

TOWN OF ELMORE, VERMONT

LOCAL HAZARD MITIGATION PLAN

2022 – 2027



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This plan was developed by Elmore Select Board, Planning Commission, Highway Department and Emergency Services – with technical assistance provided by the Lamoille County Planning Commission (LCPC). Hazard Mitigation Grant Program award secured by the LCPC from Vermont Emergency Management provided the funding support for the development of the plan.

Table of Contents

1.0 Introduction	Page 3
1.1 Community Profile	Page 3
2.0 Planning Process Overview and Public Participation	Page 4
2.1 Existing Plans, Studies, Reports and Technical Information	Page 5
2.2 Planning Process and Neighboring Communities	Page 6
2.3 Plan Maintenance Process and Continued Public Involvement	Page 6
3.0 Hazard Identification and Risk Assessment	Page 7
3.1.1 Unusual Hazard: Flood, Fluvial Erosion	Page 9
3.1.2 National Flood Insurance Program (NFIP)	Page 11
3.2 Frequent Hazard: Winter Storms	Page 11
3.3 Likely Hazard: Severe High Wind	Page 12
3.4 Unusual Hazard: Infectious Disease Outbreak	Page 12
3.5 Critical Facilities and Areas of Concern	Page 13
3.6 Climate Change Considerations	Page 13
4.0 Goals and Actions: Emergency Preparedness and Hazard Mitigation	Page 14
4.1 Reoccurring Community Preparedness Actions	Page 15
4.2 Past Mitigation Actions	Page 15
4.3 2022-2027 Mitigation Actions	Page 16
Plan Adoption Resolution	Page 23
Appendix A: Maps and Meeting Minutes	Page 24
Appendix B: Elmore’s Highway Prioritization Ranking System	Page 38

1.0 Introduction

Hazard mitigation is any preventative or sustained action that ameliorates or eliminates long-term risk to people and property from natural and man-made causes and their effects. The purpose of this Local Hazard Mitigation Plan (Plan or LHMP) is to assist the Town of Elmore in recognizing possible hazards within the community and to identify possible strategies to address such hazards.

The existing Hazard Mitigation Plan was adopted by the Town of Elmore on July 12, 2017, as a single jurisdiction plan for the Town of Elmore. This 2022-2027 Local Hazard Mitigation Plan serves as an update to the 2017 plan.

1.1 Community Profile

Elmore is a single jurisdiction, extremely rural, sparsely populated community located in southeastern Lamoille County. According to the 2020 Census, the Town of Elmore has a housing density of 14 housing units per square mile, and a population density of 23 persons per square mile. Elmore is located about 21 miles from Vermont's capital of Montpelier. Elmore is somewhat unique in that there are no significant industrial, chemical, transportation, or other "human-made" areas vulnerable to hazardous events. Historical and potential hazardous areas and events in Elmore are largely natural in cause.

In the past five years, the Town of Elmore has experienced new housing developments on Elmore Pond Road, and new development pressure on Class 4 Roads since the start of the 2020 pandemic. Clearing for new housing structures is increasing stormwater runoff and erosion downslope. Elmore continuously monitors population and housing patterns and responds through regular review and updates of zoning, development, and regulatory by-laws. Recent updates include: 1) Unified Zoning and Subdivision Bylaws (2020), 2) Flood Hazard Regulations - floodplain and river corridor areas (2017), 3) Highway/Bridge Standards (2016 & 2017), 4) Town Plan (2018), 5) Water Quality regulations (2017) and 6) Lake Shore Regulations (2016). All plans include Hazard Mitigation guidance & procedures.

Except for the Highway Department and Town Clerk, all other town functions are provided by vigorous volunteers. The typical inhabitants of Elmore are highly self-reliant with an abnormally high percentage having the necessary tools, equipment, training, and experience to effectively deal with natural disasters as they have for over 200 years. Elmore's historically low frequency of assistance requests to various *EMA agencies is directly traceable to these community capabilities.

Elmore's prominent natural features include Lake Elmore, Mount Elmore, Elmore State Park, the Worcester Range of the Green Mountains, several remote ponds plus large tracts of both wilderness and open fields. Terrain features consist of steep, forested hillsides and well-defined stream basins with deep stream channels. According to the 2019 American Community Survey, Elmore housing stock mix is approximately 32% recreational/seasonal (primarily located near Lake Elmore), and 68% dispersed residential (scattered throughout). According to the 2020 Elmore Grand List, there are three operating farms in Elmore (beef, dairy, organic vegetable farms), and one nursery. Typical land utilization is predominantly smaller residential plots surrounded by large, forested areas, both active and abandoned crop fields or abandoned, early to mid-successional stage old farm fields.

There are approximately 25 miles of class 2 and 3 town highways, several bridges and numerous culverts maintained by the Highway Department. Consistent with Vermont Statutes, the Town does not regularly maintain the approximately 13 miles of Class 4 roads and provides bare minimum trail maintenance. All maintenance, repairs and new construction of roads meets/exceeds State and Federal Standards for

surface durability, stability, runoff, flooding and projected traffic load. The Vermont Agency of Transportation maintains approximately 8 miles of Vermont Route 12 in Elmore. Vermont Route 12 passes through the Elmore town center and connects central Lamoille County municipalities southward to Montpelier and central Vermont.

Electricity is provided by four utilities: Morrisville Water & Light Department, Green Mountain Power, Hardwick Electric, and Washington Electric Cooperative. Morrisville Water & Light owns and operates a dam on Lake Elmore which is solely used to manage only the top 3 feet of lake level for the benefit of property owners. Flow management to the Lamoille River has not been needed nor considered. The outflow stream course is deep, well channeled and has not been susceptible to flooding for 100+ years.

Elmore's public drinking water system is owned and operated by the Town. The system has 18 subscribers serving residences, the town hall, the elementary school, and a store in the Village. The water system was totally reconstructed in 2014 and operates flawlessly. All other Elmore structures are served by private well or spring systems. Fire coverage is provided primarily by the volunteer Elmore Fire Department with 16 hydrants, ponds, and streams throughout the town. The Fire Department participates in the Lamoille Mutual Aid Association, which functions as a mutual aid response network among all eight Lamoille County fire departments. Elmore also has a special arrangement with the Wolcott Fire Department, whereby both departments respond to calls in the two communities. The Morristown Rescue Squad provides full-time emergency ambulance coverage. Law Enforcement support is provided by the Vermont State Police. The Lamoille County Sheriff's Department provides basic traffic control. Typical of rural northern Vermont law enforcement support is infrequent and limited.

2.0 Planning Process Overview and Public Participation

This plan was prepared by the Elmore Planning Commission, Select Board, Highway Department, and Emergency Management Services, with technical assistance from the Lamoille County Planning Commission (LCPC). All Regional Emergency Management Committee members (REMC) were also provided an opportunity to give input during the public comment period as described in section 2.2 below. The Planning Team consisted of the following local Elmore Officials:

Elmore Planning Commission:

Bruce Olsson, Don Valentine; Glenn Schwartz; Kate Sprague (Chair); Michelle Greeson; Hans de Boer

Elmore Selectboard:

Caroline DeVore (Chair), Rob Wills, Glenn Schwartz

Elmore Road Commissioner:

Michel Lacasse

Elmore Fire Chief/ Emergency Management Director:

Brent Hosking

Public Participation: All Elmore Planning Commission, Selectboard and public meetings for the Local Hazard Mitigation Plan update were warned in compliance with VT Statutes which includes website, village public posting and newspaper as required. Agendas are published in advance via municipal website and physical posting in advance of all meetings. Written, electronic and verbal responses were accepted, discussed, and incorporated where relevant. Meetings held and milestones met throughout the update of the Elmore Local Hazard Mitigation Plan are outlined below.

Key plan process milestones:

- November 2, 2021: Elmore Planning Commission, at a publicly warned meeting, discussed with the LCPC the need to revise the Elmore Local Hazard Mitigation Plan. The Planning Commission reviewed key sections of the plan and provided input on the Hazard Risk Inventory matrix and Hazard Mitigation Actions Table. One member of the public participated in the meeting and did not provide comment regarding the plan update. This meeting prompted a follow-up meeting with the Road Commissioner and Planning Commission/Selectboard liaison.
- November 15, 2021: Meghan Rodier from the LCPC met with the Elmore Road Commissioner, Michel Lacasse, and Planning Commission/Selectboard member, Glenn Schwartz, to review progress on mitigation actions since 2017 and current town priorities to incorporate into the Mitigation Actions Table.
- December 7, 2022: Meghan Rodier from the LCPC met with the Elmore Fire Chief/EMD, Brent Hosking, to review the revised Mitigation Actions Table for additional input on current town priorities, and upcoming priorities for the Elmore Fire Department. At this meeting Brent also provided updates to the Elmore Hydrants map for inclusion in the draft Local Hazard Mitigation Plan.
- February 9, 2022: Elmore Selectboard and Road Commissioner, at a publicly warned meeting, discussed the Local Hazard Mitigation Plan update, and reviewed and provided input on key sections of the plan including the status of mitigation priorities from the 2017 plan, and the Mitigation Actions table. Four members of the public participated in the meeting but did not provide comment on the Hazard Mitigation Plan.
- March 10, 2022: LCPC emailed the draft plan to the REMC for review.
- April 5, 2022: The Elmore Planning Commission held a publicly warned meeting to hear public comments. No comments were received from the public.
- May 31, 2022: The Elmore Planning Commission met with LCPC staff to review FEMA Review comments on the draft Elmore Local Hazard Mitigation Plan. The Elmore PC discussed Town capabilities and areas for improvement per Criteria C1.

2.1. Existing Plans, Studies, Reports, and Technical Information

To develop this plan, Lamoille County Planning Commission reviewed the following resources:

- 2022 Elmore Local Emergency Management Plan
- 2020 Elmore Unified Zoning and Subdivision Bylaws
- 2020 Lake Elmore Watershed Action Plan
- U.S. Census, 2010 and 2020 and American Community Survey, 2015-2019
- 2018-2026 Elmore Town Plan
- 2018 State of Vermont Hazard Mitigation Plan
- 2017 Elmore Flood Hazard & River Corridor Regulations
- 2017 Elmore Local Hazard Mitigation Plan
- Flood Insurance Rate Maps and National Flood Insurance Program information
- National Centers for Environmental Information, National Oceanic and Atmospheric Administration <http://www.ncdc.noaa.gov/stormevents>
- FEMA <https://www.fema.gov/disaster>
- State of Vermont – Flood Ready Information <http://floodready.vermont.gov>

2.2 Planning Process and Neighboring Communities

Neighboring communities were sent copies and encouraged to provide input into the development of this plan and review the draft plan. On March 10, 2022 the draft plan and public comment period notice was distributed to Regional Emergency Management Committee members. The REMC is composed of emergency management professionals and volunteers and include representatives from all neighboring communities in Lamoille County. The REMC members were instructed to provide feedback to Meghan Rodier, Lamoille County Regional Planner via email. The REMC members the draft Elmore Local Hazard Mitigation Plan was emailed to include the following:

Belvidere Emergency Management Director
Cambridge Town Administrator
Cambridge Emergency Management Director
Cambridge Rescue Squad Chief
Eden Emergency Management Director
Elmore Emergency Management Director
Hyde Park Emergency Management Director
Hyde Park Fire Department Chief
Johnson Emergency Management
Johnson Fire Department Chief
Morristown Emergency Management Director
Morristown Police Chief
Morristown Fire Chief
Morristown Rescue
Stowe Police Chief
Stowe Emergency Management Director
Stowe Fire Department Chief
Stowe Rescue
Wolcott Emergency Management Director
Wolcott Fire Department Chief- Jim Holton

In March, 2022, the draft Elmore Local Hazard Mitigation plan and public comment period notice was posted on Front Porch Forum to reach members of the public in all adjacent neighboring communities of Morristown, Stowe, Wolcott, Woodbury, and Worcester, VT. The draft plan was posted on LCPC's website for public viewing. On March 11, 2022, the LCPC submitted the public comment notice to advertise in the local newspaper, The News and Citizen. The Public comment period ran from March 18, 2022, to April 15, 2022. On April 5, 2022, the Elmore Planning Commission held a public meeting to solicit input and received no comments from the public. This meeting was publicly warned in accordance with Open Meeting Law and included in the public comment period notice. During the public comment period comments were received from two Elmore Planning Commission members (one via email, one at the April 5th Public Meeting).

2.3 Plan Maintenance Process and Continued Public Involvement in the Plan Maintenance Process

The Elmore Selectboard, as the Designated Responsible Body, continuously evaluates effectiveness and issues of all town plans. It does so by assessing whether plan goals are being achieved and priority actions implemented. The Elmore Selectboard will review progress on the Mitigation Actions in this plan annually during the April/May Selectboard meeting, while reviewing the update of the Local Emergency

Management Plan. Comments are batched for inclusion in subsequent revisions. Additionally, any significant event prompts a review of the goals and the actions by the Selectboard.

One year prior to the expiration of the Plan, the Elmore Planning Commission will initiate and lead the process of the Plan update-with technical assistance from LCPC. The Elmore Planning Commission and LCPC will work directly with the Elmore Selectboard, Road Commissioner, and Emergency Management Director for plan input. Continued public involvement will occur through maintaining the existing processes as cited above plus the addition of all evolving required process changes. By Vermont Statute, the Selectboard has the authority to vote on the plan approval.

Hazard Mitigation is an integral component of ALL town plans, zoning and design regulations, by-laws, operating guidelines and infrastructure upgrades. Benefitting from a small, tightly knit community, the Elmore hazard mitigation planning team is uncommonly tightly linked to all elements of the hazard mitigation process as the team consists of the very same individuals who regularly interact with State and Federal Agencies, conduct town operations, author and implement all town plans, zoning, plans, conduct site inspections as well as regular on-the-ground and aerial assessments of all topography, activities and changes throughout the town. During the 2017-2020 planning cycle, the 2017 Elmore Local Hazard Mitigation Plan was integrated into the 2018 Town Plan update and the 2020 revision of the Elmore Zoning Bylaws.

3.0 Hazard Identification and Risk Assessment (HI/RA):

The following assessment and Table 1 were revisited with Town of Elmore officials in fall of 2021. The Hazard Inventory and Risk Assessment (HI/RA) was updated in November of 2021 based on input from the Elmore Planning Commission regarding community vulnerability to local hazards. The first column is a list of possible hazards that could affect the community. The hazards were evaluated to have a *Rare, Unlikely, Unusual, Likely, or Frequent* probability of being a threat to the community. The severity and community vulnerability/risk of each hazard was assessed. The final column details what is most vulnerable if the hazard occurred.

The Probability of occurrence is classified as shown below:

- Rare: < 1% probability in the next 100 years; may never have occurred in Vermont.
- Unlikely: 1% to 4% probability in the next year, this type of event has occurred in Vermont.
- Unusual: 4% to 10% probability in the next year, or at least one chance in the next 100 years.
- Likely: 10% to 50% probability in the next year, or at least one chance in the next 10 years.
- Frequent: Greater than 50% probability in the next year; an event that occurs often but degree varies.

The SEVERITY (percentage of the community affected) of the hazard can be classed as follows:

- Minor: < 10% of properties damaged/Minimal disruption to quality of life.
- Serious: 10% to < 25% of properties damaged/Loss of essential facilities/services for up to 7 days/Few (< 1% of population) injuries possible.
- Extensive: 25% to 50% of properties damaged/Loss of essential facilities/services for > 7 days < 14 days/Major (< 10% of population) injuries/few deaths possible.
- Catastrophic: > 50% of properties damaged/loss of essential facilities/services for > 14 days/Severe (> 10% of population) injuries/multiple deaths possible.

The combination of the impact of the hazard (severity) and the probability was used to determine the COMMUNITY VULNERABILITY/RISK as *High, Moderate or Low*.

HI/RA is a subjective tool to rate the expected impact of natural hazards within a specific community by factoring local vulnerability of people, buildings and infrastructure to natural events involving: loss of life, personal injury, economic injury and property damage. It should be noted that the only significant threats to Elmore are natural in origin, the impacts of which will be significantly less than if occurring in more developed/populated areas. Historically, suspension of electrical service has very rarely exceeded 3 days. The public drinking water system and Emergency Services Buildings have generator back-up. Guided by 100+ year historical records, Elmore reviewed, identified, and evaluated 12 natural hazards.

Table 1: Hazard Identification/Risk Assessment Table

Possible Hazard	Probability of Occurrence	Severity	Community Vulnerability /Risk	Most vulnerable areas or items
Flooding, flash flooding, fluvial erosion	Likely	Minor	Moderate	Damage to roads, culverts, bridges, and residences;
Winter storms: Snow and ice storms	Frequent	Minor	Moderate	Temporary road impassability. loss of electricity
Severe High Wind: Thunderstorms, hurricanes	Likely	Minor	Moderate	Road closures and loss of electricity from fallen trees; other vulnerabilities associated with flooding
Infectious Disease Outbreak	Unusual	Extensive	Moderate	Severe disruption to agriculture stock, strain on healthcare system, economic disruption, disruption to municipal operations, loss of life
Hailstorm	Unusual	Minor	Low	Damage to structures, other private and public property, and to agricultural lands and operating equipment
Wildfire/forest fire	Unlikely	Minor	Low	Damage to structures, infrastructure, and forests
Drought	Unusual	Serious	Moderate	Private well failures, wildfires, agricultural losses
Earthquake	Unlikely	Minor	Low	See VT Geological Survey HAZUS report (9/03)
Landslide	Unusual	Minor	Low	Damage to roads, structures, and associated flooding impacts
Tornado	Unusual	Minor	Low	Road closures, electricity loss, major structure damage
Extreme Cold	Unlikely	Minor	Low	Damage to plumbing, machinery, transportation
Extreme Heat	Unlikely	Minor	Low	Damage to crops/livestock, heat exhaustion
Ice Jams	Unusual	Minor	Low	Damage to road infrastructure

The next section of the plan will address, in detail, hazards with moderate community vulnerability. These are Flood/Fluvial Erosion, Severe High Wind, and Infectious Disease Outbreak. Winter storms, also identified as a hazard with moderate community vulnerability, is not addressed in the same level of detail because Elmore's community ability to prepare for and respond to winter storms is historically high. At this time, no extraordinary mitigation actions have been identified to mitigate winter storms. This plan also does not address wildfire, drought, earthquakes, landslides, tornadoes, extreme heat, extreme cold or ice jams due to their low vulnerability, unusual frequency or minor severity. For information on these hazards refer to the Vermont State Hazard Mitigation Plan.

3.1.1 Likely Hazard: Flood, Fluvial erosion: Refer to Elmore Flood Hazard Map, Attachment A.

Hazard Definition: Flooding is the overflowing of rivers, streams, drains, ponds and lakes due to excessive rain, or rapid melt of snow or ice. Flash flooding is a rapidly occurring flood event usually from excessive rain. Fluvial erosion is the removal of sediment from stream channel or banks by channel flow. While this process occurs normally over time as the stream channel continuously adjusts, more severe fluvial erosion can occur quickly during flood events and can pose significant risk to infrastructure and property located within the river corridor.

Extent: The worst flooding that can be anticipated is reflected by the 2011 events during Tropical Storm Irene in southern Vermont, where most areas received between 5 and 7 inches of rain, with the highest recorded amount in the Town of Mendon (11 inches). Had the northern part of the state received a comparable amount of rain during Irene, the results would have been equally catastrophic. Fluvial erosion has occurred on a single stream bank, limited to scour/erosion less than 50' in length. Channel change has not occurred.

Location: In Elmore, the areas most at risk are located in the floodplain and along river corridors. These areas are shown on the attached Flood Hazard Map. Historical patterns and current 100yr flood projections might affect only 3 residences. Bridge vulnerability is confined to a single bridge. No highways are vulnerable to fluvial erosion. Less than 5% of all other town roads are vulnerable to washouts of embankments or culverts rarely exceeding 5-10' in length. Complete road closures are extremely rare, rarely lasting longer than 24hours. Material reserves are stockpiled in town. Most roads have multiple accesses in the event of closure.

Past Occurrences: Elmore flood recovery assistance requests occurring with major flood events in Lamoille County (that resulted in federal disaster declarations), starting in 1995, are listed below. The list includes dates, public assistance funding received and descriptions of the disasters.

August 1995 (DR 1063)	\$70,769
January 1996 (DR 1101)	\$8,237
July 1997 (DR 1184)	\$90,766
August 2011 (DR-4022)	\$46,000
May 23, 2013 (DR-4120)	\$0
April 15, 2014 (DR-4178)	\$0
December 9, 2014 (DR-4207)	\$0
October 29, 2017 (DR-4356)	\$0
May 4, 2018 (DR-4380)	\$0
October 31, 2019 (DR-4474)	\$48,779
January 20, 2020 (DR-4532)	\$0

August 1995: Record setting heavy rains caused flooding in six north-central counties of Vermont (FEMA-1063-DR-VT). This was the first time since the floods of 1927 and 1934 that a flood not only affected public infrastructure, but also personally impacted the residents of Vermont. Preliminary damage assessments indicated individual losses greater than damages to public infrastructure. Flood levels exceeded the 500-year event in several areas along the Lamoille River.

January 1996: Mid-winter flood event brought statewide destruction of private and public property with eleven Vermont counties included in the declared disaster area. This event left more than 150 communities eligible for public assistance (FEMA-1101-DR-VT)

July 1997: Excessive rain in several northern Vermont counties caused flash flooding and destruction of public and private property (FEMA-1184-DR-VT).

August 28-29, 2011: Tropical Storm Irene (DR-4022) devastates much of the eastern seaboard, causing unprecedented flooding across Vermont. Generally, the impact on southern parts of the state was far greater than in Lamoille County and other northern regions. However, Elmore experienced localized damage to public infrastructure, including roads, bridges and a culvert.

May 23, 2013: Heavy rainfall produced flash flooding across Lamoille and Chittenden Counties (DR 4120). Excessive runoff in the steep terrains washed out bridges, culverts and roads. Gradually the flash flooding transitioned to a flood event as larger rivers such as the Lamoille and Browns Rivers responded to the increased flows. Total federal public assistance provided by FEMA to the State to repair damages was \$2,003,443. Elmore did not request FEMA public assistance funds.

April 15, 2014: Heavy rainfall and snowmelt caused widespread minor to moderate flooding across Lamoille County, mainly along and west of Route 100 (DR 4178). Numerous highways were flooded and there was widespread damage to gravel roadsides and many culverts failed in Johnson, Belvidere, Cambridge and Waterville. In Stowe, the recreation path sustained damage. Total public assistance provided by FEMA to the State to repair damages was \$1,844,155. Elmore did not request FEMA public assistance funds.

December 9, 2014: Heavy, wet snowfall across Lamoille County ranged from 6 to 18 inches. Elmore received roughly 12 inches of snow. The heavy, wet nature of the snow resulted in widespread power outages and vehicle accidents. Total power outages were over 175,000 across Vermont. This storm caused the 2nd most power outages due to weather in Vermont.

October 29, 2017: Rain began on October 29th and became heavy on October 30th. Total rainfall in Elmore was about 1.3 inches. Sustained winds of 25 to 35 mph with frequent wind gusts of 50 to 70 mph occurred during the early morning hours of October 30th across portions of Vermont due to fully mature mountain waves. A peak wind gust of 115 mph was observed at the summit of Mount Mansfield. The severe storm and rainfall caused flooding across the region, with a federal disaster (FEMA-4356-DR-VT) declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille, Orange, Orleans, Washington, and Windham counties on January 2, 2018.

May 4, 2018: Rain started overnight on May 4th and increased on May 5th. Total rainfall in Elmore was around 1 inch. The severe storm and rainfall caused flooding across the region, with a federal disaster (FEMA-4380-DR-VT) declared for Chittenden, Grand Isle, Lamoille, Orange, and Orleans counties on July 30, 2018.

October 31, 2019: Steady rain developed during the night of October 31st and became heavy at times through November 1st. Rainfall amounts ranged from 1.5 to 4 inches across Vermont. Elmore received almost 3 inches. Numerous flooded streams and washed-out roads were reported. Several large rivers flooded, including the Lamoille. In addition to the large rain amounts, strong winds were reported throughout the county. Gusts in excess of 50 mph caused downed trees and power outages. Roads and structures were damaged by trees being blown over.

3.1.2 National Flood Insurance Program (NFIP)

The Town of Elmore participates in the NFIP and currently has 1 policy in force in Elmore (Vermont Flood Ready website; FEMA NFIP Insurance Report, 1978-2018). Current data for NFIP repetitive loss properties, shows zero repetitive losses in Elmore. The town will continue to regulate and enforce NFIP requirements through its zoning regulations, including new and substantially improved construction regulations in Special Flood Hazard Areas and River Corridors. Upon receipt of a complete application for a substantial improvement or new construction, the zoning administrator shall submit a copy of the application and supporting information to the State National Flood Insurance Program (NFIP) Coordinator at the Vermont Agency of Natural Resources, in accordance with 24 V.S.A. § 4424. A permit may be issued only following receipt of comments from the Agency, or the expiration of 30 days from the date the application was mailed to the Agency, whichever is sooner. The DRB shall consider comments from the NFIP Coordinator at ANR. The DRB may recess the proceedings on any application pending submission of additional information. This bylaw shall be enforced under the municipal zoning bylaw in accordance with 24 VSA Chapter 117 § 4451, § 4452 and 24 VSA Chapter 59 §1974a. A copy of the notice of violation will be mailed the State NFIP Coordinator.

3.2. Frequent Hazard: Winter Storms

Hazard Definition: Severe Winter Storms deliver heavy accumulations of snow in excess of 12", and may include cold temperatures and high winds leading to loss of electric power, road/access impairment and property damage.

Extent: The most severe storms recorded snowfall up to 30", the most recent of which was March 2017. Elmore sought no FEMA assistance. A 200-500 year event ice storm occurred in 1995 with 2-3 inches of ice accumulation. While possible, this is not an event that can be mitigated in advance.

Location: Winter storms are a hazard mostly because of their frequency and the less frequent possibility of power loss. Winter storms are a town-wide hazard and major blizzard events typically last approximately 12-24 hours and rarely exceed 72 hours. Wind drifting can occur on portions of exposed roads which are adjacent to fields.

Past Occurrence: The most recent FEMA disaster declarations for a winter storm in Lamoille County occurred in December of 2014 (DR-4207) causing a power outage for over 175,000 customers across Vermont.

Elmore Emergency plans and agreements are maintained in place, utilizing a) Elmore Highway Department equipment personnel, b) extensively augmented by on-call staffing, c) 4 in town construction/excavation companies and d) numerous local private plowing personnel. Roads are typically passable within less than 24 hours. Town buildings and emergency services shelters have access to back up power. Elmore and local utility companies regularly perform preventative actions to insure

reliability, availability, and maintainability of their infrastructure ROWs. Both entities are adequately staffed and equipped to respond to single and multiple events. Elmore planning and preparedness efforts include identification monitoring of emergency shelter(s), basic sleeping supplies, basic food and water, and debris management capabilities.

3.3. Likely Hazard: Severe High Wind (Thunderstorms, Tropical storms, Hurricanes)

Hazard Definition: Severe thunderstorms, hurricanes and tropical storms are compound hazards capable of producing precipitation, high winds, flooding, and fluvial erosion. Thunderstorm winds are generally short in duration, involving winds or gusts in excess of 50 mph. A tropical storm has a maximum sustained wind speed of 39–73 mph. A hurricane is a tropical cyclone with sustained winds that have reached speed of 74 mph or higher. Micro-Bursts are hurricane force winds associated with thunder storms which typically affect areas of 1-5 acres.

Extent: The worst windstorm that can be anticipated in Elmore would be comparable to that of the September 1938 hurricane, which caused widespread property damage throughout the state (reaching a force of 12 on the Beaufort Wind Scale, with estimated winds of 74+ mph).

Location: Thunderstorms and associated hazards can occur anywhere in Vermont at any time of the year; however, spring and summer are the most common times for severe thunderstorms. In Elmore the parts of the community most at risk are the 1% area and 4 houses (3 single family dwellings and 1 camp) located in the floodplain and within the river corridor. These areas are shown on the attached Flood Hazard Map.

Past Occurrence: Since 2011, the year of tropical storm Irene, seven FEMA disaster declarations caused by severe storms included Lamoille County. Each storm caused damages to public infrastructure, primarily roads and bridges. In August 2011, tropical storm Irene (DR 4022) caused damages estimated at \$640,000 county-wide. In May 2012, a severe storm, tornado and flooding (DR 4066) caused damages estimated at \$306,000 county-wide. In May 2013, damages from a severe storm (DR 4120) in Lamoille County were estimated at \$145,000. In June 2014, a severe storm (DR 4178) damaged public infrastructure at the estimated price of \$326,000 county-wide. On October 31, 2019 (DR-4474), also known as the “Halloween Storm”, caused severe flooding, road washouts, down debris, and power outages across Lamoille County. The FEMA Preliminary Damage Assessment reported a countywide per capita impact for Lamoille County of \$16.93 (\$428,329).

3.4. Unusual Hazard: Infectious Disease Outbreak

January 20, 2020: The COVID-19 pandemic was declared a disaster in Vermont on April 8, 2020. COVID-19 can cause people to experience fever, shortness of breath and difficulty breathing, and many other flu-like symptoms. This virus proved to be harmful to the elderly and people who are immunocompromised. As of February 15, 2022, Vermont has recorded 109,793 total cases of COVID-19. A vaccine has been approved for use in Vermont. To date, 81% of Vermonters have been fully vaccinated (received 2 doses of the vaccine), and 65% of eligible Vermonters (ages 5+) have received a booster shot.

Extent: As of February 15, 2022, Vermont has recorded 575 total deaths caused by the COVID-19 virus. This accounts for .5% of total cases (109,793). The COVID-19 virus has caused stress on Vermont hospitals from a capacity standpoint. Cases soared to over 2,500 COVID-19 cases per day in Vermont during winter of 2021-2022. Even as cases began to drop in February of 2022, some patients continue to

be hospitalized from COVID-19. On February 15, 2022, Vermont recorded 69 people hospitalized from COVID-19 and 18 in the ICU. The test positive rate at this point was 6.4%. This pandemic has disrupted public health and economic supply chains on a global scale.

Location: The COVID-19 pandemic began in winter of 2020 and continues to be a global concern. Vermont continues to have one of the lowest death rates and total case numbers of COVID-19 compared to other U.S. states. More densely populated portions of Vermont have experienced higher COVID-19 cases such as Bennington, Chittenden, Rutland, and Washington Counties.

Past Occurrences:

The COVID-19 pandemic began in Vermont in March of 2020. Two years later, we are still battling with the spread of this infectious disease. While as of February 15, 2022, Vermont's total cases of COVID-19 remain under 200,000, on a global scale the virus has infected around 412 million people: approximately 78 million of those cases being in the U.S. (Center for Disease Control). The U.S. alone has recorded over 917,000 deaths from COVID-19. Vermont is acting at the state and local level to protect Vermonters and visitors from experiencing potentially fatal impacts of the COVID-19 Virus. The Vermont Department of Health has 22 vaccination sites across the state.

Previously, the last global pandemic of an infectious disease was the Spanish Flu of 1918. The virus was a form of influenza (flu) caused by an H1N1 virus originating from a bird (avian origin). According to the Cleveland Clinic, from 1918 to 1919, the Spanish flu infected approximately 500 million people globally. This amounted to around 33% of the world's population. This virus killed around 50 million people. Approximately 675,000 of those deaths were in the U.S.

3.5. Critical Facilities and Areas of Concern

There are three critical facilities in the Town. These facilities include: the Fire Department on Beach Road, the Town Offices on Vermont Route 12 and the Elmore School (the last 1 room school in Vermont) also on Route 12. All three facilities can function as Emergency Operations Centers. The Fire Station/Emergency Shelter has back-up generator. Portable generators are available in the community for the school and Town Offices. Tree fall, wind damage, flood are not factors at any emergency facility. The most significant issue facing Elmore will be sanitary facilities in the event of mass shelter events.

A key area of focus is the low-lying intersection of Symonds Mill and East Elmore Roads. Other minor areas include: Lake Elmore Dam/Route 12 Bridge located in a low-lying area (never failed or eroded), a 100 yard stretch of Beach Road between Patch House and the Town Garage which floods, but remains passable. Of note is that the Lake Elmore dam only controls the top three feet of the lake, and any dam overflow goes into a deep rock and ledge strewn, stream course which has never been a problem in 100+ years.

The only "High Risk" populations are Elmore School (school year) and Elmore State Park (seasonal-warm season).

3.6 Climate Change Considerations

Climate change is always present when considering possible hazards, and mitigation strategies and actions. However, planning for it can be difficult. The hazards listed above are categorized based on their current probability and extent, but the potential threat they pose may not remain static. Climate change is likely to cause several of these hazards to increase in severity including drought, extreme

temperatures, flooding, severe thunderstorms, tornados, hurricanes/tropical storms, wildfires, diseases, and invasive species.

As the effects of climate change become more prominent; precipitation patterns will alter the availability of local drinking water supply and water for agricultural and commercial use. Frequency and severity of flood inundation, flash flooding, fluvial erosion, and landslide hazards are likely to increase. As river and stream banks erode further, they will encroach further towards buildings and other property. During the winter months, increased temperature and more frequent rain events will increase the frequency of icy road conditions along Elmore's local road network. In the spring early thaws and increased precipitation will continue to result in some of the worst mud seasons on record, increasing the frequency of grading on municipal dirt roads. In the spring of 2022, mud season was one of the worst mud seasons recorded. It made travel on dirt roads treacherous or impassable at times.

Increases in severe weather events, including extreme heat could lead to an increase in power outages across the region. Battery back-up power could be explored to improve grid resiliency in the event of increased disruptions due to climate change events. In relation to increased rainfall and a greater frequency of flooding events, water quality is likely to be negatively affected by climate change. A higher inflow of water into lakes and streams increases phosphorus levels which eventually lead to blooms of blue-green algae, which are toxic to animals and people. Warmer temperatures further contribute to increased algae blooms.

The Vermont Department of Health has stated there is speculation the about possible connection between climate change and emerging infectious diseases such as eastern equine encephalitis, West Nile virus, Zika, anaplasmosis, and babesiosis, as well as disease vectors. However, occurrence of these diseases or their vectors in Vermont has not been conclusively linked to climate change. Flooding may also lead to increased mold problems, and other water-borne diseases, as well as providing more spawning locations for mosquitoes.

Wildfires and forest fires could occur more often as temperatures rise. Invasive species, though of little to no threat now, may become a significant threat. Kudzu, known as "the vine that ate the South", has been kept at bay due to cold winters, but if temperatures increase, kudzu and other creeping plants could spread across Vermont's mountains and kill much of the local vegetation. It is predicted that plants like kudzu will likely have a foothold in New England by 2100. (Bradley, Wilcove, Oppenheimer 2009).

4.0 Goals and Actions: Emergency Preparedness and Hazard Mitigation

BACKGROUND: Elmore's hazard mitigation goal remains and continues to be the reduction/avoidance of long-term vulnerabilities identified in this plan. In pursuit of this goal, Elmore engages in ongoing County and State emergency preparedness activities, continued investments in mitigation action projects and regular design reviews of all infrastructure, facilities, and residential/agricultural/forest activities. From 2017-2020, the Town of Elmore completed a 3 year planned cycle upgrading all town plans, zoning, regulations and by-laws to comply with EPA/ANR, AOT, VEM and FEMA directives. Development and land uses are guided and restricted as appropriate to the respective hazard, access, safety, and environmental risks. These overarching mitigation goals were reviewed and reaffirmed by Town of Elmore local officials including the Elmore Planning Commission, Selectboard, Road Commissioner, and Emergency Management Director in the fall/winter of 2021-2022.

4.1 Recurring Community Preparedness Actions

Elmore's community preparedness activities include:

- Maintenance and annual adoption of Local Emergency Management Plan.
- Participation in Regional Emergency Management Committee meetings and activities
- Continued participation in National Flood Insurance Program and enforcement of Flood Hazard and River Corridor Bylaws.
- Insuring vegetation management of all town and utility ROWs.
- Continuous capital plan upgrades to storm and wind prone infrastructure areas.

4.2 Past Mitigation Actions

Table 2: Progress on Past Mitigation Actions

Below is the list of actions identified in 2017 Elmore LHMP and their implementation status:

Action	Status
Seek funding to purchase generator for 1 town emergency shelter & 1 town control center	Power back-up/ energy storage system will be incorporated into the new Town Garage design. Current Elmore Fire Department has a back-up generator and serves as an emergency shelter.
1) Regrade low drainage areas & upsize 4 culverts on Elmore Mountain Road. 2) NOTE: All regular 2017 Town culvert replacements will upgrade where needed to meet/ exceed Act64 requirements.	Completed culvert upgrades/ road widening along Elmore Mountain Road.
Review and Update All Regulations for comply with Act 64 (Water Quality Act)	Revised Flood Hazard Regulations and adopted a River Corridor Overlay in 2017. Zoning and subdivision regulations revised and adopted in 2020. Subdivision regulations include updated language on water quality and stormwater management.
Update Culvert Inventory	Completed Culvert Inventory Update in 2019
Identify sanitary options for emergency shelters	Current Fire Department that serves as an emergency shelter has adequate bathroom facilities. Adequate sanitary facilities will also be incorporated into the new Town Garage design.

Elmore's historical low participation rate in FEMA/VEMA assistance programs clearly suggests the town's continuous hazard mitigation policies, infrastructure construction, and maintenance are well positioned to deal with and respond to natural disasters. Overall, Elmore's capabilities to address vulnerabilities and hazards are considered highly adequate in relation to the size of the community and the available financial resources. Should significant demands to improve emergency response and hazard mitigation be identified, Elmore will utilize the then current financial augmentation options.

Elmore's standard operating and budgeting practices are to design, implement and maintain all community aspects to a 3 sigma, worst case level, leading to a comparatively small list of currently planned Mitigation Actions.

New hazard mitigation actions listed in this plan will be incorporated into the Town Plan during the next town plan update in 2026. Additionally, actions identified in this plan will be made available to state agencies for their incorporation into statewide plans including the Tactical Basin Plan for Lamoille and Winooski River Watersheds of the VT Agency of Natural Resources and the List of Priority Infrastructure Projects developed annually by the VT Agency of Transportation.

During the development of the previous 2017 Elmore Local Hazard Mitigation Plan, a simplified method was developed to evaluate mitigation actions based on input from the Elmore Selectboard and local officials. The Town of Elmore will continue to use this simplified process to evaluate mitigation actions as shown below in Table 3.

4.3. 2022-2027 Mitigation Actions

Elmore's hazard mitigation priorities remain focused on fluvial erosion, flooding, and severe storms - Elmore's predominant natural hazards. Protecting public infrastructure and reducing loss of life and property remain a priority. In this plan update, mitigation actions were added and modified to address concerns regarding stormwater runoff and fluvial erosion, and flooding. These actions include identifying priority culvert upgrades, targeting areas for re-grading municipal roads, and implementing stormwater mitigation priorities from the Lake Elmore Action Plan. Considering the COVID-19 pandemic, new actions were added to mitigate impacts resulting from the spread of an infectious disease. These actions include maintaining a supply of PPE for municipal employees and local emergency officials, purchasing equipment for the Town Office to support hybrid meetings, and participating in the Communications Union District to increase broadband coverage in Elmore. An education and awareness action was added to address concerns regarding drought. The list of 2022-2027 mitigation actions for Elmore is shown below. Predominantly these actions relate to local plans and regulations, structures and infrastructure projects and natural systems protections. In Table 3 below, the bolded individual or agency is the primary lead for implementing mitigation actions and other listed leadership are partners or supporting organizations.

Elmore reviews and plans all actions annually, during town budget development process. While a significant disaster event may shift priorities, the Select board manages implementation to match funding, time, and public support. Elmore uses a rigorous TCO (total cost of ownership) evaluation for all projects to determine the best cost/benefit options for the Town. (Note: Elmore Highway Prioritization Scheme: Appendix B provides the basic framework and ranking system Elmore uses to prioritize and manage all routine, emergency and basic maintenance activities for infrastructure, facilities, and land use.

A new, simplified 2017-2022 action prioritization model uses 2 vectors: A simpler Cost/Benefit rating where; 1) COST is rated: Low (0 - \$5,000), Medium (\$5,001 - \$15,000), High (\$15,001 - \$50,000) or Very High (> \$50,000) and 2) BENEFIT is the sum projected factors: Resilience, Safety, Life Operating Cost and is rated: Low, Medium or High.

Table 3: Mitigation Actions

No.	Mitigation Action	Party to Initiate Action	Timeline	Possible Funding	Cost (c)/Benefit (B) *
1	Incorporate a power back-up/energy storage system in the new Town Garage design. The Existing Elmore Fire Department serves as an emergency shelter. The new Town Garage could serve as an additional emergency shelter.	Elmore EMD , Road Commissioner, Selectboard	2022-2027	FEMA, VEM, USDA, VT AOT	C: Very High B: High
2	Identify and secure funding for final design, land acquisition, and construction of a new Elmore Town Garage (Highway Department Facility).	Elmore Road Commissioner , Selectboard	2022-2027	FEMA, VEM, USDA, VT AOT	C: Very High B: High
3	1) Regrade low drainage areas and swales along municipal roads. 2) All Town culvert replacements will be upgraded where needed to meet/exceed Act 64 and MRGP requirements as identified in the REI 5-year workplan.	Elmore Road Commissioner , Selectboard	2022-2027	Town Highway Budget, Better Roads program, Grant in Aid Program, VTrans, FEMA	C: High to Very high B: High
4	Review and update regulations to comply with Act 64 (Vermont Water Quality Act).	Elmore Selectboard	2022-2027	Municipal Planning Grant	C: Low B: High
5	Identify funding and implement priority culvert replacement/upgrade projects: 1) Upsize stream culvert on Icehouse Road 2) Upsize culverts on Elmore Pond Road and armor the roadside near the riverbank 3) Continue to upgrade culverts and widen the road on Elmore Mountain Road 4) Upgrade culverts on Symonds Mill Road	Elmore Road Commissioner , Selectboard	2022-2027	Better Road Program, VTrans Structures Grant, Grant in Aid Program	C: Very High B: High
6	Identify funding and implement stormwater mitigation priorities from the Lake Elmore Watershed Action Plan including the	Elmore Selectboard	2022-2023	VT ANR, VTrans	C: High B: Medium

	installation of a rain garden near the Town Hall, and parking lot improvements at the Lake Elmore Boat Access.				
7	Maintain a supply of PPE for municipal employees and local emergency officials and follow state guidance regarding protections to prevent the spread of an infectious disease.	Elmore EMD, Selectboard	2022-2027	Town Budget, COVID relief funding	C. Low B. High
8	Purchase equipment (screen/voice equipment) and establish a system to host hybrid meetings at the Elmore Town Office.	Elmore Selectboard	2022-2027	Town Budget, COVID relief funding	C. Low B. Medium
9	Participate in the Lamoille FiberNet CUD to help further discussion/progress for installing fiber (high-speed internet) in Lamoille County.	Elmore Selectboard, Planning Commission	2022-2027	N/A-participate on volunteer basis	C. Low B. High
10	Establish an Elmore Welcome Packet for new residents and include information on resources to contact if your well runs dry, and an option to sign up for a community member to check-in on you in the event of an emergency. An emergency water spigot is available at the Elmore Fire Department.	Elmore Planning Commission	2022-2024	TBD	C. Low B. High
11	Replace Elmore Rescue vehicles (2 new Fire Trucks)	Elmore Fire Chief, Selectboard	2022-2025	Elmore Town Budget	C. Very High B. High

Hazards and Vulnerabilities Addressed by Mitigation Actions

Actions 1 through 11 in the table above address all hazards profiled in the plan. Actions 1-6 address flooding, fluvial erosion, severe wind storms or winter storms and focus on mitigating vulnerabilities associated with impacts to public infrastructure, namely roads and culverts, as well as water quality. Actions 7-9 addresses the hazard of an infectious disease outbreak by promoting supply of PPE and remote means of communication. Actions 10-11 address a wide range of hazards and are designed to improve response and assist in the case of general emergencies.

Elmore also considered other vulnerabilities identified in the risk assessment and at this time did not identify actions to mitigate these vulnerabilities. Power lines serving Elmore are owned and maintained by out-of-town utility companies and as such the Town of Elmore cannot commit to mitigation actions that would improve resiliency of the power line infrastructure. Likewise, the Town did not identify any appropriate public mitigation action for three existing private residences located in the floodplain.

Finally, the drifting of snow after heavy winter storms is addressed as part of regular winter storm clean-up performed by the town highway department and special mitigation actions are not needed.

Town Capabilities to Implement Mitigation Actions

The Town of Elmore has dedicated Fire and Highway Departments, a Town Clerk, Zoning Administrator, Road Commissioner, Fire Chief, Emergency Management Director, and several dedicated volunteer boards (Ex: Selectboard, Planning Commission, Development Review Board etc.) to help bring mitigation actions in this Plan to fruition. The Town's capabilities are further documented in Table 4 below by existing authorities, policies, and programs. On May 31st, 2022, the Elmore Planning Commission met with LCPC staff to review comments from VEM's FEMA Review of the draft 2022 Elmore Local Hazard Mitigation Plan. The Elmore Planning identified areas for improvement to aid the Town in implementing mitigation actions identified in this Plan. These areas for improvement are referenced in Table 4 below.

Table 4: Capabilities to Implement Mitigation Actions

Existing Authorities, Policies, and Programs

Plans and Studies

Capability	Description	Improvement Opportunity
<i>Town Plan</i>	The Elmore Town Plan was updated in 2018.	During the next update, incorporate priorities and mitigation actions from the 2022 Elmore Local Hazard Mitigation Plan.
<i>Local Hazard Mitigation Plan (LHMP)</i>	The 2017 Elmore LHMP is in effect until July 19, 2022. The updated Elmore LHMP will be adopted in July of 2022 after receiving Approval Pending Adoption.	
<i>Stormwater Plan</i>	In 2020 the Town of Elmore and Lake Association worked with the Lamoille NRCD and Fitzgerald Environmental to develop a Lake Elmore Watershed Action Plan. This plan included stormwater project priorities noted in Table 3, Mitigation Actions.	
<i>Local Emergency Management Plan (LEMP)</i>	The Elmore Local Emergency Management Plan was last updated and adopted in March of 2022.	
<i>Invasive Species Management Plan</i>	The Town of Elmore has a stockpile area for Knotweed for highway department projects to	The Elmore PC identified the issue of Ash Tree removal. Hazard trees and the need for removal may

	ensure proper transport and avoid the spread of Knotweed.	impact the work of the Elmore Highway Department and the need for additional capacity in the future.
<i>Culvert Inventory</i>	The last Elmore Culvert Inventory was completed in partnership with the LCPC in 2019.	

Administrative Capacity and Capability

Capability	Description	Improvement Opportunity
<i>Emergency Management Director</i>	The Town of Elmore has an active Emergency Management Director.	
<i>Planning Commission</i>	The Elmore Planning Commission is made up of 6 active members and meets monthly.	
<i>Zoning Administrator</i>	The Town of Elmore employs a part-time Zoning Administrator (Zoning Officer) to administer permits for permitted uses and coordinate with the Development Review Board.	
<i>Tree Warden</i>	The Town of Elmore has 3 volunteer Tree Wardens.	
<i>Selectboard</i>	The Elmore Selectboard is made up of 3 active members and meets monthly.	
<i>Highway Department</i>	The current Elmore Highway Department consists of a two-person crew.	The Town has discussed the need for expanding the Elmore Highway Department in the future. The new Town Garage will support space for more staff and will be able to house more equipment to expand the Highway Department. As the Town continues to work towards new requirements such as the MRGP and upgrade culverts and

		highway infrastructure, there may be a need for additional highway department crew members to complete required work and continue to implement the Town's priorities for maintaining the municipal road network.
<i>Town Clerk</i>	The Town of Elmore employs a Town Clerk that is available to assist at the Town Clerk's Office 3 days a week.	

Zoning and Regulations

Capability	Description	Improvement Opportunity
<i>National Flood Insurance Program (NFIP)</i>	The Town of Elmore is a participant of NFIP and has updated Flood Hazard Area regulations. The Town of Elmore first adopted River Corridor Bylaws in January 2017.	
<i>Zoning, Subdivision and River Corridor Bylaws</i>	The Town of Elmore last revised and adopted Unified Zoning and Subdivision Bylaws on January 20, 2020. This includes reference to the Flood Hazard Area Overlay District and River Corridors.	
<i>Road Standards</i>	The Town of Elmore has adopted Road and Bridge Standards and follows the requirements of the Municipal Roads General Permit.	

Outreach and Education

Capability	Description	Improvement Opportunity
<i>Town Website</i>	The Town of Elmore website is updated on a regular basis to warn local meetings and Town events.	
<i>Front Porch Forum</i>	The Town of Elmore is a member of the online community forum	

	<p>"Front Porch Forum". The Town of Elmore uses this online resource as appropriate to outreach about key community and Town events.</p>	
<p><i>Elmore Welcome Packet</i></p>	<p>Establish an Elmore Welcome Packet for new residents and include information on resources to contact if your well runs dry, and an option to sign up for a community member to check-in on you in the event of an emergency. An emergency water spigot is available at the Elmore Fire Department.</p>	<p>Issue high heat notifications in advance and information regarding who to contact in case of an emergency. Notifications could be issued by the Town via Vermont Alert, amber alert, Front Porch Forum etc. This could be a component of the Welcome Packet the Elmore Planning Commission is developing referenced in the Hazard Mitigation Plan Mitigation Actions Table.</p> <p>Create a system for emergency check-ins for high-risk populations (elderly or immunocompromised populations living at home) that would be most affected by heat waves/ heat exhaustion. The Elmore PC identified the need for more volunteer capacity to operate an emergency check-in system. This check-in system is also referenced in the Mitigation Actions Table regarding developing a welcome packet.</p>

Resolution

Approving the Elmore Local Hazard Mitigation Plan

The Select Board of the Town of Elmore find that:

- A) The adoption of a multi-hazard plan is required as a condition for communities to remain eligible for future Federal Emergency Management Agency (FEMA) mitigation grant funds.
- B) The Town of Elmore has prepared the Elmore Local Hazard Mitigation Plan in order to meet FEMA's funding requirement, a copy of which is attached as Exhibit A and incorporated herein by reference.
- C) The Select Board has reviewed and considered the Elmore Local Hazard Mitigation Plan.
- D) The mitigation strategies and actions identified in the plan will be implemented only when funding sources have been identified and projects have been prioritized as outlined in the Plan.

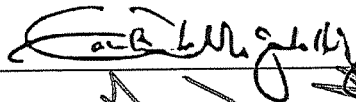
NOW THEREFORE, BE IT RESOLVED BY THE SELECT BOARD OF THE TOWN OF ELMORE, A MUNICIPALITY OF THE STATE OF VERMONT, AS FOLLOWS:

Section 1. Based on the above findings, which are hereby adopted, the Elmore Local Hazard Mitigation Plan attached as Exhibit A is approved as the official Comprehensive Local Hazard Mitigation Plan for the Town of Elmore.

Section 2. This resolution shall become effective immediately upon adoption.

The foregoing Resolution is hereby adopted this 10th day of August, 2022

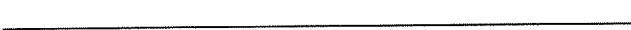
Select Board Chair



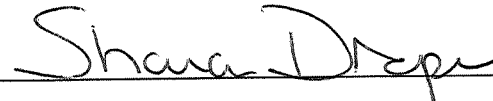
Select Board Member



Select Board Member



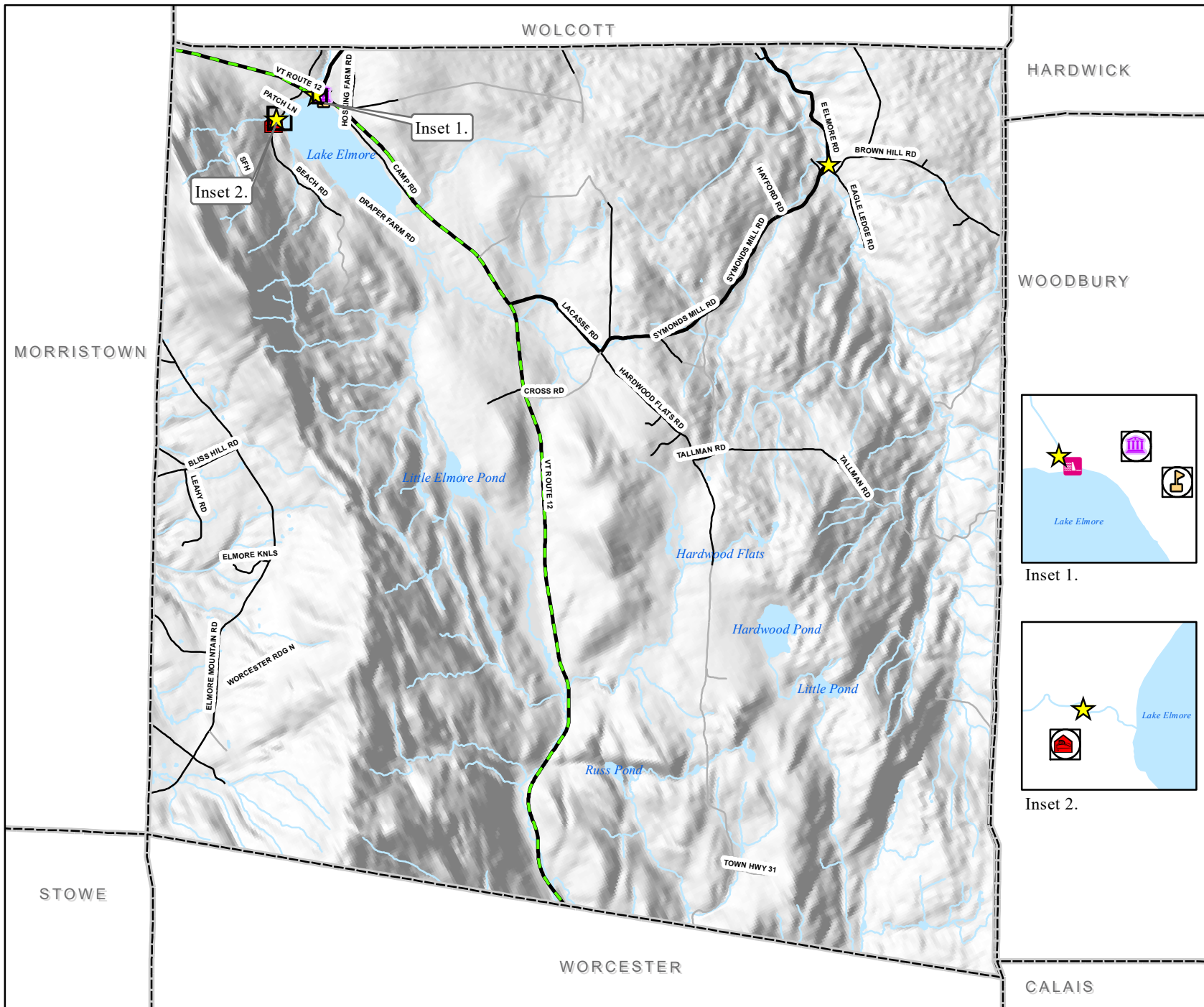
Town Clerk received



Appendix A:
Maps and Supplemental Information

CRITICAL FACILITIES AND AREAS OF LOCAL CONCERN

TOWN OF ELMORE



For planning purposes only.
Not for regulatory interpretation.

Transverse Mercator,
VT State Plane,
Meters, NAD83.

Lamoille County
Planning Commission
PO Box 1637, 52 Portland Street
Morrisville, VT 05661
802.888.4548 f 802.888.6938
www.lcpevt.org
January 2022



0 0.5 1
Miles

Legend

- Areas of Local Concern
- School
- Fire Department
- Town Offices
- Dam
- Town Boundary
- River/Stream
- Lake/Pond
- Roads**
 - State Highway
 - Class 2 Road
 - Class 3 Road
 - Class 4 Road
 - Private Road
- Emergency Operation Center
- Shelter

**Emergency Operations Centers
And Shelters:**
Fire Department 343 Beach Road
Town Office 1175 VT RT 12
Elmore School 1199 VT RT 12

Data Sources: Enhanced 9-1-1
Data from VCGI, 2015.

FLOOD HAZARD MAP

TOWN OF ELMORE

For planning purposes only.
Not for regulatory interpretation.





Traverse Mercator,
VT State Plane,
Meters, NAD83.

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January 2022








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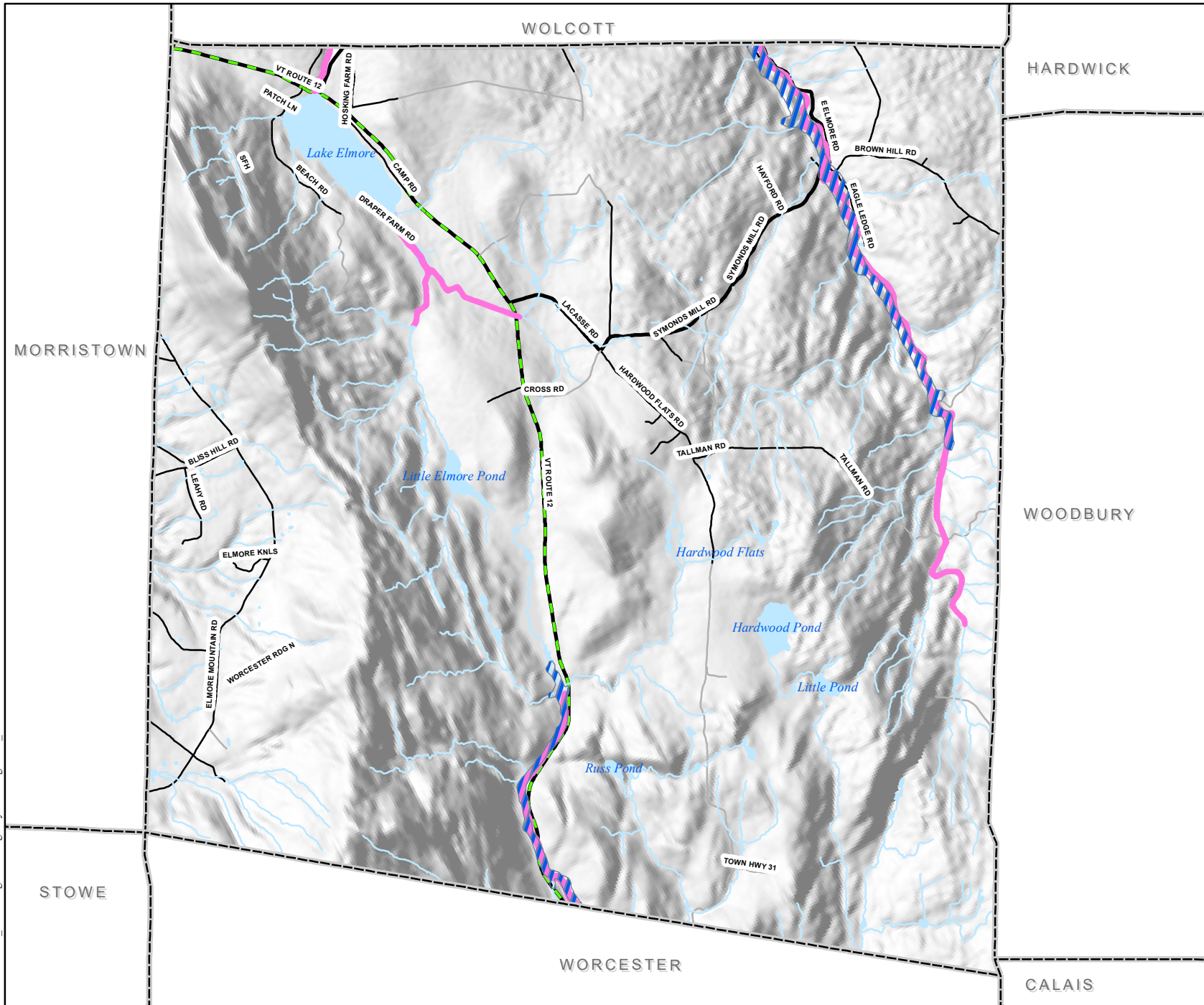
Legend

-  100 Year Flood
-  River Corridor
-  Lake/Pond
-  River/Stream
-  Town Boundary

Roads







-  Private Road
-  State Highway
-  Class 2 Highway
-  Class 3 Highway
-  Class 4 Highway

Data Sources: 100 Year Flood from the
Lamoille County Planning Commission;
River Corridor, VT ANR 2018.











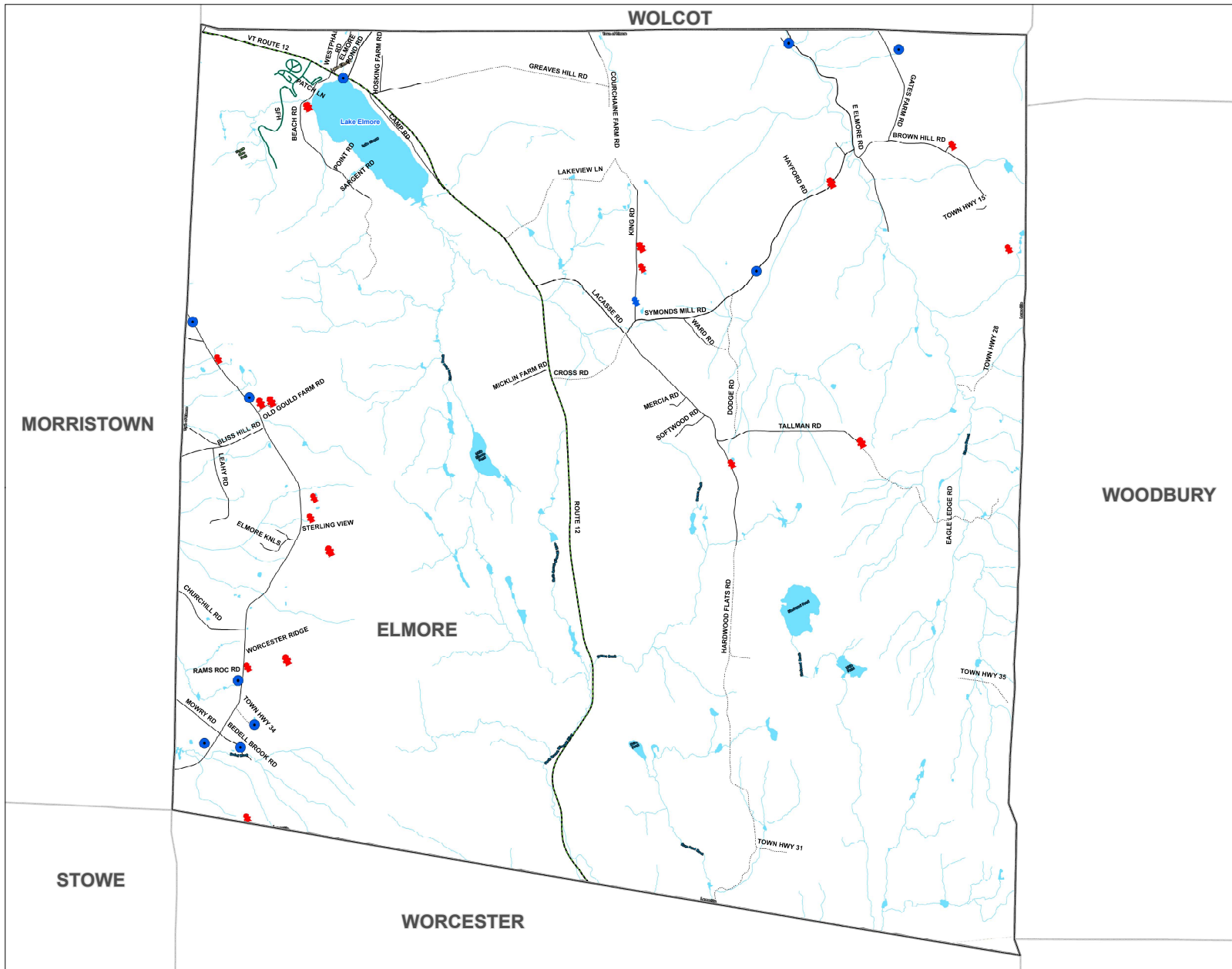
Hydrants Town of Elmore

Legend

-  Fire Pond
-  Wet Hydrant
-  Dry Hydrant
-  Town Boundary
-  Lake / Pond
-  River/ Stream

Roads

-  Class 1 Town Highway
-  State Highway
-  Class 2 Town Highway
-  Class 3 Town Highway
-  Class 4 Town Highway
-  State Forest Highway
-  Private Road
-  Public Road



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Miles

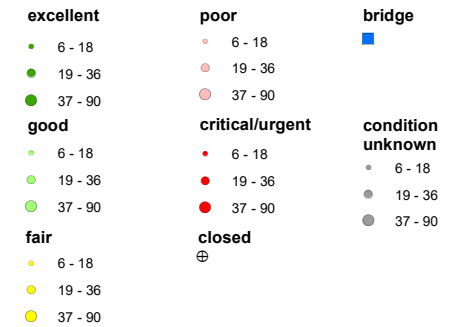
Transverse Mercator,
VT State Plane, Meters, NAD83.

DATA SOURCES:

Wet and Dry Hydrants: E-911 Hydrant Data, VCGI, 2015, LCPC Digitized 2022.
Political Boundaries: 1:24000 USGS Quadrangles, VCGI, 1991.
Surface Water: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2 quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2001.
Roads: 1:5000 E-911 Road Data, 2017.

Town of Elmore 2019 Culvert Inventory

Condition represented by circle color
Diameter (inches) by circle size



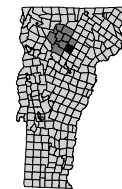
SOURCES:

CULVERTS & BRIDGES: Inventoried and digitized by LCPC, 2019.

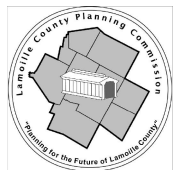
POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 2011.

ROADS: 1:5000 E-911 Data, 2019.

SURFACE WATER: On-screen digitized from 1:5000 digital orthophotos using USGS 7 1/2' quadrangles and 1:20000 color infrared aerial photography as additional source material, VCGI for VHD-USGS, 2018.



January 2022



Vermont Coordinate System, Zone 5526,
Transverse Mercator, NAD 1983.

For more information, please contact:
Lamoille County Planning Commission
PO Box 1637, 52 Portland Street
Morrisville, VT 05661-1637
802.888.4548/www.lcpcvt.org



0 0.25 0.5 1 Miles

Map intended for planning purposes only.

ELMORE PLANNING COMMISSION

Attendance:

EPC Members: Bruce Olsson (via zoom); Don Valentine; Glenn Schwartz; Kate Sprague; Michelle Greeson (via zoom); Hans de Boer

Guests: Brian Evans-Mongeon(Elmore broadband representative) (via zoom); Meghan Rodier (LCPC); Melanie Riddle(LCPC)

Agenda for 11/2/2021 at 5:30pm:

- Broadband: who has to approve in order for Elmore to join another CUD?
 - o BEM had conversation with Val Davis this afternoon. CV Fiber and Lamoille Fiber (Fibernet) have had conversations and it looks like everyone agrees that Elmore would be best off by being a part of Lamoille Fiber as opposed to CV Fiber. This should be better in terms of timing and serviceability for Elmore. On the eastern side of Elmore, the customers who are served by Hardwick electric (60-70 homes), will be looking to get service through Kingdom Fiber due to the coordination between NEK fiber and Hardwick electric. All of the information that CV Fiber has gathered in regards of Elmore will be passed along to Fibernet. In order for Elmore to withdraw from the cV Fiber, it may need to be approved by the Select Board. This should allow for Elmore to get connected on a much faster timeframe than if Elmore remains with CV Fiber due to location.
 - o CUDs are starting to identify if towns are ready to offer money towards the projects.
 - o Fibernet is still working on drafting budgets whereas CV Fiber is actually looking to spend money right now, so if we join Fibernet, the need for funding assistance from the town will not be as soon.
 - o There is funding from ARPA that can be designated towards this project.
- LCPC to join the meeting for Hazard and Energy Planning discussion (handouts)
 - o Discussion of the Hazard Mitigation plan for the town. This was created several years ago. Caroline and Brent are the Emergency Management directors.
 - LCPC is looking to have Elmore update their plan/mitigating activities
 - Glenn Schwartz to setup a meeting with M. LaCasse and Meghan Rodier to review and update the plan.
 - o LCPC is here to discuss the creation of a mitigation plan based on the pandemic. Infectious disease is listed in the Hazard Identification/Risk Assessment Table (not directly associated with the town plan directly, but available on the town website).
 - o Elmore does not have a very high flood risk. Estimates are that there are only three households in the flood plain.
 - o Climate change hasn't been listed out on the table. Although the symptoms of climate change are listed on the table, it may be worthwhile to add that in as a big picture item.
 - o Discussion of on-going mitigation plans that were outlined in the mitigation plan. Comment made that a lot of these items are reactionary and that perhaps we need to update the plan to include some preventative measures in addition to reactionary mitigation.
 - o Some other ideas to include in the mitigating activities are:

- List of all vulnerable folks in the community to ensure everyone is doing well during an extreme event.
- Include getting broadband to every household as a mitigating activity
- Purchase infrastructure for town offices to be able to host meetings/information virtually
- The current plan expires July 19, 2022, so LCPC is putting the revisions on the fast track on our behalf.
- Development Concerns: letter to new/prospective Elmore property owners
 - There was no progress made in the past month. This will be a winter project to complete prior to the spring. We will keep it on the agenda for next month.
- Round Table
 - The Elmore Store will officially be changing hands by the end of the year. Check for updates on the elmorecommunitytrust.org website and also you can join their email list.

Next meeting: December 7, 2021 at 5:30pm

Meeting to be held at the Town Office as well as zoom (link below):

Join Zoom Meeting

<https://us06web.zoom.us/j/98015778481?pwd=RVd1bjkzbVNCdWs5MmFZa200K3AvQT09>

Meeting ID: 980 1577 8481

Passcode: 8888

Dial in: +1 646 558 8656 US (New York)

Meeting ID: 980 1577 8481

Passcode: 8888

Agenda:

- Broadband: progress getting Elmore out of CV Fiber, and part of NEK and Lamoille Valley Fiber
- Continued discussion/edits of Elmore Local Hazard Mitigation Plan
- Development Concerns: letter to new/prospective Elmore property owners
- Round Table

Elmore Local Hazard Mitigation Plan Meeting

November 15, 2021 at 8am

Elmore Town Garage

Present: Michel Lacasse (Elmore Road Commissioner), Meghan Rodier (LCPC), Glenn Schwartz (Elmore Planning Commission/ Selectboard)

Purpose: Review Hazard Mitigation Actions Table and progress in recent years.

Review of Mitigation Actions Table

The Elmore Hazard Mitigation Actions Table was reviewed, and Glenn and Michel suggested the following changes. Changes are in order of mitigation actions listed in this table in section 4.3 of the Elmore Local Hazard Mitigation Plan (LHMP).

1. Incorporate power back-up/ energy storage system in new Town Garage/ Fire House design. If this new facility is constructed, the design will address the need for having a back-up generator at the emergency shelter. The new facility would have a solar array and a back-up energy storage system.
2. Keep action item 2 and re-phase to read:
 - a. Regrade low drainage areas and swales along municipal roads.
 - b. All Town culvert replacements will be upgraded where needed to meet/exceed Act 64 and MRGP requirements as identified in the REI 5-year workplan.
3. Action completed for Subdivision and Zoning regulations. Keep in table regarding general compliance with Act 64.
4. Elmore Culvert Inventory update was completed by Adriana Noyes (Planning Intern) in 2019. Replace this action item with upcoming priority road work:
 - a. Upsize stream culvert on Icehouse Road (2022-2023)
 - b. Upsize culverts on Elmore Pond Road and armor the roadside near the riverbank
 - c. Continue to upgrade culverts and widen the road on Elmore Mountain Road
 - d. Upgrade culverts on Symonds Mill Road (note within the life of the plan)

After this action item add a new action item:

(New #5). Identify funding and implement stormwater mitigation priorities from the Elmore Lake Action Plan including the installation of a rain garden near the Town Hall, and parking lot improvements at the Lake Elmore Boat Access (2022-2023).

Recent Road Work/Progress to Reference in Elmore LHMP

- Culvert Inventory updated in 2019
- Culvert upgrades/ road widening along Elmore Mountain Road (used Grant in Aid, Better Roads, and Structures Grant funding to complete)
- Culvert upgrade on Beach Road
- Road Commissioner has been educating Elmore residents/developers on what you can and can't do on a Class 4 Road

Development Changes in Elmore

- New housing developments on Elmore Pond Road
- Clearing for new housing structures is increasing stormwater runoff and erosion downslope
- Elmore is experiencing new development pressure on Class 4 Roads since the start of the 2020 pandemic

Elmore Local Hazard Mitigation Plan Meeting

December 7, 2021, at 2:30pm

Elmore Fire Station

Present: Brent Hosking (Elmore Fire Chief/EMD), Meghan Rodier (LCPC Regional Planner)

Purpose: Review Hazard Mitigation Actions Table and Elmore Hydrants Map

Review of Mitigation Actions Table

Brent Hosking and Meghan Rodier reviewed the Elmore Hazard Mitigation Actions Table. Brent provided the following clarifications and suggested changes:

Clarification:

- The Elmore Fire Department will remain in its current location and serves as an Emergency Shelter. The Fire Department building was built in 1998 and is in good condition. The Town is seeking funding to rebuild the Town Garage/ Highway Department Facility. Language in mitigation action #1 was rephrased to address this clarification.

Suggested Changes:

- For the Action item regarding maintaining PPE supply, specify for “municipal employees and local emergency officials”.
- For the action item “Establish an Elmore Welcome Packet”, note that the Elmore Fire Department has a water spicket for emergency use.
- Add an action item for the replacement of Elmore Rescue vehicles (two new fire trucks are needed). This is on the Town’s radar for incorporation into the Town Budget to purchase the 2 new fire trucks within the next 3 to 4 years.

Elmore Hydrants Map

Meghan reviewed a 2016 Elmore Hydrants map with Brent Hosking to identify map updates. Meghan explained the updated 2021 version of this dry/wet hydrants map will be included in the draft Local Hazard Mitigation Plan for the Town of Elmore. Brent identified a few new dry hydrants on Gould Farm Road to add to the map as well as minor adjustments to the mapped location of a few existing wet and dry hydrants on King Road.

TOWN OF ELMORE, VT

Select Board Meeting

Meeting Minutes – prepared by G. Schwartz
Status: Draft

Meeting Date: February 09, 2022

Start Time: 6:02 pm **Adjourn:** 7:54 pm

Meeting Attendees: See attached attendance sheet

The minutes of the January 12, 2022, January 25, 2022 and February 3, 2022 Select Board Meetings were approved

1. SPECIAL TOPICS

a. UPDATE: VT Route 12 Corridor Project Elmore Bridges 90 & 94 – Laura Stone

Notes: Laura Stone presented information on PowerPoint regarding the upcoming project on Route 12 in Elmore (copy attached) the following information was presented;

- The project is 100% state and federally funded
- 5 bridges are included in this project, two of which are in Elmore. All bridges will be included in one bid package.
- Projected start is in 2024 and will be completed in 2025.
- The project will require a 3 day road closure on the south end of Camp Road
- The presentation can also be viewed at the following links

Bridge 90:

<https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/18B003>

Bridge 94:

<https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/19B212>

b. DISCUSSION: Elmore Local Hazard Mitigation Plan – Meghan Rodier

Notes: Meghan Rodier reported on the progress that has been made on the Elmore Local Hazard Mitigation Plan (copy attached). Meghan Rodier met with the Elmore Planning Commission, G. Schwartz, M. LaCasse and Brent Hosking in updating this plan. The next step is to hold a public comment meeting that will be discussed at the next Elmore Planning Commission meeting on February 23, 2022 at 6:00 pm. By updating this plan we may be eligible for grant money. The use of the new town garage (if approved) as a possible emergency shelter was discussed. This would be a better location than the current location at the firehouse.

c. UPDATE: NE Wildlife Trust letter of support – Bill Pickens

Notes: Bill Pickens a Wolcott resident presented his concerns regarding the Northeast Wilderness Trust presentation at the SB Meeting that was held on November 10, 2021. Mr. Pickens presented the attached list of parameters for hunters to follow. The purchase has gone through as a private sale without State or local funding. As this is private land the owner can set the restrictions. It should be noted that there is no charge for a permit to hunt on this land.

Town of Elmore Meeting Attendance Record

VIA Zoom

Elmore Planning Commission Meeting

May 31st, 2022

Elmore Town Clerk's Office

EPC Members Present: Bruce Olsson (via zoom); Don Valentine; Glenn Schwartz; Kate Sprague; Michelle Greeson; Hans de Boer

Guests: Meghan Rodier (LCPC)

Purpose: Gather local input to address FEMA Review comments for the Elmore Local Hazard Mitigation Plan.

Meghan Rodier, LCPC Regional Planner, provided an overview of VEM's FEMA Review of the updated Elmore Local Hazard Mitigation Plan (LHMP). Meghan noted local input on the C1 criteria comment would help address the need to document the Town's capabilities to implement mitigation actions. The Elmore Planning Commission provided feedback on areas for improvement that would expand upon existing programs, policies, and staffing capacity to aid in implementing mitigation actions identified in 2022 Elmore Local Hazard Mitigation Plan. These areas for improvement include the following:

- Issue high heat notifications in advance and information regarding who to contact in case of an emergency. Notifications could be issued by the Town via Vermont Alert, amber alert, Front Porch Forum etc.. This could be a component of the Welcome Packet the Elmore Planning Commission is developing.
- Create a system for emergency check-ins for high-risk populations (elderly or immunocompromised populations living at home) that would be most affected by heat waves/ heat exhaustion. The Elmore PC identified the need for more volunteer capacity to operate an emergency check-in system. This check-in system is referenced in the mitigation action regarding developing a welcome packet.
- The current Elmore Highway Department consists of a two-person crew. The Town has discussed the need for expanding the Elmore Highway Department in the future. The new future Town Garage will support space for more staff and will be able to house more equipment to expand the Highway Department. As the Town continues to work towards new requirements such as the MRGP and upgrade culverts and highway infrastructure, there will be a need for additional highway department crew members to complete required work and continue to implement the Town's priorities for maintaining the municipal road network. The Elmore PC also identified the issue of Ash Tree removal. Hazard trees and the need for removal may also impact the work of the Elmore Highway Department and the need for additional capacity in the future.
- The Town of Elmore recently hired a new Zoning Administrator.

Next Steps:

- Meghan will incorporate Elmore PC's input on areas for improvement regarding Town capabilities and revise the draft Hazard Mitigation Plan to address FEMA Review comments.
- Meghan will re-submit the revised Elmore LHMP to VEM for Approval Pending Adoption (APA).
- Once VEM issues the APA, the Selectboard can adopt the revised plan at the July 13th meeting.

Appendix B: Elmore's Highway Prioritization Ranking System

Elmore Road Improvement/Remediation: 5 year program

Preliminary Roadmap – Not a Schedule

V 2.0 8APR09

- | | |
|--|----------------|
| 1. Identify and map known mud problem areas | Spring 09 |
| 2. Review slopes, grades, hydrology | Summer 09 |
| 3. Prelim prioritization (Severity + traffic impact) | Summer 09 |
| 4. Special town meeting to approve Eng. Assessment | Fall 09 |
| 5. Bid process for consulting Engineering Assessment | Fall-Winter 09 |
| 6. Confirm priorities & remediation & estimate costs | Winter 09 |
| 7. Prepare capital budget for town | Winter 09 |
| 8. Special town meeting to approve Budget/Repairs | Mar 10 |
| 9. Bid Process | Spring 10 |
| 10. Begin remediation | Summer 10 |
| 11. Continue based on budget approvals | 2010-2015 |

ID Protocol:

1. TH = Town Highway ID
2. Site ID = Location by 911 Address
3. Name = Road Name

Priority Protocol: Two Key Factors determine Priority

1. Hazard Severity:
 - a. Emergency – Unforeseen, catastrophic loss of access =4
 - b. Continuous – Chronic condition = 3
 - c. Seasonal – Periodic instance; Mud, Snow, etc. =2
 - d. Intermittent – Single or random; Storm, Obstruction etc. = 1
2. Affected Users – Traffic Impact Volume: (Assigned by Select Board)
 - a. Sum: Over 50% of town residents and transient traffic = 4
 - b. Sum: 25-50% of town residents and transient traffic = 3
 - c. Sum: 10-24% of town residents and transient traffic = 2
 - d. Sum: Less than 10% of town residents and transient traffic = 1

Over all Town Priority is sum of #1 and #2.