Annex #7 – Town of Morristown
Local Hazard Mitigation Plan

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1. Introduction and Purpose

1.1. Introduction

This Annex, when used with the appropriate sections of the Lamoille County Regional All-Hazard Mitigation Plan (RHMP), forms a comprehensive Local Hazard Mitigation Plan (LHMP) for the Town of Morristown. The plan has been reviewed, amended and updated in its entirety to reflect changes in development, progress in local mitigation efforts, and changes in priorities since the adoption of the original plan in 2005.

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

Hazard mitigation is any sustained action that reduces or eliminates long-term risk to lives and property resulting from the effects of natural and human-caused hazards. Based on the results of previous Project Impact efforts, FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies and measures each phase of Emergency Management – Preparedness, Response and Recovery. Hazards cannot be eliminated, but it is possible to identify what the local hazards are, where the hazards are most severe, and what local actions can be taken to reduce the severity of incidents.

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

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

1.2 Purpose

The purpose of this Local Hazard Mitigation Plan (LHMP) is to assist Town of Morristown to identify all hazards facing the community and develop strategies to begin reducing risks from these identified hazards.

1.3 Planning Process

The Lamoille County Planning Commission (LCPC) and the Morristown Town Administrator/Emergency Management Director (EMD) coordinated the Morristown Pre-Disaster Mitigation Plan update process. Pre-Disaster Mitigation meetings were focused on gathering community information and generating an inventory of the Town's vulnerability to hazards and its current and future hazard mitigation programs, projects and activities.

Since the adoption of the original LHMP in 2005, staff from the LCPC and the Town remained involved in the plan maintenance process through communication and support in the regular Local Emergency Planning Committee 11 (LEPC) meetings, participation in emergency response trainings and exercises (e.g. NIMS, Lamoille CERT), and actual hazard/disaster response and post event evaluation.

LCPC initiated the update of the RHMP and local annexes for each town in the county in 2009. At the beginning of this process, the draft RHMP was posted on LCPC's website and public comment was invited through announcement in the quarterly-edited LCPC newsletter. Notice of this opportunity was mailed to area businesses, Johnson State College, Copley Hospital, and sent to each of the respective towns, along with a copy of their draft local annex.

LCPC also conducted a formal review of the Morristown LHMP in 2009 and worked with the Town EMD to discuss the plan, assess changes in development trends, update progress in local mitigation efforts, and adjust mitigation priorities accordingly. In 2010, LCPC sent out various notices, announcements, and newsletter articles to all town and local officials describing the need for Hazard Mitigation planning and participation in the development of the Local Hazard Mitigation Plan (LHMP).

To further engage the town, LCPC sent a letter detailing the plan development process and a copy of a partially updated LHMP, including emergency planning maps to the Town Administrator/EMD. LCPC then met with the Town Administrator to review the plan section-by-section, for necessary updates and revisions. This review included the addition of mitigation goals and strategies from the updated Town Plan; evaluating progress made on goals and strategies in the previous LHMP; as well as updates to Tier II sites and the town's recent hazard history. The updated plan was then distributed among members of the Road Crew, Selectboard, and other town officials for comment. A completed draft of the LHMP was provided to the Town in November 2010 for their review and comment. Simultaneously, the draft RHMP was put on the LCPC website and public comment was invited through announcement in LCPC's winter newsletter. Additionally, LCPC sent notices to businesses inviting comment on the regional plan.

In December 2010, the draft LHMP was submitted to the State Hazard Mitigation Officer for review and sent to FEMA Region I for conditional approval later that month. Upon receipt of comments from FEMA Region 1 in 2011, LCPC met with the Morristown Selectboard– which holds monthly public meetings– to review mitigation priorities in the wake of the unprecedented flooding that impacted Vermont in the spring and late-summer of 2011. Each event triggered a federal disaster declaration for multiple counties across the state, including Lamoille (DR-1995 and DR-4022 respectively). In fall 2011, a revised draft of the Morristown LHMP Annex was posted on the LCPC website to invite public comment, as LCPC assisted the town update both its Town Plan and LHMP. The plan remains on the website today. In 2013, the Town Administrator/ Emergency Management Director provided updated information. Concurrent with final updates of all ten local annexes, LCPC also invited public comment with notices in local Town Clerk's offices and advertisements in the *Stowe Reporter* and *News & Citizen* – the newspapers of record in Lamoille County.

Feedback received from the public, public officials, businesses, and emergency management officers was incorporated into the plan all stages. Gathering oral histories, prioritizing hazards and mitigation strategies, and discussing where the public needs are most relevant was used to form this plan. Without that input and support the plan would be lacking a crucial element and motivation for mitigation.

In addition to public input, information was utilized from the following sources:

- State of Vermont Hazard Mitigation Plan
- Regional All-Hazards Mitigation Plan
- Vermont Agency of Transportation
- Vermont Division of Emergency Management and Homeland Security
- Vermont Center for Geographic Information
- Morristown Town Plan
- Morristown Emergency Operations Plan
- National Flood Insurance Program
- Flood Insurance Rate Maps
- American Community Survey 2005- 2010
- U.S. Census, 2010

The plan received conditional approval from FEMA Region I on **April 2, 2014** pending adoption by the Town Selectboard. The Town Selectboard reviewed the final draft and adopted the plan on **April 14, 2014**. The Village Board of Trustees reviewed the final draft and adopted the plan on June 16, 2014.

2. Community Background

Morristown is centrally located in Lamoille County covering 50.5 Square miles. The town abuts Johnson to the west, Stowe to the south, Elmore and Wolcott to the East and Hyde Park to the North. It is located 44.6 miles from Burlington and 25.3 miles from Montpelier.

Morristown is a predominantly rural, residential community. Morristown's village center is Morrisville, which has its own legislative body. Morrisville is located around Route 100 between

the intersections of Route 12 and 15. The town and the village share many services, including a road crew, a Planning Commission, emergency responders, municipal staff (including a Town Administrator), and numerous other resources. The Village, however, operates the Morrisville Water & Light Department, the primary utility for residents and businesses in both Morristown and Morrisville.

Morristown is a small community, and between 2000 and 2010 the town's population increased from 5,139 to 5,227 residents (1.7%). New home construction provided for part of this population growth as the number of housing units increased by approximately 9.6% during the decade (from 2,271 to 2,488). The majority of housing units in the Town are single units detached (66%). Mobile homes account for approximately 7.3% of the household units.

During the plan update process, it was also noted that no substantial changes in development patterns have occurred in Morristown that would affect vulnerability or mitigation measures. Accordingly, the mitigation strategy approach remains appropriate and focused on the issues of greatest concern to the town. As identified in the Morristown Town Plan, new development is encouraged in the Village Center and out of the area of the flood hazard area. New development at the edge of Morristown is not affected by the flood hazard area. The economic recession of the late-2000s and ongoing volatility of the national housing market have depressed new construction for much of the last five years.

Morristown encourages infill development and flood protection measures for work in the Village Center. Further, where the flood hazard area exists, the primary zoning uses are rural residential and village uses. New development is prohibited in the floodway, unless a professional registered engineer determines that the encroachment will not result in any increase in flood levels during occurrence of the base flood discharge. Otherwise, new development must follow the procedures as outlined in section 323 Flood Fringe Areas of the Morristown Zoning Bylaws. More information on the bylaws can be found here: http://morristownvt.org/municipaldepartments/planningzoning.html.

Conditions of growth and revisions of priority have changed very little in the community. Changes in vulnerability have changed little in Morristown. Thus, this text remains relatively unchanged from the 2005 plan. As conditions and priorities in the community change, the plan update will reflect the documentation of the community's process or changes in the hazard mitigation program, along with the community's continued engagement in the mitigation planning process. (For FEMA reviewers, please see page 26 of the *Local Mitigation Plan Review Guide*, 10/1/2011, available for download on the www.FEMA.gov website. It is worth nothing that the FIRM has not been updated since 1987. When that map is updated to reflect current flood expectations, it is presumable that this section will change as well.)

The governing of the town is conducted by five elected members of the Selectboard, located in the Municipal Building in the village. Guidance for Town planning is provided by a five member Planning Commission and seven-member Development Review Board. The Town's subdivision bylaw was originally adopted on October 14, 1991 and updated on October 26, 2009. Flood hazard bylaws were incorporated into Zoning on November 27, 1995.

There are just over 101.639 miles of road in the town, 13.227 are state highway, 2.82 are class 1, 15.41 are class 2, 70.13 are class 3 and there are 10.57 miles of class 4 that are not maintained for year-round travel. The Street Department is located on Maple Street and the Town highway facilities are located off Cochran Road. The four state highways in town are Rte 15, Rte 100, Route 12, and Rte 15A. All are maintained by the Vermont Agency of Transportation, District 6, located on 186 Industrial Lane, Berlin. Route 15 is the main east-west highway; it carries 9,700 vehicles towards Johnson, Route 12 carries 2,300 cars toward Elmore and Route 100 carries 7,500 towards Stowe. Morristown has numerous bridges and culverts it must maintain on local roads. Because of the high cost of bridge repairs, the Town relies heavily on state aid for such work.

The Morrisville-Stowe State Airport is owned by the State of Vermont Agency of Transportation. It is located on Route 100, two miles south of Morrisville Village. There are 10 Hangers, 32 "tie downs" for aircraft, 50 parking spaces for cars, a concrete fueling apron serviced by two 12,000-gallon underground tanks. There is no control tower at the airport. Air traffic is controlled out of Nashua, New Hampshire. The airport is classified as a "general aviation" facility and provides service to small private users including some charter activity. The communication frequency for the airport is APP Boston Center 135.7; UNICOM/CTAF 122.8; GCO 135.075.

There are two utilities that provide service to the Town—the Village of Morrisville Water and Light Department and Vermont Electric Cooperative. Morrisville Water and Light operates three power generation plants: Cady's Falls Dam constructed in 1906 with two generators; Morrisville Dam constructed in 1924 with two generators; and the Sanders Plant at the Green River Reservoir. The Morrisville Water and Light office and garage is located on Elmore Street just outside the village.

The town's 35 member Volunteer Fire Department is located on Elmore Street just south of the Village. They have eight vehicles (1988 Stuphen Aerial Ladder Truck, 1992 International Tanker, 1986 Chevy Tanker, 1999 Chevy ¾ ton utility brush truck, 1999 Freightliner rescue truck, 1995 Freightliner S. Steel pumper, 1967 ¼ ton Trailer, and 2003 Spartan pumper). They participate in the Lamoille County Mutual Aid Network for dealing with large fires. According to the 2006 Fire Report, the Morrisville fire department firemen responded to 122 calls.

There are three levels of police coverage in Morristown: the Morrisville Police Department, the Lamoille County Sheriff's Department (LCSD) and the Vermont State Police (VSP). The town primarily relies on the services of the Morrisville Police Department, with LCSD and VSP providing back up. The department consists of eight full time police officers including the chief, plus one part-time officer /dispatcher. They are located at the Morrisville Public Safety Building on Rte. 100 just as you come into the village. The LCSD dispatch is located on Main Street in Hyde Park Village. LCSD employ 7 full time officers, 17 part time, they operate 12 vehicles of which 2 are four-wheel drive. Apart from providing back up for the Morrisville Police the LCSD provide law enforcement to Johnson, Hyde Park and Wolcott. The Vermont State Police has an outpost located in Morrisville are located in Williston.

The primary healthcare facilities servicing the town are Copley Hospital and Community Health

Services of Lamoille County. Copley Hospital is 25 bed critical access hospital that serves as an emergency care center, provides in-patient and out-patient services, a family oriented birthing center, and physical therapy and rehabilitation services. More specialized services are available in Burlington, Berlin, and Hanover, New Hampshire. Other outpatient care is available at other community clinics available in neighboring towns.

Like the *Morristown Municipal Plan*, this hazard mitigation plan covers Morristown, which includes the Village of Morrisville. Throughout this plan, "Morristown" or the "Town" will be used interchangeably to cover both Morristown and Morrisville.

2.1 Previous FEMA-declared natural disasters

Since 1990 Morristown has received public assistance funding from FEMA for the following natural disasters:

August 1995 (DR 1063)	$14,572
Morrisville Electric	$114,655
July 1998 (DR 1228)	$108,403
May 2011 (DR-1995)	$242,448
August 2011 (DR-4022)	$18,000

August 1995: Record setting heavy rains caused flooding in six north-central counties (FEMA-1063-DR-VT). This was the first time since 1927 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.

July 1998: Eleven of the fourteen Vermont counties experienced severe damage from excessive rainfall (FEMA-1228-DR-VT). The torrential rains came in much the same pattern as they had in the summer of 1997, but occurred further south than the 1997 floods. The flash flooding left many homes destroyed, roads and bridges damaged, and communities cut off from the rest of the state.

April 23- May 9, 2011: Excessive rain and severe floods sweep across northern Vermont and the Champlain Valley, with a federal disaster (DR-1995) declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille and Orleans counties on June 15, 2011. This declaration extended both Public Assistance and Individual Assistance funds to Lamoille County communities. Morristown used funds to repair 19 project worksheets. Road infrastructure received the most damage.

August 30-31, 2011: Flooding and wind damage associated with Tropical Storm Irene lead to the extension of a federal disaster declaration for all fourteen Vermont counties. While the damage sustained in Lamoille County was far less severe than other parts. Morristown sustained damage to roads, bridges, and culverts.

3. Morristown Hazard Inventory / Vulnerability Assessment

The following assessment is based on the revised, 2007 Vermont HI/RA of the State Hazard Mitigation Plan and Section 2 of the amended RHMP. 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* frequency of being a threat to the community.

The **FREQUENCY** of occurrence is classified as shown:

- 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 frequency was used to determine the **COMMUNITY VULNERABILITY/RISK** as *High, Moderate or Low*.

The **WORST THREATS** to the community are designated with an asterisk *. The worst threats are those hazards with threats that have **(a) frequent possibility of occurrence, and/or (b) catastrophic or extensive impact to your community.**

3.1 Morristown HI/RA Matrix

Table I. Morristown HI/RA

Possible Hazard	Frequency	Severity	Community Vulnerability/ Risk	Most vulnerable
Flood inundation and flash floods*	Frequent	Catastrophic	High	Damage to roads, culverts, bridges, residences
Winter storm and ice storm*	Frequent	Extensive	High	Road closures and loss of electricity from fallen trees; other vulnerabilities associated with flooding
Windstorms, incl. tornadoes, hurricanes, and tropical storms*	Likely	Serious	Moderate	Road closures and loss of electricity from fallen trees; other vulnerabilities associated with flooding
Major highway and railroad accidents	Likely	Serious	Moderate	3 major intersections identified history of accidents including hazardous materials
Hazardous materials spill	Unusual	Extensive	Moderate	Exposure to residences and general population.
Structure fire	Likely	Serious	Moderate	Spread of fire through major population centers, elderly housing complexes,
Dam Failures	Unusual	Extensive	Moderate	Major damage to structures within mapped inundation zones; other vulnerabilities associated with flooding.
Major wildfire/forest fire	Unusual	Extensive	Moderate	Widespread damage to structures, infrastructure
Air crash	Unusual	Serious	Moderate	Residents
Drought	Unusual	Serious	Moderate	Private well failures, wildfires
Major hailstorm	Unlikely	Minor	Low	Damage to structures and other private and public property
Earthquake	Unlikely	Serious	Low	See VT Geological Survey HAZUS report (9/03)
Landslide	Unusual	Minor	Low	Damage to roads and structures

* Consistent significant hazards to Lamoille County

3.2 Community Vulnerability Analysis by Hazard

Based on the results of interviews with local residents and Hazard Questionnaire conducted during the 2005 plan development, the history of disasters in the town, and the Morristown HI/RA, the following hazards were consistently identified as significant threats to the community:

- Flood Inundation and Flash Flooding
- Windstorms
- Winter storm/Ice Storm

Each of these threats has the potential to cause power outages, which may place lives and property in danger, especially during the winter months. Overall, the interviews indicate that the following hazards are listed as Frequent of Likely in terms of **Frequency**: Winter Storm/Ice Storm, Flood Inundation and Flash Floods, Structure Fire, High Wind, and Highway/Transport Accidents. In terms of **Severity**, the town rated these hazards as Catastrophic or Extensive: Flood Inundation and Flash Floods, Winter Storm/Ice Storm, Power Shortage/Failure, Hazardous Materials, Wildfire/Forest Fire, Dam Failures.

For a complete analysis of potential hazards facing the community refer to Section 2.4 of the Regional All-Hazard Mitigation plan.

Flood Inundation and Flash Flooding

The community vulnerability to a Flood is HIGH based on the Frequent possibility (Near 100% probability in the next year) of an incident with the potential for Catastrophic (>50% of the community) impact.

Based on the results of utilizing GIS to overlay the digital FIRM flood maps with the location of structures in Morristown, which were GPS located for the development of the Enhanced 911 Emergency services dispatch system, twenty two (22) vulnerable locations were identified to have potential of flood inundation based on the 100-year floodplain. The estimated loss for damage to these properties was calculated by using the median housing estimated by the 2005-10 American Community Survey.

Table II. Morristown Potential Flood Loss

Town	Median Housing Value	Structures in Floodplain (% of total)	Potential Flood Loss
Morristown	$231,700	22 (1.0%)	$5,097,400

The Floodplain, Bridge and Culvert map (Tab a) identifies the areas of town that are within the 100-year floodplain. The Local Areas of Concern map (Tab c) identifies other areas of potential loss to infrastructure due to erosion and road flooding. A culvert maintenance and replacement project list is formulated each year for culverts that have large spalls, heavy scaling, wide cracks, holes, integral wing walls nearly severed from culvert, severe scour or erosion, extreme distortion/defection and extensive corrosion. Morristown historically has recorded numerous floods. Annual flood events are common in some form. Damage covers a wide range. The 1927 flood caused extensive damage in the community, structural damage, destruction of roads, bridges railroad bed/bridges and loss of crops and supply interruptions. The floods of 1984, 1995 and 1997 also caused significant damage.

Roads, bridges, residences and businesses along the Lamoille River have experienced repeated damage caused by flooding. The Duhamel and Goeltz Roads as well as Route 15 near the boat access above Riverview Garage have been repeatedly affected by flood events.

Water contamination of private wells and springs is a potential problem during flood events. Both Village wells are housed in concrete or cinder block buildings that provide significant

protection from contamination. In the case of an extreme flood (1995), the Lamoille River can overtop the primary well casing. This leads to river water being discharged directly into the well and results in a boil water notice. The Village does accommodate requests for water by users outside its systems, and they provide several thousand gallons annually. Typically, the water is collected from a designated hydrant and hauled in bulk milk tanks.

National Flood Insurance Program
Both Morristown and Morrisville participate in the NFIP. Combined, there are currently 12 policies in force with six in the Town and six in the Village. From 1978 to 2009, claims in the Town total $50,501.94 and in the Village, $26,562.47. As of March 2014, there have been two Repetitive Loss claims for one "assumed-condo" structure in Morrisville totaling $25,662.47. The Town has no repetitive loss structures. Through their shared floodplain management ordinance, the Town will continue to regulate and enforce NFIP requirements, including new and substantially improved construction in Special Flood Hazard Areas and providing floodplain identification and mapping determinations.

Winter Storm/Ice Storm
The community vulnerability to a Winter Storm/Ice Storm is *high* based on the Frequent (Near 100% probability in the next year) occurrence and the potential for Extensive (25% to 50% of the community) impact.

Winter storms and ice events are common in the community. Morristown encounters varying levels of snow and ice during the winter months. Due to the region's mountainous terrain, it is not uncommon for precipitation to range from rain in the valley area, to ice in the middle elevations, with heavy snows in the higher terrain. This poses a major challenge for highway maintenance personnel.

Winter Storms have resulted in structural damage to residences and businesses in the past. Normally damage is result of heavy snow causing roof failures. Ice events and heavy wet snows have caused numerous power outages due to power line damage.

Roadways closed due to heavy snows are opened as quickly as possible. Snow removal equipment is maintained for all town highways and Vermont Agency of Transportation maintains equipment for state highways. Snowfalls that are within normal snowfall limits are handled effectively, however during heavy snowfall for extended periods of time, removal of snow becomes an issue. Historically, these events are not frequent and are short in duration. During such events, radio communication is maintained between highway crews and town emergency responders.

Local construction equipment in the community has been used in the past to augment community resources. Most residents are accessible during severe weather conditions, although access may be delayed.

In the event of a major incident that causes power failure, Morrisville Water & Light could likely restore and direct power to critical facilities, as the rest of the system is repaired. Morrisville Water and Light, along with the VT Department of Health, Lamoille County Sheriff's

Department, and United Way, also maintain a list of vulnerable populations who may require additional assistance during long term outages.

Windstorms/High Winds

Powerful windstorms represent a four-season hazard in Vermont. Impacts may vary from highly localized events, to storms causing widespread damage. These storms frequently damage structures, trees, and powerlines. In December 2010, a damaging windstorm in central and northwest Vermont led to a federal disaster declaration for Chittenden, Franklin, and Lamoille counties. Windstorms pose risk to the entire community.

Damaging winds and flooding may also be caused by hurricanes and tropical storms, which travel up the Atlantic coastline. While the risk to Vermont is not on par with the South Atlantic and Gulf Coast states, the associated rain and flooding caused by these storms has had devastating impacts locally. In 1938, a hurricane swept across New England, causing what was once cited as the worst flooding in the state's history. In some regions, the 1938 hurricane was only recently eclipsed by the impact of Tropical Storm Irene, which devastated southern and central Vermont in August 2011.

Other Hazards

Major Highway and Railroad Accidents: The community vulnerability to a highway accident or Railroad is *moderate* based on the Likely (Near 100% probability in the next year) occurrence and the potential for *serious* (10% to <25% of properties) impact. A number of High Accident Locations have been identified within Morristown (See Section 4.2.2 below). The town has been in contact with VTrans to improve the safety of these areas. Hazardous material traffic accidents are less likely but are of particular concern as Route 15 is a major east-west thruway and the proximity of critical facilities, schools and residences to the road creates potential for mass casualty incidents (more than 4 injured people) including motor vehicle accidents (particularly tour or school busses) where response agencies may be overburdened.

Structure Fires: The risk of large scale structure fires is *moderate* in Morristown. The Village of Morrisville contains a concentration of densely developed structures that pose a risk for a large scale, multiple structure fires. Mutual aid agreements with surrounding municipalities are in place and the water supply meets NFPA codes.

Wild/Forest Fire: Across much of Vermont, small wildland and brush fires are common, but the probability of major forest fire is very *low*. Peak wild fire season is in April, just after spring "green-up." A second window of wildfire vulnerability typically occurs in early fall. Every town in Vermont has a designated Forest Fire Warden, who receives daily updates from the Division of Forestry during periods of elevated risk. The Division of Forestry also hosts annual Forest Fire Warden trainings at locations throughout the state. The risk of wildfires is most severe in outlying areas of development– away from the town's major highways– where structures are surrounded by ignitable hard and softwood forests. The potential for wildfires exists although the town has adequate equipment and mutual aid agreements in place to respond appropriately.

Air Crash: The potential for an air crash is *moderate* and exists due to the proximity of the Morrisville-Stowe airport. While the Morrisville Fire Department has minimal training to deal

with large scale accidents, smaller crashes (2-4) people would not overburden the department. The potential for development of the airport creates the possibility of larger aircraft to fly into town. Overall more training on this hazard is needed.
Dam Failure: There is one dam located in the Village and one in the Town that have the potential for dam failur**e**. The Green River Dam is located about 4.3 miles above the confluence with the Lamoille River in the Garfield area of Hyde Park. The Green River Dam is owned and operated by Morrisville Water and Light and has been operated as a water storage project since its construction in 1947. Hydroelectric generating facilities have been installed at the site and are now in operation. An Emergency Action Plan for the Green River Dam was developed (02/22/06) and is housed at the Morrisville Water and Light Department and LCPC offices. The plan was developed to minimize loss of life and property along the Green and Lamoille Rivers in the downstream communities that would potentially be affected by a dam failure or flooding including Garfield, Morrisville, Cadys Falls Hyde Park, Johnson and Ithiel Falls. The plan provides procedures to notify emergency response entities in the event of a dam failure. The Green River Dam is classified as a high hazard facility, meaning that should the structure fail, there is potential for loss of life and extensive economic loss. The project is an unmanned facility operated from Morrisville Water and Light. A qualified employee inspects the facility at a minimum of two times a week. Sensors and alarms are installed that would alert Morrisville Water and Light of possible emergency situations. Probable causes of dam failure emergencies may include earthquakes, extreme storms, equipment malfunctions, structural damage and/or deteriorations, and sabotage.

Hail Storm: With Vermont's variable weather patterns, hail is a four-season threat to both public and private property. While the likelihood of a severe hail storm is low, smaller storms may damage homes and automobiles. Hailstorms pose risk to the entire community.

Hazardous Materials (HAZMAT) Spill: In Vermont, businesses and facilities storing hazardous materials are required to file a report with Vermont Division of Emergency Management and Homeland Security (DEMHS) and their Local Emergency Planning Committee (LEPC), detailing the volume and type of substance (see Section 4.2.1). LEPCs receive funds from VEM to carry out planning and preparedness activities, including commodity flow studies to track the transport of hazardous substances and outreach to non-reporting HAZMAT storage sites.

Earthquakes: According to the U.S. Geological Survey (USGS), the risk of earthquakes in Vermont and much of northern New England is rated moderate, compared with the high risk attributed to much of the West Coast and lower-Midwest. Lamoille County has not experienced any property damage or loss of life attributed to an earthquake in its history.

Landslides: The risk of a landslide is most often associated with flooding, erosion, and other impacts of heavy rain. Although landslides have caused property damage in the nearby Towns of Johnson and Cambridge in recent years, there are no known the risks in Morristown and the susceptibility of landslides in low. Landslides usually occur along steep slopes with thick soils. Most are in proximity to fluvial (riverine) systems. There is a probability of landslides depending on the relationship between rocks and soils to natural or artificial cutting or loading of slopes, or high precipitation. For more information on landslides, see the State of Vermont Hazard Mitigation Plan.

Impact of Power Shortage/Failure

One of the most common impacts of major natural disasters can be the prolonged loss of electricity, whether from localized damage to distribution systems or from remote impacts to generation and transmission facilities. Based on the rural character of the town and its concerns with transportation infrastructure in inclement weather, protracted loss of power could significantly endanger health and safety, have substantial economic consequences, or cause stress and severe inconvenience to the town's residents and businesses. The shortage of energy and food supplies could threaten the welfare of the citizens of Morristown. The dependency upon out of state sources can become a problem when normal deliveries are interrupted. Morrisville Water and Light along with the VT Department of Health, Lamoille County Sheriff's Department, and United Way maintain a list of vulnerable populations who may require additional assistance during long term outages.

The Morrisville Police Department (EOC), Fire Department, Rescue facility, Senior Center, and Copley Hospital each have generators at their facilities, with the Highway department possessing a portable unit.

3.2.1 HAZMAT Sites

The inventory maintained by LEPC 11 identifies 29 Tier II sites in the Town of Morristown. A Tier II site is defined by federal law under the Emergency Planning & Community Right to Know Act (EPCRA) and is generally any facility which uses or possesses reportable quantities of chemicals requiring material safety data sheets by VOSHA, known human carcinogens, extremely hazardous substances, explosives which require licensing or certain threshold quantities of petroleum products.

Hazardous waste sites have the potential to contaminate and pollute water systems and other ecosystems. According to the State's Waste Management Interactive Database, between 2005 and 2012, 28 incidents involving hazardous materials spills have occurred. Most of the spills involved small quantities of petroleum products. These spills mostly involved very limited quantities of oil or other petroleum products.

As of November 2012, the following table lists the 11 active hazardous waste site locations identified in the State's Waste Management Interactive. In 1991, the Hazardous Sites database and the Petroleum Sites database were consolidated. This list includes petroleum as well as non-petroleum sites. Prior to database consolidation, different site numbering systems were used. In order to minimize confusion, the petroleum site numbering system was adopted. This system consists of a two or four digit prefix (year site was identified) and a four digit (site specific) number. All sites identified since January 1, 1991 have been consecutively numbered beginning with 91-1000. Sites identified prior to January 1, 1991, have retained their previously assigned site identification numbers. Due to database requirements for a six digit site number, the non-petroleum sites identified prior to January 1, 1991 have a 77 prefix added to their previously assigned site identification numbers.

Morristown Hazardous Spill Sites: November 2012

Site#	Site Name	Site Address	Site Town	Site County	Priority	Discovery Date
982566	A O T Railroad Garage	Stafford St	Morristown	Lamoille	MED	12/15/1998
20073663	Bourne's Bulk Plant	Route 100	Morristown	Lamoille	MED	7/2/2007
951814	Bournes Service Center	Bridge St - Route 100	Morristown	Lamoille	LOW	9/1/1995
20043300	DeNoia's Dry Cleaners	140 Portland Street	Morristown	Lamoille	MED	12/9/2004
20053352	Emerson Property	120 Pleasant St.	Morristown	Lamoille	MED	9/16/2004
961962	Lakeside Garage	Bridge St	Morristown	Lamoille	MED	3/1/1996
931469	Morristown Corner Store	Stage Coach Rd	Morristown	Lamoille	MED	10/1/1993
20093907	Rosenthal Residence	6901 Elmore Mountain Rd	Morristown	Lamoille	MED	
20002741	Stowe Oil Co	Foundry St	Morristown	Lamoille	MED	12/22/1999
911121	Sweet And Burt	Wabun Ave	Morristown	Lamoille	MED	1/1/1991
20114181	Arthur's Department Store	63 Lower Main St.	Morristown	Lamoille	LOW	1/6/2011

The State's database also lists 51 hazardous waste generators and 22 active underground storage tank facility locations in the Town. The potential for severe pollution impacts to water quality and ecosystems exists from hazardous waste sites and/or from facilities which use hazardous materials.

The accompanying Areas of Local Concern map (Tab b) outlines the potential impact of a HAZMAT incident in terms of structures affected within a community from a fixed site and in terms of structures affected along a HAZMAT transportation corridor or route where an accident might occur.

When assessing community vulnerability, the impact of both fixed site and transportation were considered. Using the U.S. Department of Transportation Emergency Response Guidebook, a 1000 foot buffer was selected. For fixed site facilities, a 1000 foot radius circle was drawn around that site to determine the area of potential impact. For potential transportation incidents, a 500 foot buffer on each side of Class I and II roads was used to determine potential impact. .

Of the 2,311 structures within the town 669 structures are within 1000 feet of a Tier II site. Structures include all residential, commercial and public buildings in a town. Structures are only counted once. This means that if a house is within 1000 feet of three Tier II sites, it is only counted once, not three times. Based on the median housing value for Morristown, 2005-10 American Community Survey, the estimated potential loss for all properties within 1000 feet of a Tier II is $155,007,300. The estimated potential loss for all properties within 500 feet of a major roadway is $160,568,100.

Table III. Morristown Potential Tier II Hazard Loss (fixed)

Town	Median Housing Value	Structures within 1000' of Tier II site (% of total)	Potential Tier II Hazard Loss
Morristown	$231,700	669 (28.95%)	$155,007,300

Table IV. Morristown Potential Tier II Hazard Loss (transportation)

Town	Median Housing Value	Structures within 500' of a major road (% of total)	Potential Tier II Hazard Loss
Morristown	$231,700	693 (30%)	$160,568,100

3.2.2 Transportation Hazards

Three major intersections, the VT Route 15 and 15A intersection, the VT Route 15 and 100 intersection and the Route 100/Morristown Corners Road intersection have been identified by VTRANS as having a history of accidents. Including the three intersections above, sixteen High Accident Locations have been identified and include VT Route 100 intersection with River Road, VT Route 15A intersection with Route 12 and Route 100 (mile marker 1.60-1.82), Stagecoach Road and the intersection of Route 100 and Cochran Road near the airport. The town has been in contact with VTRANS to improve the safety of these areas.

A culvert study was conducted in 2001 and results are shown based on the Vermont Center for Geographic Information Bridge & Culvert Data Standards on the Floodplain, Bridge and Culvert map (tab a). Bridges with a federal sufficiency rating of less than 50 (out of 100) are also identified on the Areas of Local Concern Map (tab b). Five of the bridges in Morristown have a federal sufficiency rating of less than 50.

3.2.3 Areas of Local Concern

A large number of Tier II sites are located within one mile of the center of Morrisville. This location houses all emergency response equipment, the town offices, elderly housing, the EOC and the local schools. It is also important to note that many hazardous materials that pass through two identified High Accident Locations in the town are also within 1 mile of the school, EOC and town offices.

There are 27 critical facilities in the town (tab c) with 26 of the critical facilities located within 1,000 feet of a Tier II site and 13 critical facilities that are impacted by two known hazards. Known hazards are being within the 100-year floodplain, being within 500 feet of a major road and being within 1,000 feet of a Tier II site (tab b).

Additional Areas of Concern include the three EOCs in order: the Police Department on Lower Main St, the Fire Department located on Upper Main St., and the Rescue building located across from Copley Hospital on Washington Highway. The three emergency shelters include the People's Academy Gym, Morrisville Elementary, and the National Guard Armory.

Other vulnerable sites include:

- Houses on Lower Bridge St. on both sides of Lake Lamoille that are susceptible to flooding
- Mountain View Campground on Route 15 during camping season
- Duhamel Road and the two houses at the end of Cady's falls Rd.
- Tenny Bridge Area, well sites and all houses near Riverview Garage
- Sterling Valley area for Road damage

High Risk populations include:

- All Schools
- Copley Hospital, Copley Terrace, Copley Manor
- The Children's Garden on Route 100 South

4. Mitigation Goals

4.1 Lamoille County Hazard Mitigation Goals

Goal 1: Implement State Hazard Mitigation goals as appropriate at the regional and local level.

Goal 2: Promote awareness of the relationship between the impacts of disaster events, land uses and infrastructure.

Goal 3: Encourage local hazard mitigation planning and projects.

Goal 4: Encourage municipalities to incorporate their Local Hazard Mitigation Plan (LHMP) into their municipal plan and bylaws.

Goal 5: Encourage municipalities to incorporate their LHMP projects into their municipal budget and/or capital plan and programs.

Goal 6: Plan and implement hazard mitigation projects.

Goal 7: Avoid land use investments in conflict with vulnerable areas.

4.2 Town of Morristown Hazard Mitigation Goals

The following goals were evaluated and re-affirmed by the local community as valid and effective:

- Provide the technical support for and aid in the development of implementation mechanisms at the local level that will serve to avoid land use investments that would be, over time, endangered by incompatible or in conflict with fluvial adjustment and erosion processes, and landslides
- Encourage hazard mitigation planning as a part of the local planning process
- Endorse and support the implementation of the Lamoille County hazard mitigation goals

4.3 Planning and Development Guidelines that Support Hazard Mitigation

The current Morristown Town Plan was adopted on March 13, 2008. With technical assistance from LCPC, the Morristown Planning Commission is in the process of completing a plan update, expected to be completed in 2013. Morristown integrates hazard mitigation planning efforts through its Town Plan goals and policies (Community Facilities, Utilities, & Services; Natural Resources). The Town's subdivision bylaw was originally adopted on October 14, 1991 and updated on October 26, 2009. Flood hazard bylaws were incorporated into Zoning on November 27, 1995. Special protection areas addressed in the Morristown Zoning and Subdivision Bylaws include Flood Hazard Areas based on the 1987 FEMA Flood Hazard Boundary Maps (FHBMs) for the town of Morristown.

Primary Town Plan goals and policies that support hazard mitigation are:

- To plan local investments in infrastructure at the appropriate location and pace to support the local economy while mitigating physical and social impacts
    - Morristown supports regional efforts to provide improved emergency services communications
- For Morristown's water resources, including its lakes, ponds, streams, rivers, wetlands, groundwater, and associated habitats to be preserved and, where degraded, improved in order to ensure water quality for drinking, recreation, and the environment.
    - Erosion and sediment control is required on all construction sites. The Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites should be consulted for minimum requirements
    - No development should occur within a flood hazard area except in strict conformance with the flood hazard zoning bylaws
    - No development should occur within the Wellhead Protection Areas except in strict conformance with the Wellhead Protection Area zoning bylaws

5. Mitigation Strategies

5.1 Existing Hazard Mitigation Programs, Projects and Activities

The following is a list of anticipated or recently completed mitigation programs, projects or

activities in the Town of Morristown. Additional mitigation strategies are outlined in Section 3 of the RHMP. Notes for each section describe the completed, deleted or deferred mitigation action as a benchmark for progress; if activities are unchanged, a description has been provided as to why no changes occurred, or are not necessary.

Community Preparedness Activities

- Adopt a BEOP. *Completed. The Town of Morristown, along with the nine other towns in Lamoille County, adopts an updated BEOP annually.*
- Attendance at professional training sessions of Emergency Response and Management Staff. *Ongoing. Town Staff attends professional training sessions on an as-needed basis and as time allows. The Town Administrator/EMD facilitated the Green River Reservoir Tabletop Exercise in 2010. Sponsored functional scale in November of 2012*
- Participation at Local Emergency Planning Committee meetings and activities. *Ongoing. The Town Administrator/EMD and emergency medical service staff attend meetings and trainings sponsored by the LEPC 11.*
- Support of mission and maintains members in the Lamoille County Community Emergency Response Team (CERT). *Deferred. The Lamoille County CERT team is currently inactive, due to low membership.*
- Ensure procedures are in place for rapid evacuation of essential facilities. *Ongoing. Evacuation procedures were discussed in the Green River Reservoir Tabletop Exercise; an increased emphasis on evacuation and sheltering is anticipated in future exercises.*
- Review and study the need for additional foam capability by the Fire Department to minimize the impact of a HAZMAT incident. *Completed. The Fire Department has adequate foam capability at this time.*
- Ensure that all emergency response and management personnel receive HAZMAT Awareness training as a minimum. *Completed. HAZMAT Awareness training for all emergency response and management personnel is adequate at this time.*
- Continue to train public officials and local responders in the use of the Incident Command System (ICS). *Complete. Additional ICS training is desired for the Fire Department and Police and can be coordinated with future offerings from the LEPC.*
- Integrate additional mitigation measures in local land use planning and ordinance development processes. *Ongoing. All municipal bylaws are subject to review on an as-needed basis. An update to the zoning ordinance was being considered at the time of this plan update.*

Financial and Tax Incentives

- Annual investment of local tax dollars in highway mitigation projects. *Ongoing. Highway mitigation projects are implemented as resources allow.*
- Use of State and Federal funding for mitigation projects and activities. *Ongoing. Town staff monitors opportunities for the use of State and Federal funding for mitigation projects and activities. However, cost benefit analysis makes some programs difficult to use.*

Hazard Control and Protective Works

- Develop a Highway Maintenance Program (culvert survey & replacement, ditching along roadways, cutting vegetation to allow visibility at intersections). *Completed/Ongoing. The Town has a strong Highway Maintenance Program that is constantly ditching, cutting*

vegetation, and up-sizing culverts, based on most evident needs.

Insurance Programs

- Participation in NFIP. *Ongoing*

Land Use Planning/Management

- Flood Hazard Ordinance adopted November 27, 1995
- Municipal Development Plan adopted March 13, 2008
- The current Town Plan was adopted October 26, 2009; a plan update is currently underway and anticipated to be complete sometime in 2013. In accordance with Vermont planning statute, the updated Plan will contain a land use element, addressing hazard mitigation issues include floodplain storage and stormwater, among others.

Protection/Retrofit of Infrastructure and Critical Facilities

- Mapping of Critical and Essential Facilities. *Ongoing as part o the Lamoille County Planning Commission's FY12 Emergency Management Planning Grant.*
- As the electric companies replace lines and poles, consider burying lines underground and upgrade rating/ resistance to snow and ice loads. *Ongoing. Repairs are made continually as needed and as financial situations allow.*

Public Awareness, Training & Education

- Use this plan for Hazard Identification and Mapping, include public partners. *Since the first plan iteration, the disaster/declaration and response process has informed Town operations and the general public concerning the need for infrastructure and systems evaluation, monitoring and documentation especially as related to floods, winter storms, and power outages. This process will continue as public discussion, input and funding options for hazard mitigation projects are brought forward to the Selectboard. Additionally, all local and regional partners will use disaster events as a trigger to evaluate and improve the efficacy of this plan and necessary mitigation efforts. Each town will also play a role in the plan maintenance process spelled out in the Lamoille Regional All-Hazard Mitigation Plan.*
- Institute an Emergency Preparedness Education Program in the school. *Complete. Morristown Elementary School completed an Emergency Operations Plan and tabletop exercise in 2008. The Morristown Police Department coordinates this training and exercise coordination with all Morristown Schools. Ongoing actions will continue in future planning cycles through LEPC activities.*
- Enhance public education and community outreach regarding the National Flood Insurance Program. *Ongoing. The RPC held 3 county-wide workshops on the NFIP program and flood hazards for municipal officials in 2007.*
- Support Family and Community Disaster Preparedness. *Deferred from last planning cycle. Progress was made on emergency preparedness planning to address local educational institutions and special populations. In this planning cycle efforts will focus on community notification of evacuation plans and mitigation resources.*
- Conduct HAZMAT Drills involving all elements of the community to practice procedures associated with a simulated HAZMAT incident. *Completed. The 2010 Green River Reservoir Tabletop Exercise was funded through the federal Hazardous Materials Emergency Planning grant and tested response capabilities to a regional HAZMAT incident.*

- Collaborate with American Red Cross chapter to assist with community education programs and shelter agreements. *Ongoing. Morrisville has 3 shelters with American Red Cross shelter agreements in place. Morrisville will continue to maintain these shelters.*
- Community NFIP outreach through LCPC. *Deferred. In the aftermath of the unprecedented flooding of 2011, there is a renewed interest throughout the state in promoting NFIP. LCPC will continue to work with the Morristown Planning Commission on flood hazard outreach in the coming year.*

Public Protection

- Survey and designation of shelter(s). *Completed. Morristown has Red Cross certified shelters at the Lamoille County Civic Association, Peoples Academy, and Morrisville Elementary School.*
- Maintain emergency communications and information systems (NOAA weather receivers, Emergency Alert System (EAS). *Ongoing. The Town has a NOAA weather receiving, but the EAS must be activated by DEMHS*
- Auxiliary Power for School (Emergency Operations Center/Shelter). *Deferred. The Town has a sufficient number of facilities and potential shelters with emergency generators and therefore does not see a need for additional auxiliary power sources.*
- Hazard Vulnerability Assessments. *Ongoing assessments following exercises and real events.*
- Review and modify evacuation and sheltering plans based on the results of drills and exercises or procedures implemented in an actual incident, share results with community. *Efforts will continue following planned drills and exercises by LEPC.*
- Work with local and regional providers to develop informational database on special needs populations and elderly residents. *Ongoing. In 2009 a partnership of health, human services, and emergency response agencies and organizations developed a notification card to be used by special populations. This self-reporting card was distributed to the public and returned to the Lamoille County United Way. Locations of self-reporting persons have been mapped, and the maps and information are stored at dispatch locations and shared with responders on an as-needed basis. Lamoille County's program has become a model for a statewide effort in Vermont. Currently, methods are being developed for maintaining the database.*
- Structurally inspect Municipal Offices and designated emergency shelters to ensure roofs are capable of supporting maximum anticipated winter snowloads. *Efforts will continue as staff time allows. However, public awareness on roof snow-loading can be increased through educational materials.*
- Clearing streets and roads of snow to insure passage of emergency vehicles and public traffic. *Ongoing.*

Science and Technology

- Stream Geomorphic Assessments to identify flood and erosion hazards. *Ongoing. Assessment work on two rivers was completed at various stages in Morristown during the previous planning cycle: Lamoille River Mainstem and Rodman Brook.*
    - *Lamoille River Mainstem HUC2 – Phase 1 and Phase 2 fieldwork and report are completed. A river corridor management plan, project identification and municipal outreach to be completed in this plan cycle.*
    - *Rodman Brook – Phase 1 and Phase 2 fieldwork complete. A phase 1 and 2 report, river corridor management plan and project identification and municipal outreach*

will be completed within this planning cycle.

- Fluvial Geomorphic and Landslides Hazard Assessment to evaluate landslide potential in Morristown. *Ongoing.*
- Traffic calming and alternate transportation project (speed studies, resurfacing, and structure replacements). *Deferred. The Town sees no imminent concerns relating to traffic calming.*
- Annually, review the findings and recommendations of the Morristown Culvert Study to assess validity and progress in implementation. *Ongoing. The Town seeks to complete a new study to identify priority culverts.*
- Coordinate with Agency of Transportation to conduct modifications to High Accident Location's specifically:
    - VT Route 15 and 15A intersection
    - VT Route 15 and 100
    - VT Route 15A intersection with Route 12 and Route 100

  Deferred. The Town is in frequent communication with the AOT and LCPC regarding traffic concerns, but the state has no immediate plans to modify the abovementioned intersections.
- Add emergency generators to the EOC and emergency shelter. *Deferred. The Town has a sufficient number of emergency generators at critical facilities and shelters.*
- Increase quantity of emergency equipment such as pumps, generators and drinking water storage systems to mitigate risk to community from flooding events. *Deferred. The Town's current stock of emergency equipment is sufficient at this time. The Town will add and replace such equipment as town officials anticipate such a need.*

5.2 Identified Hazard Mitigation Programs, Projects and Activities

The following identified programs, projects and activities are new and/or planned for the Town of Morristown and complement Section 3 of the Lamoille County Regional All-Hazard Mitigation Plan. In Morristown, the major concern is the impact of a serious flooding and/or snow or ice storm incident where power may be out and transportation routes to the town would be impacted, effectively leaving the general public and special needs populations at risk due to delayed response time. Partners involved in completing these projects are identified in parentheses following the description.

<u>Universal Hazard Mitigation Goals</u>

The following universal hazard mitigation goals have been identified through recent and past mitigation planning efforts to reduce or avoid long-term vulnerability to identified hazards:

- Reduce the loss of life and injury resulting from all hazards;
- Reduce the economic impacts from natural and human-caused hazards, by protecting private property and public infrastructure;
- Minimize disruptions to the local road network to maintain emergency access;
- Encourage hazard mitigation planning to be incorporated into other community planning projects, including updates to the Town Plan, Basic Emergency Operations Plan, and other special planning projects;
- Continue to incorporate broad public input into the hazard mitigation planning process;
- Continue to encourage public preparedness, including efforts such as: vegetation

removal, securing fuel tanks, storm resistant building materials, or snow load roofs;
- Develop continuity of operations (COOP) and continuity of government (COOG) plans.

Goals, actions, and projects for most significant hazards

- Update Morristown's culvert study to assess existing infrastructure and continue progress in system upgrades, maintenance, and implementation **(Morristown Highway Department**, **LCPC, Town of Morristown EMD**).
    - Hazards mitigated: flooding due to spring / summer ice melt and heavy rains; flooding due to ice jams and seasonal thawing (even in winter)

  Potential Funding Sources: LCPC and the Vermont Agency of Transportation– Transportation Planning Initiative (TPI).

- Create a plan for the flood hazard area to address recreational opportunities, purchase properties or development rights, flood hazard protection, and the possibility for implementing water quality measures **(Morristown Conservation Commission, Morristown Planning Director and Morristown Planning Commission).**
    - Hazards mitigated: flooding due to spring / summer ice melt and heavy rains; flooding due to ice jams and seasonal thawing (even in winter)

  Potential Funding Source: Vermont Municipal Planning Grant, town appropriations

- Require that all Major Subdivisions be equipped with a fire pond and a dry hydrant that is acceptable to the Fire Chief (**Morristown Fire Chief, Morristown Planning Director**).
    - Reasoning: Most houses in Vermont, including Morristown, are heated using woodstoves or other wood-burning devices. Structural fires are common in the winter months. Wildfires are likely during dry periods, such as in the summer.
    - Hazards mitigated: structural fire, wildfire.

  Potential Funding Sources: Vermont Municipal Planning Grant, town appropriations, LCPC's Emergency Management Performance Grant

- Review and update local regulations to provide actions that can reduce the risk of infrastructure damage due to fluvial erosion during flood and flash flood events as funding permits and burying utilities (**LCPC; Members of the Morristown Planning Commission**).
    - Specific recommendations include: requiring freeboard for all structures in flood zones and prohibiting the placement of new structures in the regulatory floodway; requesting utilities be buried to reduce risk during wind storms.
    - Hazards mitigated: flooding due to spring / summer ice melt and heavy rains; flooding due to ice jams and seasonal thawing (even in winter); high wind / ice damage.

  Potential Funding Sources: LCPC Emergency Management Performance Grant, Vermont Municipal Planning Grant

Ultimately, hazard mitigation priorities are determined by Morristown's ability to finance and implement these activities within the town's existing tax base. When weighing investments in hazard mitigation, Morristown will prioritize projects that generate the highest cost-benefit ratio for the greatest number of residents. Prioritization priorities are evaluated in the matrix in Appendix B, based on a nine criteria and a weighted scale of 1-5 (with 5 representing a rating of excellent). These criteria represent a range of factors, from political will, to environmental impact, to general feasibility of the identified mitigation actions. While they may not be comprehensive to address any and all hazards in the community, they are prioritized to address the greatest and most realistic hazards that will impact the community. Future plan iterations will aim to address other priorities to mitigate potential, yet unlikely, hazards

The costs of each mitigation action will be evaluated on a case-by-case basis as the town has the political will to implement the action. The extent of the action is determined in part by the cost of implementation. For example, a thorough overhaul of the flood hazard regulations can range in the area of $20,000. Minor revisions to regulatory documents can be a few thousand dollars (staff time, public notices, public hearings, adoption). However, revisions to regulations are usually undertaken as needed, as staff time allows, and when the overall community benefit outweighs the cost.

6. Plan Maintenance Process

6.1 Monitoring, Evaluating, and Updating the Plan

The Morristown LHMP will be evaluated and updated regularly by the Morristown Planning Commission, with technical assistance from LCPC staff. Any significant disaster event will prompt a review of this plan between members of the Planning Commission and LCPC. At the very minimum, the plan will be amended as required within five years from the date of FEMA approval.

The LEPC will also perform a mid-cycle review of the Lamoille County Regional All-Hazard Mitigation Plan and its corresponding LHMPs within three years of adoption. This review will determine the effectiveness of the regional and municipal programs and reflect changes in land development or programs that may affect mitigation priorities. Ultimately, the long-term success of this and other LHMPs is dependent on the availability of funding to implement mitigation priorities.

6.2 Incorporation into Existing Planning Mechanisms

During the update and re-adoption processes for the Town Plan, bylaws, and/or regulations, the Town and LCPC will provide guidance and recommendations to the respective Town Boards for the incorporation and integration of state, regional and local hazard mitigation goals and strategies into the specific programs and practices described in these other planning mechanisms. Throughout the plan update process, the local mitigation priorities identified within this LHMP will continue to be considered, alongside the long-term economic, environmental and public

safety benefits to the community.

In order to effectively incorporate mitigation strategies into these existing planning mechanisms, it is important to demonstrate how these approaches maximize benefit to the entire community. This can be achieved through the utilization of a cost-benefit analysis, which quantifies the benefits of mitigation against anticipated losses. Such an analysis is an integral part of prioritizing potential mitigation strategies and actions, and is also a requirement for submitting future FEMA mitigation grant applications.

6.3 Continued Public Involvement

Principal avenues for broad public comment include:

- Community involvement through the local and regional planning process relating to updating existing planning mechanisms
- Conducting a citizen survey to gauge public interest in and support for hazard mitigation project priorities.
- Utilize existing social media (such as: Front Porch Forum, Facebook, and the town's website and Wi-Fi landing page) to inform the community and solicit feedback on hazard mitigation goals, strategies, priorities, and preparedness efforts.
- Participation at the regular LEPC meetings [LEPC meetings are typically attended by a variety of parties: first responders, municipal officials, non-profit health care agencies, disaster assistance groups (CERT and Red Cross), communications industry officials and Tier II HAZMAT operators]
- Posting of the Lamoille County Multi-Jurisdictional All Hazard Mitigation Plan and local annexes on the LCPC webpage for public comment

The general public will be notified of review and update efforts over the next five years through press releases to local newspapers, announcements by local radio stations, announcements posted on Front Porch Forum (an online message board with town wide participation), social media, public meetings, and updates to the LCPC website. Additionally, LCPC will reach out to other regional stakeholders, including the Lamoille Mutual Aid Association and Lamoille County Sheriff's Department, to ensure mitigation planning efforts align with the county's public safety interests.

Appendix A. Town of Morristown Supplemental Data and Maps

Floodplain, Bridge and Culvert Map (Tab a)
Areas of Local Concern Map (Tab b)
Critical Facilities Map (Tab c)

Appendix B. Action Evaluation and Prioritization Matrix

Action Evaluation and Prioritization Matrix **Town: Morristown**

5 = Excellent 4 = Good 3 = Average 2 = below average (or unknown) 1 = poor

Mitigation Action	Responds to significant (likely or high risk) hazard	Likelihood of funding	Protect threatened infra-structure	Implemented quickly	Socially / Politically acceptable	Technically Feasible	Administratively Realistic	Reasonable cost to benefit	Environmentally sound	TOTAL SCORE
Update the Morristown's culvert study to assess existing infrastructure and continue progress in system upgrades, maintenance and implementation.	3	5	3	4	5	5	5	4	5	**39**
Review and update local Flood Hazard Regulations to provide actions that can reduce the risk of infrastructure damage due to fluvial erosion during flood and flash flood events as funding permits.	4	4	4	3	3	4	4	3	5	**34**
Require that all Major Subdivisions be equipped with a fire pond and a dry hydrant that is acceptable to the Fire Chief.	4	3	5	3	3	3	2	3	4	**30**
Create a plan for the flood hazard area to address recreational opportunities, purchase properties or development rights, flood hazard protection, and the possibility for implementing water quality measures	5	3	5	2	2	3	3	3	5	**26**

Appendix C. Implementation Schedule for Prioritized Mitigation Projects

MITIGATION ACTION	WHO (LEADERSHIP)	WHEN (TIMEFRAME)	HOW (FUNDING SOURCE)	HAZARD BEING MITIGATED
Update Morristown's culvert study to assess existing infrastructure and continue progress in system upgrades, maintenance and implementation.	Town of Morristown	1 -2 years (2014)	Town of Morristown	Winter, spring, summer Flood and Winter Storm
Review and update local regulations, particularly flood hazard regulations but limited to flooding, to provide actions that can reduce the risk of infrastructure damage due to high winds, fluvial erosion during flood and flash flood events as funding permits.	Town of Morristown, LCPC, Agency of Natural Resources	2 years (2015)	Town of Morristown, State MPG program	Flood, Winter Storm, Windstorm
Require that all Major Subdivisions be equipped with a fire pond and a dry hydrant that is acceptable to the Fire Chief.	Town of Morristown Fire Chief, Planning Director	2 – 5 years	Town of Morristown, LCPC EMPG	Fire
Create a plan for the flood hazard area to address recreational opportunities, purchase properties or development rights, flood hazard protection, and the possibility for implementing water quality measures	Town of Morristown Planning Director	2 – 5 years	Town of Morristown, State MPG program	Winter, spring, summer flood

Appendix D. Sample Morristown Hazard Mitigation Plan Annex Resolution

Resolution

Approving the Morristown Local Hazard Mitigation Plan and Lamoille County Regional All-Hazard Mitigation Plan

The Selectboard of the Town of Morristown 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 Morristown has prepared the Morristown Local Hazard Mitigation Plan as an annex to the Lamoille County Regional All-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 Selectboard has reviewed and considered the Morristown Local Hazard Mitigation Plan and Lamoille County Regional All-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 SELECTBOARD OF THE TOWN OF MORRISTOWN, A MUNICIPALITY OF THE STATE OF VERMONT, AS FOLLOWS:

Section 1. Based on the above findings, which are hereby adopted, the Morristown Local Hazard Mitigation Plan and Lamoille County Regional All-Hazard Mitigation Plan attached as Exhibit A is approved as the official Multi-Hazard Mitigation Plan for the Town of Morristown.

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

The foregoing Resolution is hereby adopted this ____th day of _____, 2014

Selectboard Chair _____

Selectboard Member _____

Selectboard Member _____

Selectboard Member _____

Selectboard Member _____

Town Clerk received _____