cold	Pomfret; County-; region-wide	An arctic cold front pushed overnight temperatures to 10 to 25 degrees F below 0, with windchills of 25 to 40 degrees below 0.
Period 3/22/2019 – 3/23/2019	Winter storm	Pomfret; County-; region-wide	A heavy wet snow fell across the county, totaling 11 inches in Pomfret. The weight of the snow and wind gusts of 15 to 25 mph brought down trees, resulting in widespread power outages.
Period 12/12/2017 – 12/13/2017	Winter Storm	Pomfret; County-; region-wide	A storm brought 16 inches of snow to Pomfret.
Period from 12/09/2014– 12/12/2014 (DR-4207 VT)	Winter Storm	Pomfret; County-; region-wide	Heavy, wet snow brought down trees and power lines, leading to power outages. Pomfret experienced 9 inches of snow accumulation that caused an estimated \$30,000 in debris clean-up costs. Widespread power outages occurred in Pomfret that affected 661 total power customers. 232 customers lost power for 2.3 hours, but the larger portion of those affected lost power for more than 43 hours.

Date	Event	Location	Extent and Impacts
Period from 03/12/2014—03/13/2014	Snow Storm	Pomfret; County-; region-wide	A major snowstorm with near blizzard conditions at times impacted portions of northern New York on March 12th and lingered into the morning hours of March 13 th . Numerous motor vehicle accidents and school and business closures resulted due to the storm on both March 12th and 13th. 22" of snow accumulated in Pomfret. No significant power outages occurred in Pomfret.
Period from 02/13/2014—02/14/2014	Winter Storm	County-; region-wide	A Winter storm, responsible for record ice and snow across the southeast United States on February 12th, moved and redeveloped off the southeast United states coastline on February 13th. Snowfall across Windsor county was 12 to 20+ inches.
02/05/2014	Snow Storm	County-; region-wide	Snowfall was at its peak during both the morning and afternoon/evening commutes causing hazardous travel. 8 to 12 inches of snow fell across the county.
Period from 12/29/2013—12/30/2013	Winter Storm	County-; region-wide	A wet, heavy 6 to 10 inches of snow fell across Windsor county. No significant power outages occurred in Pomfret.
Period from 12/14/2013—12/15/2013	Snow Storm	County-; region-wide	The first widespread snowfall of the 2013-14 winter season. The typical impacts associated with this storm were the numerous vehicle accidents, especially being the first storm of the season. A widespread 10 to 15 inches of snow fell across Windsor county. No significant power outages occurred in Pomfret.
Period from 03/18/2013—03/19/2013	Snow Storm	County-; region-wide	8 to 14 inches of snow fell across the county, with lower amounts falling in the valleys and higher amounts accumulating above 1000 feet. Numerous vehicle accidents occurred, some involving tractor trailers. No significant power outages occurred in Pomfret.
Period from 12/26/2012—12/27/2012	Winter Storm	County-; region-wide	Snowfall totals of 6 to 12 inches were common in Windsor county. No significant power outages occurred in Pomfret.
Period from 04/28/2012—04/30/2012	Frost/ Freeze	County-; region-wide	Several consecutive days of sub-freezing temperatures from the morning of April 28th to the morning of April 30th lead to damaging and possibly devastating killing freezes for various fruit-bearing crops in Vermont. Although these temperatures may not be seasonably uncommon, the preceding record breaking late winter and early spring warmth accelerated bud development in fruit crops by 2-3 weeks. However, minimum temperatures in the teens and lower 20s likely impacted other regions as well. Fruit crop damage estimates may exceed 25 percent of normal harvest. No significant power outages occurred in Pomfret.
Period from 11/22/2011—11/23/2011	Winter Storm	County-; region-wide	6 to 12 inches of a heavy, wet snow mixed with rain and sleet at times fell across Windsor county. 2 power customers were affected for about 2 hours.
Period from 03/06/2011—03/07/2011	Winter Storm	Pomfret; County-; region-wide	Snowfall amounts of 4 to 16 inches were reported in Windsor county with the largest totals in the northwest and lesser amounts in the southeast. In addition 1/4 to 1/2 inch of ice occurred as well with the greatest totals in the southeast. 12" in Pomfret. 1 power customer in Pomfret was affected for 1.2 hours.
Period from 02/05/2011—02/06/2011	Winter Weather	County-; region-wide	A heavy wet snow quickly changed to a prolonged period of sleet and freezing rain as well as some thunderstorms. Combined snow and sleet accumulations were 3 to 6 inches. The weight of this additional snow, sleet and freezing rain contributed to several roof barn collapses in some towns. No significant power outages occurred in Pomfret.
01/12/2011	Winter Storm	Pomfret; County-; region-wide	Generally 8 to 15 inches of snow fell across Windsor county. 11" accumulated in Pomfret. No significant power outages occurred in Pomfret.
Period from 12/26/2010—12/27/2010	Winter Storm	County-; region-wide	Snowfall totals of 6 to 15 inches with localized higher amounts occurred as well as considerable blowing and drifting of the snow due to north winds of 15 to 25 mph with gusts approaching 40 mph. No significant power outages occurred in Pomfret.

Date	Event	Location	Extent and Impacts
Period from 1/14/2009 – 1/18/2009	Extreme Cold	County-; region-wide	An arctic cold front brought daytime maximum temperatures that ranged from single digits (F) above and below zero during this stretch, while nighttime minimums were 10 to 30 degrees F below zero.
Period from 02/08/2008— 02/09/2008	Winter Storm	County-; region-wide	This snowfall event was a two-part system across Vermont. The first part was largely confined to the northern half of Vermont and occurred during the morning and afternoon hours of February 8th. The second event was a large, powerful Nor'easter that moved south of Long Island and Cape Cod during the night of February 8th. 8 to 16 inches of snow fell across Windsor county. 2 power customers in Pomfret were affected for 2.23 hours.

The Town of Pomfret is no stranger to winter weather and the hazards that it brings. Depending on the event, though especially with heavy, wet snow or ice, electricity may be knocked out for a few hours or days. The utility company currently serving the Town of Pomfret, Green Mountain Power, has followed a regular tree-trimming schedule. Pomfret town officials believe this is satisfactory to mitigate damage and the power outages caused by downed trees and tree limbs during a heavy, wet snow or ice event. In the event of an extended power outage, the Town would open its emergency shelter at the Pomfret Elementary School.

Heavy, wet snow or large quantities of snow may also leave structures vulnerable to roof collapse. Roof collapse occurs when the structural components of a roof can no longer hold the weight of snow. Flat roofs are the most vulnerable to collapse because they do not drain well and the snow on the roof soaks up water like a sponge, increasing the weight that the roof must bear. More common, it seems, is the collapse of barns commonly used for livestock sheltering and other agricultural purposes. Unfortunately, livestock in the barn are often killed, and equipment stored in the barn may be damaged or ruined. It is difficult to determine whether a residential structure or a barn would be rebuilt after a roof collapse because the decision to rebuild would likely depend on the extent of damage. The collapse of a barn roof is likely to be a total loss, and the collapse of a house roof may be a 50% loss, not including the loss of livestock.

In general, winter weather is most hazardous to travelers. Icy and snow-covered roads present multiple examples of dangerous driving conditions and situations. In Pomfret, the mountainous terrain, steep slopes, and remoteness of some roads further complicate travel. The Town relies on Travel Advisories issued by the State of Vermont Department of Emergency Management Homeland Security and the National Weather Service to alert residents of dangerous travel weather. Despite this, it is difficult to prohibit people from driving during winter weather events. As a result, emergency services personnel must always be prepared to provide assistance to stranded drivers or to those who have been in an accident. Damages to vehicles as a result of poor driving conditions may vary from minimal damage to a totaled vehicle. Health impacts could vary significantly.

Hazard	Location	Vulnerability	Extent	Observed Impact	Likelihood/Probability
Extreme Cold/ Snow/ Ice Storm	Town wide	The entire Town is vulnerable, including road infrastructure, town and privately owned buildings, and utility infrastructure. Many of Pomfret’s homes are old, predating the advent of central heating. Extreme temperatures can be particularly harmful to older adults who live in these homes.	Snow fall has varied, from a few inches to over a foot or more. Heavy snow and wind has downed trees and power lines. Snow/ice contributed to hazardous driving conditions. In February 2023, the minimum windchill was -45 degrees F. The December 2022 storm dropped 22 inches of snow on Pomfret and caused power outages that lasted several days.	From the December 2014 storm (DR-4207 VT), an estimated \$30,000 in damages, mostly from debris clean-up costs.	Highly likely

C. Vulnerability Summary

As a result of the above profiled hazards, the Town believes the following vulnerabilities to be of highest concern due to their potentially severe consequences and likelihood of occurrence:

- **Ice Jams:** Ice jam threats consist of two undersized bridges near Teago General Store in South Pomfret. These bridges are subject to seasonal flooding and are vulnerable to jamming events.
- **Flash Flood/Flood/Fluvial Erosion:** One of the worst threats, flooding impacts roads and the village center, especially facilities for children, elders, and community emergency shelters. Under-sized bridges and culverts factor into the threat, with Pomfret being home to several undersized bridges and flooding hot spots, including Bartlett Brook’s lower section (floods regularly in the spring); bridges in South Pomfret near Teago General Store; Pomfret Brook running along Pomfret/Stage Road; Gulf Stream along VT Route 12; Atwood Brook; Cloudland Brook; and Mill Brook. Furthermore, flood hazard mapping (Special Flood Hazard Areas) does not adequately encompass all areas that could be flooded, thus potentially making some residents too complacent in regard to the threat. In addition, numerous homes and public facilities are located in the 500-year floodplain and could be impaired by a major flood event. Vulnerable commercial and public structures to severe weather and flooding include Artistree community art center, Abbott Memorial Library, Teago General Store, Saskadena Six Ski area, Andrews Furniture, and Riverbend Home and Garden Supply. If all were damaged/ destroyed in a severe flooding event, the damage would equal \$15,056,527.

- **Extreme Cold/Snow/Ice Storms:** Lack of access to power and telecommunication services throughout the Town could severely impede response efforts, and could be especially harmful to vulnerable populations (e.g., the elderly and disabled). All parts of Town are at risk from these impacts.
- **Tropical Storms and Hurricanes:** The primary impact from tropical storms and hurricanes is flooding. The most vulnerable areas are listed under flooding, above.

VI. Mitigation

A. Mitigation Goals

- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of ice jams.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of flash flooding, flooding and fluvial erosion.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of tropical storms and hurricanes.
- To reduce injury and losses, including loss of life and to infrastructure, structures and businesses, from the natural hazard of extreme cold, snow storms and ice storms.

B. Excerpted Town Plan Goals & Objectives Supporting Local Hazard Mitigation

NOTE: The language listed below was excerpted from the 2016 Pomfret Town Plan .

- The Town shall protect the flood hazard areas through continued application of the Flood Overlay and enforcement of Flood zoning. (p.39)
- The Town will strive to avoid and minimize the loss of life and property, the disruption of commerce, and the extraordinary public expenditures and demands on public services that result from flooding related inundation and erosion. (p.39)
- The Town shall ensure that the selection, design, creation, and use of development in hazard areas is safe and accomplished in a manner that is consistent with public well-being, does not impair stream equilibrium, flood plain services, or the stream corridor. (p.39)
- The Town shall manage all flood hazard areas designated pursuant to 10 V.S.A. Chapter 32 § 753, the municipal hazard mitigation plan; and make the Town of Pomfret, its citizens, and

businesses eligible for federal flood insurance, federal disaster recovery funds, and hazard mitigation funds as may be available. (p.39)

- Schedule regular inspections of roads, bridges, and culverts to determine repair needs on a priority basis. (p.58)
- Design roads and all development in Pomfret to be accessible to emergency vehicles year-round. (p. 67)
- Only agriculture, recreational and open space uses should be allowed in floodplains. (p.96)
- New development within the town's 100-year floodplain is discouraged, excluding properly designed outbuildings and renovations that meet the requirements for Flood Hazard regulation as stipulated by the Federal Emergency Management Agency. (p.96)
- Ensure that any new development allowed creates "no adverse impact" through design and mitigation measures. (p.96)
- Reduce impervious cover that leads to flash flooding, and increase retention and infiltration of rain. (p.96)
- Lessen the conflict between roads and streams by moving the roads when possible, abandoning redundant bridges, or upsizing water crossings. (p.96)
- Adopt road and bridge standards to the 50 or 100 year storm level. (p.96)
- Continue to promote emergency planning for flood response. (p.97)
- Strengthen Pomfret's Flood Hazard Bylaws to mitigate risks to public safety, critical infrastructure, historic structures and municipal investments from inundation and erosion. (Planning Commission) (p.97)
- Work with VTrans on improving the flood capabilities of state-owned infrastructure or town infrastructure. (Planning Commission) (p.97)
- Continue to develop emergency preparedness procedures. (Emergency Coordinator and Selectboard) (p.97)

The Pomfret Town Plan was adopted on August 17, 2016, and has an 8-year lifespan. A draft plan is currently being updated for adoption in early 2024.

C. Hazard Mitigation Strategies: Programs, Projects & Activities

Vermont Emergency Management encourages a collaborative approach to achieving mitigation at the local level through partnerships with Vermont Agency of Natural Resources, VTTrans, Vermont Agency of Commerce and Community Development, Regional Planning Commissions, FEMA Region

This section of the Plan satisfies the requirements of 44 CFR 201.6(c)(3)(ii), 201.6(c)(3)(iii) and 201.6(c)(3)(iv).

1, and others. That said, these agencies and organizations can work together to provide assistance and resources to towns interested in hazard mitigation projects.

With each mitigation strategy, general details about the following are provided benefits, cost, resources, responsible parties, timeframe, and prioritization.

A “High” prioritization indicates that the benefits provided by the strategy will address critical and urgent need, or the benefits are greater than those expected from other actions with similar costs. A high priority strategy is known or reasonably expected to be feasible from a technical and political standpoint, the potential funding is readily available, and the implementation timeframe is less than 2 years. A “Medium” prioritization indicates that the benefits provided by the strategy are addressing needs that are less critical and not urgent, or the benefits are lower than those expected from actions with similar costs. For medium priority projects, uncertainties over a project’s technical or political feasibility may exist, potential funding is readily available (or is reasonably expected to become available within the implementation timeframe), and the implementation timeframe is more than 2 years but less than 4. A “Low” prioritization indicates that the benefits provided by the strategy are lower than those expected from other actions identified in this plan; the strategy is not addressing an urgent or critical need. For low priority strategies, uncertainties over a project’s technical, political, or financial feasibility may exist, and the implementation timeframe is more than 4 years.

The Town of Pomfret understands that, in order to apply for FEMA funding for mitigation projects, a project must meet more formal FEMA benefit cost criteria. A project seeking FEMA funds would undergo a full benefit-cost assessment in the FEMA-approved format. The Town must have a FEMA-approved Hazard Mitigation Plan as well.

The following mitigation strategies will be incorporated into the Town of Pomfret’s long-term land use and development planning documents. Specifically, the Town will review and incorporate elements of this Local Hazard Mitigation Plan into updates for the municipal plan (particularly in goal, policy, and recommendation language), zoning regulations, and flood hazard bylaws. The incorporation of the goals and strategies listed in the Local Hazard Mitigation Plan into the municipal plan, zoning regulations, and flood hazard bylaws will also be considered after declared or local disasters. The Town shall also consider reviewing any future TRORC planning documents for ideas on future mitigation projects and hazard areas.

Hazards Addressed	Action	Benefits	Cost	Resources*	Responsible Party / Parties	Timeframe	Priority
All Hazards	Address Teago intersection traffic hazard by realigning roadways and creating sidewalks.	Improved pedestrian, bicyclist, and vehicular safety at all times of year	High (current estimate: \$800,000-\$1,000,000)	Local Resources, VTrans grants, ACCD Better Places Grant Program	Selectboard	Spring 2024 – Fall 2026	High / Medium, depending on grant success
	Ensure that Pomfret’s Local Emergency Management Plan (LEMP) is kept up-to-date and identifies vulnerable areas and references this Plan.	Improved coordination and response during hazard events, reduced risk to life and safety	Low	Local resources; TRORC; Vermont Department of Emergency Management & Homeland Security (DEMHS)	Selectboard (primary), Emergency Management Director	Annually	High
	Maintain up-to-date Road and Bridge Standards so that Pomfret effectively maintains its road infrastructure to be resilient to hazard events.	Reduced risk of infrastructure failure	Low	Local resources	Selectboard (primary), Road Foreman	Annually	High
	Continue using the Pomfret Listserv and various town websites to disseminate emergency alerts and information during hazard events, including directions to neighboring towns’ shelters.	Reduced risk to life and safety during hazard events	Low	Local resources	Selectboard (primary), Fire Department, Emergency Management Director	Annually	High
	Consistently document infrastructure damage after weather events.	Systematic prioritization of infrastructure needs	Low	Local resources	Road Foreman (primary), Emergency Management Director, Selectboard	Annually	High

Hazards Addressed	Action	Benefits	Cost	Resources*	Responsible Party / Parties	Timeframe	Priority
Ice Jams	The Road Foreman will conduct outreach to individual landowners as needed to ensure that snow is not plowed into brooks / streams.	Decreased risk of ice jams forming	Low	Local resources	Road Foreman	Spring 2024, ongoing	High
	Explore possibility of hiring a contractor to take on the task of breaking up ice during hazardous conditions prior to snowmelt.	Increased town capacity to prevent ice jams before they become an emergency	Low	Local resources	Selectboard	Spring 2024	Medium
Flash Flood / Flood / Fluvial Erosion	Improve road edges with 2 foot ditches that are stone-lined, and create cuts to drain water from roads	Reduced risk of flooding	Medium	Local resources	Road Foreman (primary), Selectboard	Spring through fall 2024-2029	High
	Keep ditches and culverts clear.	Reduced risk of flooding	Low	Local Resources;	Road Foreman (primary), Selectboard	Annually	High
	Upsize 2 culverts on Pomfret Road (Johnson Rd intersection and Galaxy Hill intersection) that are currently causing downstream erosion.	Reduced fluvial erosion	Medium	Local resources, VTrans, BRIC, HMGP	Road Foreman (primary), Selectboard	Spring/summer 2027	Medium
	Upsize 1 culvert on Wild Apple Rd. If the culvert fails, homes may be isolated by floodwaters.	Reduced risk of structure failure, reduced risk of flooding	Medium	VTrans Structures Grant	Road Foreman (primary), Selectboard	Spring/Summer 2024	High

Hazards Addressed	Action	Benefits	Cost	Resources*	Responsible Party / Parties	Timeframe	Priority
Extreme Cold/Snow/Ice Storm	Clear and maintain town road rights-of-way, which will reduce the loss of life and infrastructure damage during snow and ice storms. (Mitigation)	Reduced risk of vehicular accidents, reduced risk to life and safety	Medium	Local resources	Highway Department (primary), Selectboard	Annually	High
	Update and maintain existing list of populations that are vulnerable to extreme cold and other hazards. Call and visit vulnerable residents, if necessary, in the event that a hazard occurs. By maintaining this list, the health of vulnerable populations will be protected. (Mitigation)	Reduced risk to life and safety during hazard events	Low	Local resources	Emergency Management Director (primary), Selectboard	Annually	High
	Conduct outreach to educate and raise awareness about the importance of cleaning off vents during heavy snow events, to prevent carbon monoxide poisoning.	Reduced risk to life and safety during hazard events	Low	Local resources	Fire Department (primary), Emergency Management Director, Selectboard	Annually	High
Tropical Storms / Hurricanes	Conduct outreach to raise public awareness of steps they can take to be prepared and stay safe during a storm	Reduced risk to life and safety during storms	Low	Local resources	Emergency Management Director (primary), Fire Department Selectboard,	Annually	High
	Conduct outreach to raise community awareness of local and state protections for riparian vegetation and wetlands.	Increased capacity of streams to hold floodwaters	Low	Local resources, state (ANR) resources	Planning Commission (primary), Zoning Administrator, Selectboard	2024, 2025	High

*Depending on the mitigation action, local resources may include the following: Town personnel/staff time; Town volunteer time; Town budget line items, donations, cash from capital campaigns, among others.

Appendices

Appendix A: Hazard Ranking Methodology

<u>Frequency of Occurrence</u> Probability	<u>Warning Time</u> Amount of time generally given to alert people to hazard	<u>Potential Impact</u> Severity and extent of damage and disruption
<p>1 = <i>Unlikely</i> <1% probability of occurrence per year</p> <p>2 = <i>Occasionally</i> 1–10% probability of occurrence per year, or at least one chance in next 100 years</p> <p>3 = <i>Likely</i> >10% but <75% probability per year, at least 1 chance in next 10 years</p> <p>4 = <i>Highly Likely</i> >75% probable in a year</p>	<p>1 = More than 12 hours</p> <p>2 = 6–12 hours</p> <p>3 = 3–6 hours</p> <p>4 = None–Minimal</p>	<p>1 = <i>Negligible</i> Isolated occurrences of minor built or natural environmental damage, potential for minor injuries, health, or well-being impacts, or minimal economic disruption</p> <p>2 = <i>Minor</i> Isolated occurrences of moderate to severe built or natural environmental damage, potential for injuries or health or well-being impacts, minor economic disruption.</p> <p>3 = <i>Moderate</i> Severe built or natural environmental damage on a community scale, injuries, fatalities or impacts to individual and community well-being, short-term economic impact.</p> <p>4 = <i>Major</i> Severe built or natural environmental damage on a community or regional scale, multiple injuries or fatalities or severe long-term impacts to individual and community well-being, significant long-term economic impact.</p>

The Hazard Score is the sum of the numerical values assigned to Frequency of Occurrence, Warning Time, and Potential Impact.

Appendix B: Bridges Damaged During Tropical Storm Irene

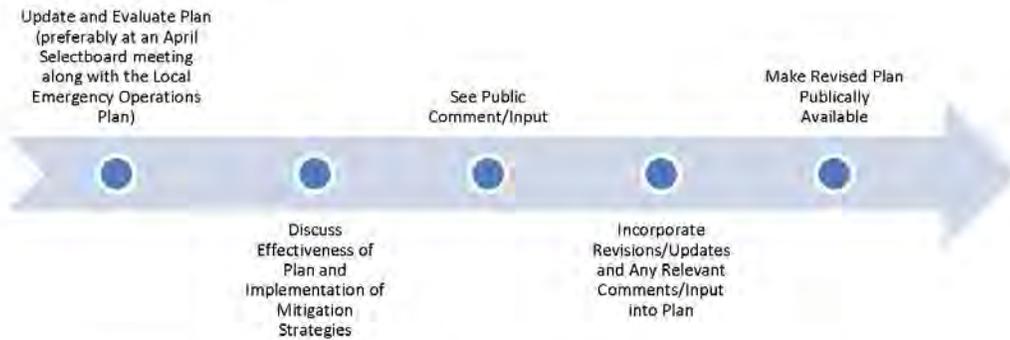
STRC_LBL	LocationDe	DamageDesc
B23	Bartlett Brook Road TH39	major washout, lost culverts
B25	Cloudland Road TH5, TH37	three major sections washed out
B37	Starbuck Road TH23 - two sections	
B22	Wayside Road TH48	major washout, debris in channel, culvert too small
B36	Wayside Road TH48	major washout, debris in channel, culvert too small
B33	Blackmer Road TH10 - top and bottom sections	road, culvert washout
B30	Sessions Meadow TH42	road washout, culvert needs permanent fix
B2	Wild Apple Road TH33 - entire length	road, culvert washout
B27	Wild Apple Road TH33 - entire length	road, culvert washout
TU17	Barber Hill TH5	major washout
B21	Barber Hill TH5	major washout
B32	Bunker Hill Road TH29 - up to Kings Highway	major washout
B54	Bunker Hill Road TH29 - up to Kings Highway	major washout
B14	White River Lane TH18	culvert scour and road edge
B55	Cloudland Road TH5, TH37	three major sections washed out

Appendix C: Five-Year Review and Maintenance Plan

Five-Year Local Hazard Mitigation Plan Review/Maintenance



After Plan Adoption—Annually Implement & Evaluate



Fifth Year, and After a Major or Federally Declared Disaster Directly Impacting the Town Evaluate & Revise



Appendix D: Critical Stream Crossings

Critical crossings group one includes stream crossing structures on town highways that cross third order streams or larger. Headwater streams generally include first through third order. Third order was included as these headwater streams will have larger drainage areas and may have larger structures that are more difficult to replace and have a larger impact on the road network. Most of these are bridges.

Local ID	Road Name	Latitude	Longitude	Birdge/Cul Type	Span/Wid	Height	Length	Bankfull Width	Openness
2	POMFRET RD	43.721381936	-72.427772797	30	120	120	150	13	0.769231
94	POMFRET RD	43.665086801	-72.538802485	33	18	18	60	2	0.75
2	BUNKER HILL RD	43.718874439	-72.479453602	30	120	120	45	5	2
1	KENYON HILL RD	43.724414677	-72.443540818	30	144	144	150	16	0.75
8	HEWITT HILL RD	43.723312151	-72.505164872	30	48	48	60	12	0.333333
11	BUNKER HILL RD	43.711956670	-72.478345286	32	60	48	25	7	0.714286
1	BUNKER HILL RD	43.719931508	-72.481195244	30	120	120	60	16	0.625
13	BARBER HILL RD	43.661348994	-72.523055593	30	60	60	35	16	0.3125
15	BARBER HILL RD	43.659968538	-72.525224296	30	16	16	40	4	0.333333
7	STAGE RD	43.673953688	-72.557284359	32	144	72	90	20	0.6
2	OLD KINGS HWY	43.707631868	-72.489403705	30	36	36	25	9	0.333333
16	BARBER HILL RD	43.659792523	-72.526637559	30	16	16	25	0	unknown
2	ALLEN HILL RD	43.729512189	-72.501275960	32	120	60	70	5	2
36	CLOUDLAND RD	43.645521319	-72.507373393	32	36	36	35	12	0.25
8	BUNKER HILL RD	43.715387269	-72.477350698	32	72	60	35	5	1.2
B7	POMFRET RD	43.654775351	-72.528701753	99	unknown			8	unknown
B39	BUNKER HILL RD	43.719746420	-72.481258109	99	unknown			10	unknown
B54	BUNKER HILL RD	43.715374043	-72.477286225	99	unknown			15	unknown
B32	BUNKER HILL RD	43.718813691	-72.479440741	99	unknown			5	unknown
B21	BARBER HILL RD	43.661248391	-72.523061816	99	unknown			11	unknown
B6	POMFRET RD	43.679784873	-72.528392006	99	unknown			23	unknown
B20	BARBER HILL RD	43.659551964	-72.526883509	99	unknown			0	unknown
B34	TOWN HWY 27	43.660034489	-72.525049255	99	unknown			0	unknown
B11	POMFRET RD	43.720743043	-72.489642861	99	unknown			12	unknown
B42	KENYON HILL RD	43.724452027	-72.443479832	99	unknown			25	unknown
B37	STARBUCK RD	43.723748627	-72.463281262	99	unknown			0	unknown
B26	HOWE HILL RD	43.729561613	-72.497656439	99	unknown			14	unknown
B3	POMFRET RD	43.723120812	-72.500713618	99	unknown			16	unknown
B40	ALLEN HILL RD	43.729527450	-72.501600772	99	unknown			0	unknown
B5	POMFRET RD	43.665244570	-72.538739713	99	unknown			0	unknown
B4	POMFRET RD	43.722636584	-72.497346443	99	unknown			5	unknown
B14	POMFRET RD	43.721300922	-72.427718127	99	unknown			13	unknown
B8	BROAD BROOK RI	43.738031577	-72.542691141	99	unknown			19	unknown
B9	STAGE RD	43.664725762	-72.538938527	99	unknown			14	unknown
B36	WAYSIDE RD	43.659913603	-72.571171813	99	unknown			30	unknown

Appendix E: Example of Meeting Announcements Distributed via Pomfret Listserv

Public Notice

Local Hazard Mitigation Planning

The Town of Pomfret is updating its Local Hazard Mitigation Plan. Local Hazard Mitigation Plans enable towns to qualify for grant funds, and they make our communities safer. The next Pomfret Hazard Mitigation planning meeting is scheduled for Thursday, September 21st, 2023, at 7:00 PM in person at the Pomfret Town Offices at 5218 Pomfret Rd, North Pomfret, VT 05053. The main focus of the meeting will be to discuss priority hazards and associated mitigation strategies.

The meeting is open to all interested community members. If you need accommodations for this meeting, please contact Sarah Wraight at swraight@trorc.org.

Local Hazard Mitigation Plans are part of an effort by the Federal Emergency Management Agency (FEMA) to reduce damage from foreseeable natural and human-caused hazards. Examples of projects in local plans include increasing culvert sizes, regulating flood hazard areas, stabilizing landslides, and tree trimming near power lines. For more information, please contact Sarah Wraight at swraight@trorc.org.

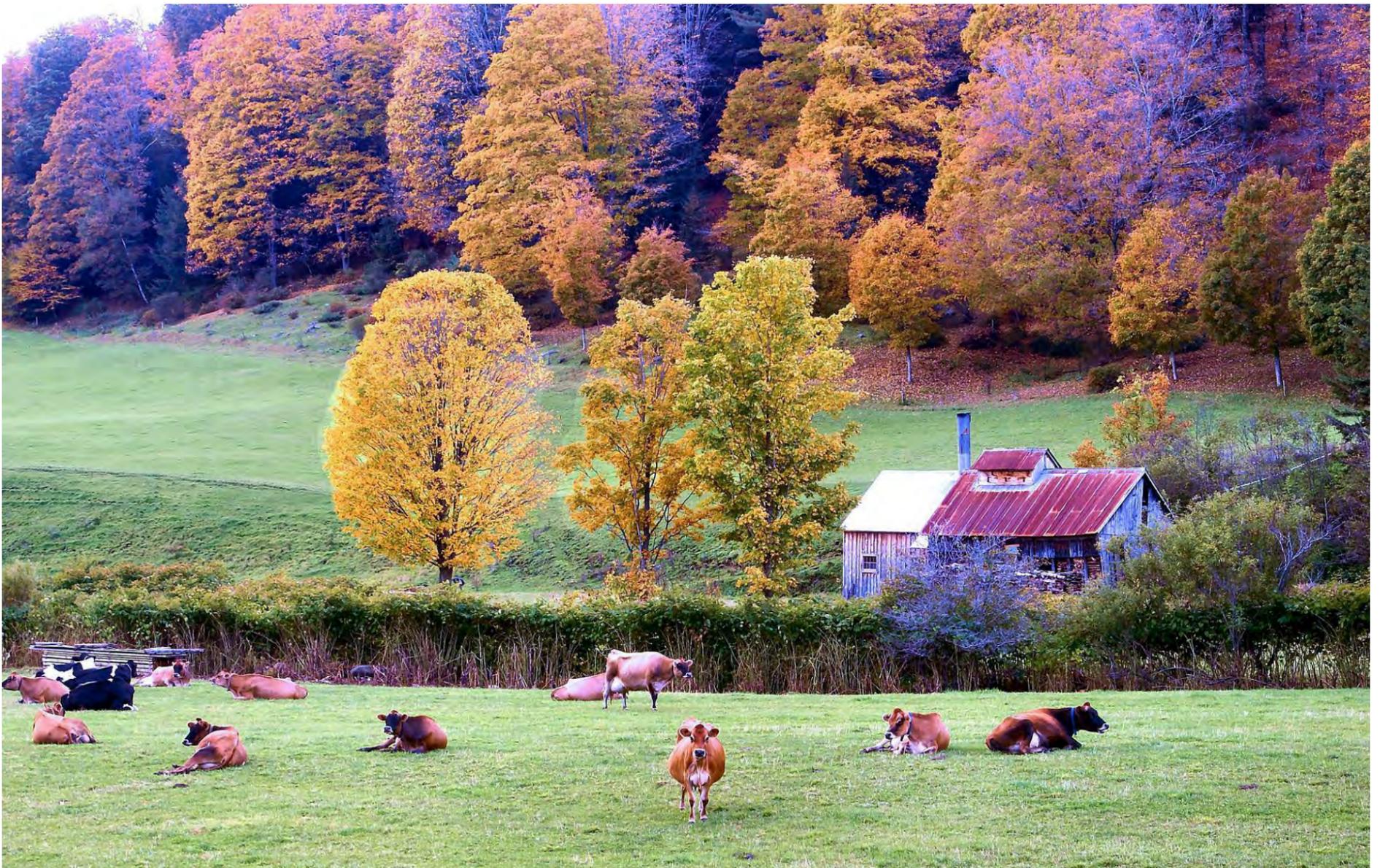
Appendix F: TRORC Newsletter Announcement, January 2023



Two Rivers-Ottawa-Quechee REGIONAL COMMISSION



News & Notes January 2023



Barnard, VT | Photo by: John Knox

PROJECT UPDATES AND REMINDERS

If your community is interested in applying for Village Designation, contact Sydney Steinle at 802-457-3188 ext. 3006 or at ssteinle@trorc.org.



Echo Lake Inn, Plymouth | Photo by: Jay Kullman



Crossing at Christian St. in Hartford | Photo by: Matt Osborn, Town Planner, Town of Hartford 2022

2022 Safe Routes to School Infrastructure Program Awards

Congratulations to the Town of Hartford and Town of Rochester who were awarded 2022 Safe Routes to School Infrastructure Program Grants. The intent of this grant opportunity is to make important spot improvements that will make it easier for children to walk or bike to school. All project costs (design, construction, etc.) will be paid with Federal Safe Routes to School funds that do not require local match.

The Town of Hartford's approved project is improving the pedestrian crossings at Christian St. and Gillette St. in Hartford towards Dothan Brook Elementary School. The Town of Rochester's approved project is re-constructing a sidewalk to be ADA compliant on Bethel Mountain Rd from School St. to Brook St. and adding Rectangular Rapid Flashing Beacons on the crosswalk on Route 100 by Rochester Elementary School. TRORC staff is pleased to have worked closely with these two towns on their successful grant applications.

Meeting Notification: Pomfret

TRORC is currently under contract with the Town of Pomfret to update and prepare their Local Hazard Mitigation Plan. Local Hazard Mitigation Plans enable towns to qualify for grant funds, and they make our communities safer. The first Pomfret Hazard Mitigation planning meeting is scheduled for Thursday, January 19, 2023, at 6:00 PM at the Pomfret Town Clerk's office: 5218 Pomfret Rd., North Pomfret, VT 05053. The focus of the meeting will be to set the agenda and timeline for plan review, review top hazards, and to set mitigation goals and strategies.

The meeting is open to all interested community members. Local Hazard Mitigation Plans are part of an effort by the Federal Emergency Management Agency (FEMA) to reduce damage from foreseeable natural and human-caused hazards. Examples of projects in local plans include increasing culvert sizes, regulating flood hazard areas, stabilizing landslides, and tree trimming near power lines.

For more information, please contact Connor Rigney at crigney@trorc.org.

Appendix G: Glossary of Acronyms

BRIC: Building Resilient Infrastructure and Communities Grant Program

CFR: Code of Federal Regulations

DEMHS: Department of Emergency Management and Homeland Security

FEMA: Federal Emergency Management Agency

FIRM: Flood Insurance Rate Map

HAZMAT: Hazardous Materials

HMGP: Hazard Mitigation Grant Program

NFIP: National Flood Insurance Program

LEMP: Local Emergency Management Plan

PDM: Pre-Disaster Mitigation Plan

RC: River Corridor

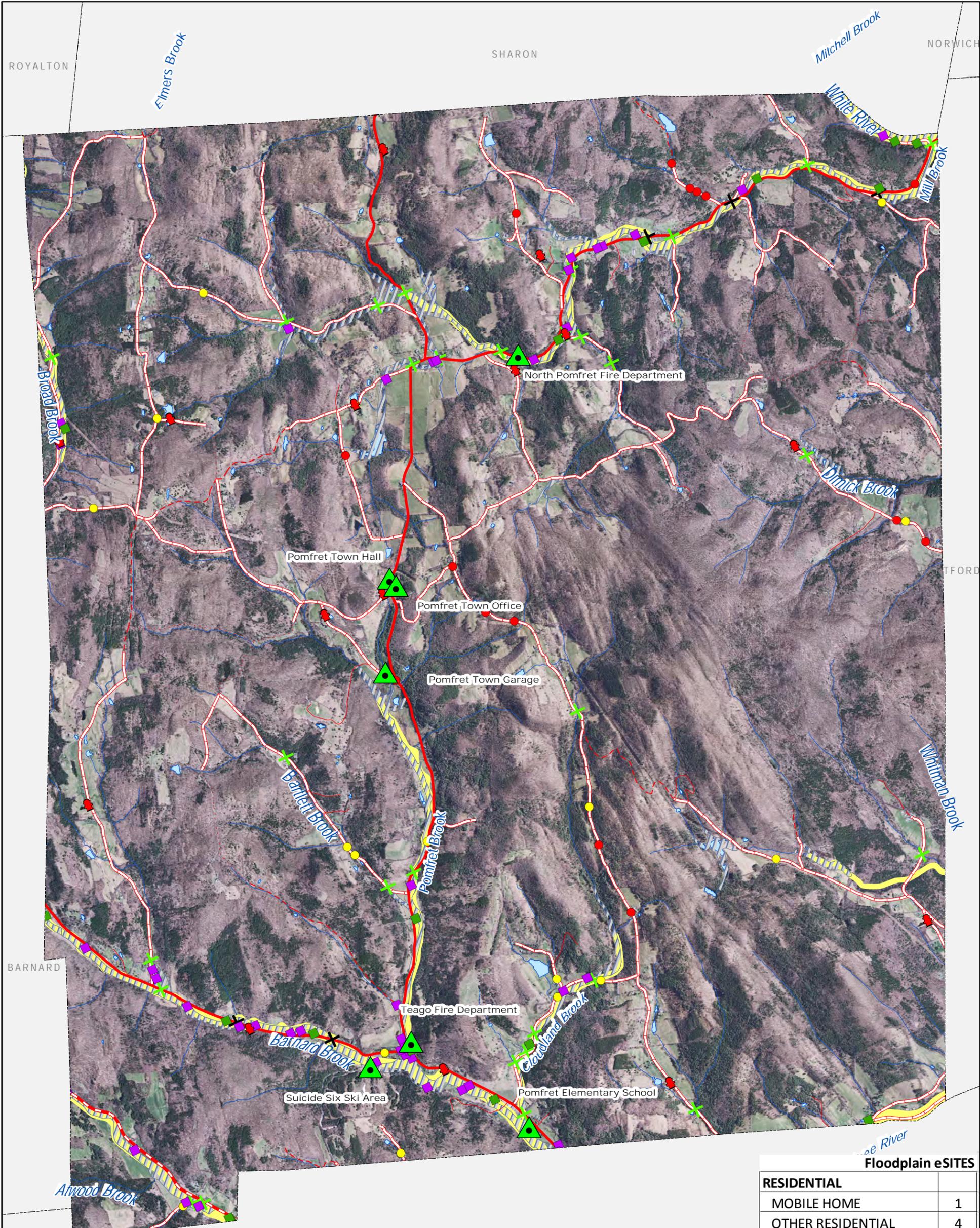
RRP: Rapid Response Plan

SFHA: Special Flood Hazard Area

TRORC: Two Rivers-Ottauquechee Regional Commission

Attachments

Attachment A: Map of the Town of Pomfret



Legend

Critical Facilities	Culvert Condition
▲ Critical Facilities	● Critical
🔥 HYDRANTS	● Poor
Properties Near Water Bodies	⊕ State Owned Bridge
■ Sites in Flood Hazard Area	⊕ Town Owned Bridge
■ Sites in River Corridor	Windsor County
	▨ Flood Hazard Area
	■ River Corridors

Floodplain eSITES	
RESIDENTIAL	
MOBILE HOME	1
OTHER RESIDENTIAL	4
SINGLE FAMILY DWELLING	37
COM/IND/PUB	
COMMERCIAL	6
EDUCATIONAL	1
LODGING	1
Grand Total	58

Flood Region:
National Flood Insurance Program
Digital Flood Insurance Rate Map Data

