HAZARD MITIGATION PLAN

Livingston County, New York

Volume I



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TETRA TECH

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EXECUTIVE SUMMARY

Hazard mitigation is an action to help reduce long-term risks caused by hazards or disasters, such as flooding, earthquakes, or wildfires. The purpose of hazard mitigation is to protect people and structures, and minimize the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policies, education, and environmental protection. A hazard mitigation plan (HMP) documents a local government's evaluation of hazards and the strategies to mitigate those hazards.

Hazard Mitigation is any sustained action taken to reduce or eliminate the long-term risk and effects that can result from specific hazards.

FEMA defines a ***Hazard Mitigation Plan*** as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

Livingston County and 22 jurisdictions actively participated in the HMP update process. Table ES-1 lists the participation of Livingston County's jurisdictions.

Table ES-1. Participation of Livingston County's Jurisdictions in the 2022 Livingston County HMP Update

Participating Jurisdictions		Non-Participating Jurisdictions
Livingston County	Town of Lima	Village of Lima
Town of Avon	Town of Mount Morris	Town of Livonia
Village of Avon	Town of North Dansville	Village of Livonia
Town of Caledonia	Town of Nunda	Village of Mount Morris
Village of Caledonia	Village of Nunda	
Town of Conesus	Town of Ossian	
Village of Dansville	Town of Portage	
Town of Geneseo	Town of Sparta	
Village of Geneseo	Town of Springwater	
Town of Groveland	Town of West Sparta	
Town of Leicester	Town of York	
Village of Leicester		

During the Livingston County HMP planning process, the nation, the State of New York, and Livingston County were facing the COVID-19 pandemic. The COVID-19 pandemic was declared a major disaster on March 20, 2020 (DR-4480). The Governor issued a stay-at-home Executive Order beginning March 22, 2020, which has since been revoked.

The Livingston County Office of Emergency Management, Planning Department, the Steering Committee members, and the planning partners were addressing the COVID-19 pandemic concurrent with completing the update to the HMP. Livingston County and all planning partners made their best effort to work through this unprecedented time to complete the HMP update and meet FEMA and state requirements. In-person public meetings were canceled for the safety of residents and planning partners. However, Steering Committee, Planning Partnership, jurisdiction-specific, and public meetings continued virtually. More targeted stakeholder and public involvement was initiated to ensure a broad audience was reached, described further below.

During this HMP update process, Livingston County and the participating jurisdictions accomplished the following:

- Developed a Steering Committee and Planning Partnership
- Reviewed and updated the hazards of concern
- Profiled and prioritized these hazards
- Estimated inventory at risk and potential losses associated with these hazards
- Reviewed and updated hazard mitigation goals and objectives
- Reviewed and updated County and local mitigation strategies to address identified risks and vulnerabilities

LIVINGSTON COUNTY MULTI-JURISDICTIONAL PLANNING PROCESS

Livingston County developed and adopted the original Livingston County HMP in 2007 and updated the plan in 2015. The DMA 2000 regulations require that local plans be formally updated and adopted every five (5) years, reassessing risk and updating local strategies to manage and mitigate those risks. To comply, Livingston County and its inclusive jurisdictions actively participated in the 2022 update of the HMP. Extensive outreach efforts by the Livingston County Planning Department resulted in participation from 22 of the 26 municipalities. Upon completion and approval of the HMP, participating jurisdictions will continue to address and implement the findings and recommendations of this HMP.

As required by the DMA 2000, the participating jurisdictions and Livingston County have informed the public about HMP update efforts and have provided opportunities for public comment and input regarding the planning process. In addition, numerous agencies and stakeholders have participated as core or support members to provide input and expertise to the planning process. This HMP documents the process and outcomes of the jurisdictions' mitigation planning efforts.

Livingston County and the participating jurisdictions incorporate mitigation planning as an integral component of daily government operations through existing processes and programs. A public outreach campaign was initiated to commence the HMP update. A citizen survey to gauge hazard preparedness was developed. The survey asked quantifiable questions about citizen perception of risk, knowledge of mitigation, and support of community programs. Stakeholder surveys across multiple sectors was distributed to obtain input. The citizen survey was posted on the County's mitigation plan website (https://www.Livingstoncountynyhmp.com/). The stakeholder surveys were sent by the Livingston County Planning Department to applicable stakeholder groups. Updates to the HMP will be announced on the County website and via municipal outreach after annual plan reviews and 5-year updates. The County HMP Coordinator and local planning partnership representatives will be responsible for receiving, tracking, and filing public comments regarding this HMP when posted for draft public review and throughout the plan's period of performance.

LIVINGSTON COUNTY HAZARD MITIGATION PLAN ADOPTION

Following formal Federal Emergency Management Agency (FEMA) approval of this HMP update, Livingston County and all participating jurisdictions will be required to formally adopt the updated HMP. A sample of an adoption resolution is included in Appendix A (Adoption Resolutions). Only the county and the 22 participating municipalities will be eligible to adopt the HMP; the other four municipalities will be able to adopt the HMP if they carry out the Linkage Procedures found in Appendix H.

LIVINGSTON COUNTY PROFILE

Development increases population and structures and therefore can increase the impact of hazards on a community. For example, heavy development planned for a flood-prone area would likely increase the impact of the flood events as time progresses.

According to the 2019 American Community Survey (ACS) Census data, Livingston County had a population of 63,591. Livingston County is located in west-central New York State, north of the Commonwealth of Pennsylvania. The County is bordered by Monroe County to the north, Genesee and Wyoming Counties to the west, Ontario County to the east, and Steuben and Allegany Counties to the south.

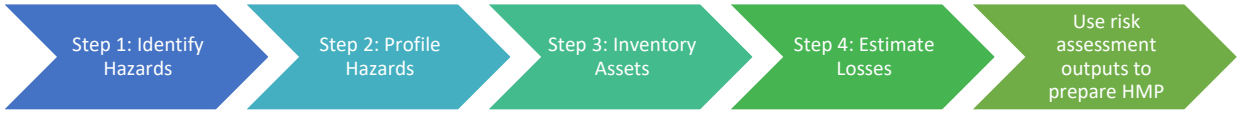
Livingston County is located in the Allegheny Plateau region of New York State. The northern part of the County is generally flat, while steeper slopes are found in the central and southern parts of the County.

Land use in Livingston County is influenced by natural resources, topographic constraints, water lines, sewers, and roads. The county has a relatively dispersed and rural development pattern; a handful of villages contain an urban center while most development has occurred in scattered site locations and along roadways. Agriculture is a dominant land use in most towns. The county contains 400 farms with 50+ acres. Similar to statewide trend, the county contains fewer, but often larger, farms. This trend toward fewer but larger farm operations parallels statewide trends (US Census 2017).

The Livingston County HMP provides a general overview of current and anticipated population and land use within the study area. This information provides a basis for making decisions regarding the type of mitigation approaches to consider and the locations in which these approaches should be applied. This information can also be used to support decisions regarding future development in vulnerable areas. For potential increases in vulnerability, the County and jurisdictions can then plan ahead to mitigate those vulnerabilities early in the development process or can direct development to areas of lower risk. The Planning Partnership will revisit the HMP regularly to ensure that mitigation actions support sustainability to minimize increased risk, and to also ensure implementation and targeting of specific mitigation actions will address the potential impacts of development over time.

RISK ASSESSMENT

A key component of an HMP is accurate identification of risks posed by hazards and corresponding impacts on the community. The process of identifying hazards of concern, profiling hazard events, and conducting a vulnerability assessment is known as a risk assessment. The risk assessment portion of the mitigation planning process included the steps shown and summarized below.



Step 1: Identify hazards of concern. Livingston County considered the full range of natural and non-natural hazards that could impact the County and then identified and ranked hazards of greatest concern. The following list of 13 hazards of concern was selected for further evaluation in the HMP:

- Drought
- Earthquake
- Flood
- Hazardous Materials
- Invasive Species
- Landslide
- Mine Subsidence
- Pandemic
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire

Step 2: Prepare a profile for each hazard of concern. These profiles assist jurisdictions in evaluating and comparing hazards that can impact their areas. Each type of hazard has unique characteristics that differ from event to event. That is, impacts associated with a specific hazard can vary depending on the magnitude and location of each event (a hazard event is a specific, uninterrupted occurrence of a particular type of hazard). Further, probability of occurrence of a hazard at a given location affects the priority assigned to that hazard. Finally, each hazard impacts different communities in different ways, depending on geography, local development, population distribution, age of buildings, and mitigation measures already implemented.

Steps 3 and 4: Evaluate assets of jurisdictions and identify assets exposed or vulnerable to the hazards of concern. Hazard profile information, combined with data regarding population, demographics, general building stock, and critical facilities at risk, prepares the community to develop risk scenarios and estimate potential damages and losses from each hazard.

Once the risk assessment was completed, the county and participating jurisdictions evaluated the risk and vulnerability to each hazard for their community. This served as a starting point in identifying and prioritizing mitigation strategies.

LIVINGSTON COUNTY MITIGATION STRATEGY

Outcomes of the risk assessment, supplemented by community input, provided a basis for reviewing past mitigation actions, future goals, and appropriate local mitigation actions.

Goals and Objectives

The 2015 HMP specified overarching mitigation goals with corresponding objectives that summarized hazard reduction outcomes the County and participating jurisdictions want to achieve. During the 2022 plan update process, the Steering Committee reviewed the goals and objectives established in the 2015 HMP. These goals and objectives were reviewed in consideration of the hazard events and losses since the 2015 plan; the updated hazard profiles and vulnerability assessment; the goals and objectives established in the 2019 NYS HMP, county and local risk management plans; and direct input from the county and jurisdictions for how to meet their needs to advance and best manage their hazard risk. Amendments include additions/edits to goals and objectives to express the planning partnership's interests in integrating this plan with other planning mechanisms/programs and to support mitigation through the protection and preservation of natural systems (refer to Section 6 – Mitigation Strategies). The following summarizes the three (3) updated goals for the 2022 HMP.

1. Protect life, property, and critical infrastructure from hazard impacts.
2. Reduce the risk of hazards on life, property, and the environment.
3. Educate the public, officials, and other stakeholders about the hazards they face and what can be done to mitigate hazard impacts.

Capability Assessment

The Capability Assessment section of Section 6 (Mitigation Strategy) provides a summary and description of the existing plans, programs and regulatory mechanisms at all levels of government (federal state, county, and local) that support hazard mitigation within the county. Within each jurisdictional annex in Section 9 (Jurisdictional Annexes), the county and each participating jurisdiction identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework ("existing integration"), and how they intend to promote this integration ("opportunities for future integration").

By completing these assessments, Livingston County and participating jurisdictions learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Types of mitigation actions that may be prohibited by law
- Limitations that may hinder mitigation actions
- The range of local and state administrative, programmatic, regulatory, financial, and technical resources available to assist in implementing their mitigation actions

Identification, Prioritization, Analysis, and Implementation of Mitigation Actions

As part of the planning process for this HMP update, all participating jurisdictions evaluated their risks and known or anticipated losses to the hazards of concern, assessed their capabilities to manage hazard risk, reviewed progress on past mitigation efforts, and identified a comprehensive range of mitigation alternatives and actions they endeavor to implement as resources are identified and available. The HMP identifies all proposed mitigation actions relevant to achievement of the goals and objectives presented above. The county and participating jurisdictions have identified appropriate local mitigation actions, along with hazards mitigated, goals and objectives met, lead agencies, estimated costs, potential funding sources, and proposed timeline. These actions are identified in Volume II, Section 9, which consists of annexes for the County and each participating jurisdiction.

PLAN MAINTENANCE PROCEDURES

Hazard mitigation planning is an ongoing process. Section 7 (Plan Maintenance) of this plan presents procedures for how the County will monitor, integrate, evaluate, and update the HMP over the next five years. The Planning Partnership will continue ongoing mitigation efforts to implement the HMP and revise and update the HMP, as necessary.

To monitor implementation of the HMP, Planning Partnership members will meet annually to discuss the status of HMP implementation and will prepare a report summarizing the status of the HMP and any needed updates. The mitigation evaluation will address changes as new hazard events occur, as the area develops, and as more is learned about hazards and their impacts. The evaluation will include an assessment of whether the planning process and actions have been effective, whether development or other issues warrant changes to the HMP or its priorities, progress toward achievement of the communities' goals, and whether changes are warranted. The HMP will be updated, at a minimum, within the 5-year cycle specified by the DMA 2000.

POINT OF CONTACT

To request information or provide comments regarding this HMP, please contact the Livingston County HMP Coordinator:

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E-mail Address:	abrodell@co.livingston.ny.us

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SECTION 1. INTRODUCTION

1.1 BACKGROUND

In response to the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), Livingston County and the jurisdictions located therein have developed this hazard mitigation plan, which represents a regulatory update to the *2015 Livingston County All-Hazard Mitigation Plan* (HMP; also referred herein as the *Hazard Mitigation Plan* or *the plan*). The DMA 2000 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and is designed to improve planning for, response to, and recovery from disasters by requiring state and local entities to implement pre-disaster mitigation planning and develop HMPs. The Federal Emergency Management Agency (FEMA) has issued guidelines for HMPs. The New York State Division of Homeland Security and Emergency Services (NYS DHSES), formerly the New York State Office of Emergency Management (NYSOEM), also supports plan development for jurisdictions in New York and issued the NYS DHSES Hazard Mitigation Planning Standards for HMPs developed with NYS DHSES-administered funds.

Hazard Mitigation is any sustained action taken to reduce or eliminate the long-term risk and effects that can result from specific hazards.

FEMA defines a *Hazard Mitigation Plan* as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

Specifically, the DMA 2000 requires that states, with support from local governmental agencies, develop and update HMPs on a five-year basis to prepare for and reduce the potential impacts of natural hazards. The DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. This enhanced planning better enables local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

1.1.1 DMA 2000 Origins - The Stafford Act

In the early 1990s, a new federal policy regarding disasters began to evolve. Rather than reacting whenever disasters strike communities, the federal government began encouraging communities to first assess their vulnerability to various disasters and proceed to take actions to reduce or eliminate potential risks. The logic is that a disaster-resistant community can rebound from a natural disaster with less loss of property or human injury, at much lower cost, and, consequently, more quickly. Moreover, these communities minimize other costs associated with disasters, such as the time lost from productive activity by businesses and industries.

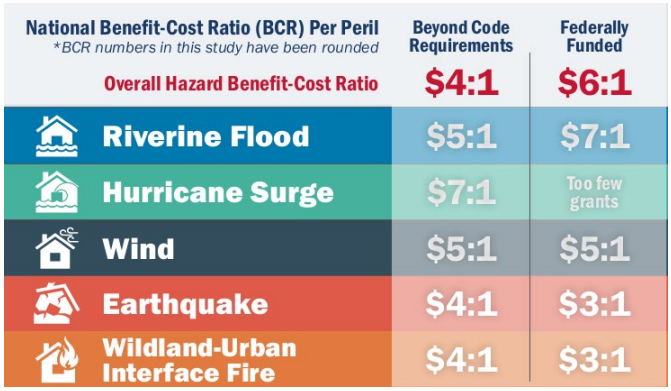
The DMA 2000 provides an opportunity for states, tribes, and local governments to take a new and revitalized approach to mitigation planning. The DMA 2000 amended the Stafford Act by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of requirements (Section 322). Section 322 sets forth the requirements that communities evaluate natural hazards within their respective jurisdictions and develop an appropriate plan of action to mitigate those hazards while emphasizing the need for state, tribal, and local governments to closely coordinate mitigation planning and implementation efforts.

The amended Stafford Act requires that each local jurisdiction identify potential natural hazards to the health, safety, and well-being of its residents and identify and prioritize actions that the community can take to mitigate those hazards—before disaster strikes. To remain eligible for hazard mitigation assistance from the federal government, communities must first prepare and then maintain and update an HMP (this plan).

Responsibility for fulfilling the requirements of Section 322 of the Stafford Act and administering the FEMA Hazard Mitigation Program has been delegated to the State of New York, specifically to NYS DHSES. FEMA also provides support through guidance, resources, and plan reviews.

1.1.2 Benefits of Mitigation Planning

Mitigation planning forms the foundation for Livingston County's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. Mitigation planning also allows Livingston County, as a whole and with participating jurisdictions, to remain eligible for mitigation grant funding for mitigation projects that will reduce the impact of future disaster events. The long-term benefits of mitigation planning include the following:



Source: *FEMA 2018; Federal Insurance Mitigation Administration 2018*
Note: *Natural hazard mitigation saves $6 on average for every $1 spent on federal mitigation grants.*

- An increased understanding of hazards faced by Livingston County and its inclusive jurisdictions.
- Building more sustainable and disaster-resistant communities.
- Increasing education and awareness of hazard, threats, and risks.
- Developing implementable and achievable actions for risk reduction in the county and its jurisdictions.
- Building relationships by involving residents, organizations, and businesses.
- Identifying implementation approaches that focus resources on the greatest risks and vulnerabilities.
- Financial savings through partnerships that support planning and mitigation efforts.
- Focused use of limited resources on hazards that have the biggest impact on the community.
- Reducing long-term impacts and damage to human health and structures.
- Reducing repair costs.

1.1.3 Organizations Involved in the Mitigation Planning Effort

Livingston County and the participating jurisdictions intend to implement this HMP with full coordination and participation of county and local departments, organizations and groups, and relevant state and federal entities. Coordination helps to ensure that stakeholders have established communication channels and relationships necessary to support mitigation planning and mitigation actions included in Section 6 (Mitigation Strategy) and Section 9 (Jurisdictional Annexes). In addition to Livingston County, 22 municipal governments in the county participated in the 2022 planning process, as indicated in Table 1-1 below.

Table 1-1. Participating Livingston County Jurisdictions

Participating Jurisdictions		Non-Participating Jurisdictions
Livingston County	Town of Lima	Village of Lima
Town of Avon	Town of Mount Morris	Town of Livonia
Village of Avon	Town of North Dansville	Village of Livonia
Town of Caledonia	Town of Nunda	Village of Mount Morris
Village of Caledonia	Village of Nunda	
Town of Conesus	Town of Ossian	
Village of Dansville	Town of Portage	
Town of Geneseo	Town of Sparta	
Village of Geneseo	Town of Springwater	

Participating Jurisdictions		Non-Participating Jurisdictions
Town of Groveland	Town of West Sparta	
Town of Leicester	Town of York	
Village of Leicester		

Multiple Agency Support for Hazard Mitigation

Primary responsibility for the development and implementation of mitigation strategies and policies lies with local governments. However, local governments are not alone; various partners and resources at the regional, state, and federal levels are available to assist communities in the development and implementation of mitigation strategies. Within New York State, NYS DHSES is the lead agency providing hazard mitigation planning assistance to local jurisdictions. NYS DHSES provides guidance to support mitigation planning. In addition, FEMA provides grants, tools, guidance, and training to support mitigation planning.

Additional input and support for this planning effort was obtained from a range of agencies and through public involvement (as discussed in Section 3). The Livingston County Office of Emergency Management (OEM), along with support from the Steering Committee, provided project management and oversight of the planning process. While participating jurisdictions were asked to identify a primary and alternate local Point of Contact (POC), broad participation by jurisdictional representatives was encouraged and supported throughout the planning process. A list of Steering Committee and municipal POCs is provided in Section 3 (Planning Process), while Appendix B (Participation Matrix) provides further documentation of the broader level of municipal involvement.

This HMP was prepared in accordance with the following regulations and guidance:

- FEMA *Local Mitigation Planning Handbook*, March 2013.
- FEMA *Integrating Hazard Mitigation into Local Planning*, March 1, 2013.
- FEMA *Plan Integration: Linking Local Planning Efforts*, July 2015.
- *Local Mitigation Plan Review Guide*, October 1, 2011.
- DMA 2000 (Public Law 106-390, October 30, 2000).
- 44 Code of Federal Regulations (CFR) Parts 201 and 206 (including: Feb. 26, 2002, Oct. 1, 2002, Oct. 28, 2003, and Sept. 13, 2004 Interim Final Rules).
- FEMA *How-To Guide for Using HAZUS-MH-MH for Risk Assessment* FEMA Document No. 433, February 2004.
- FEMA *Mitigation Planning How-to Series* (FEMA 386-1 through 4), 2002, available at: http://www.fema.gov/fima/planhowto.shtm.
- FEMA *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*, January 2013.
- NYS DHSES *Hazard Mitigation Planning Standard*, 2017.
- NYS DHSES *Hazard Mitigation Planning Standard Guide*, 2017.

The planning area for this effort is inclusive of the participating municipalities within the county, as illustrated in Figure 1-1 below.

Figure 1-1. Livingston County, New York Mitigation Plan Area

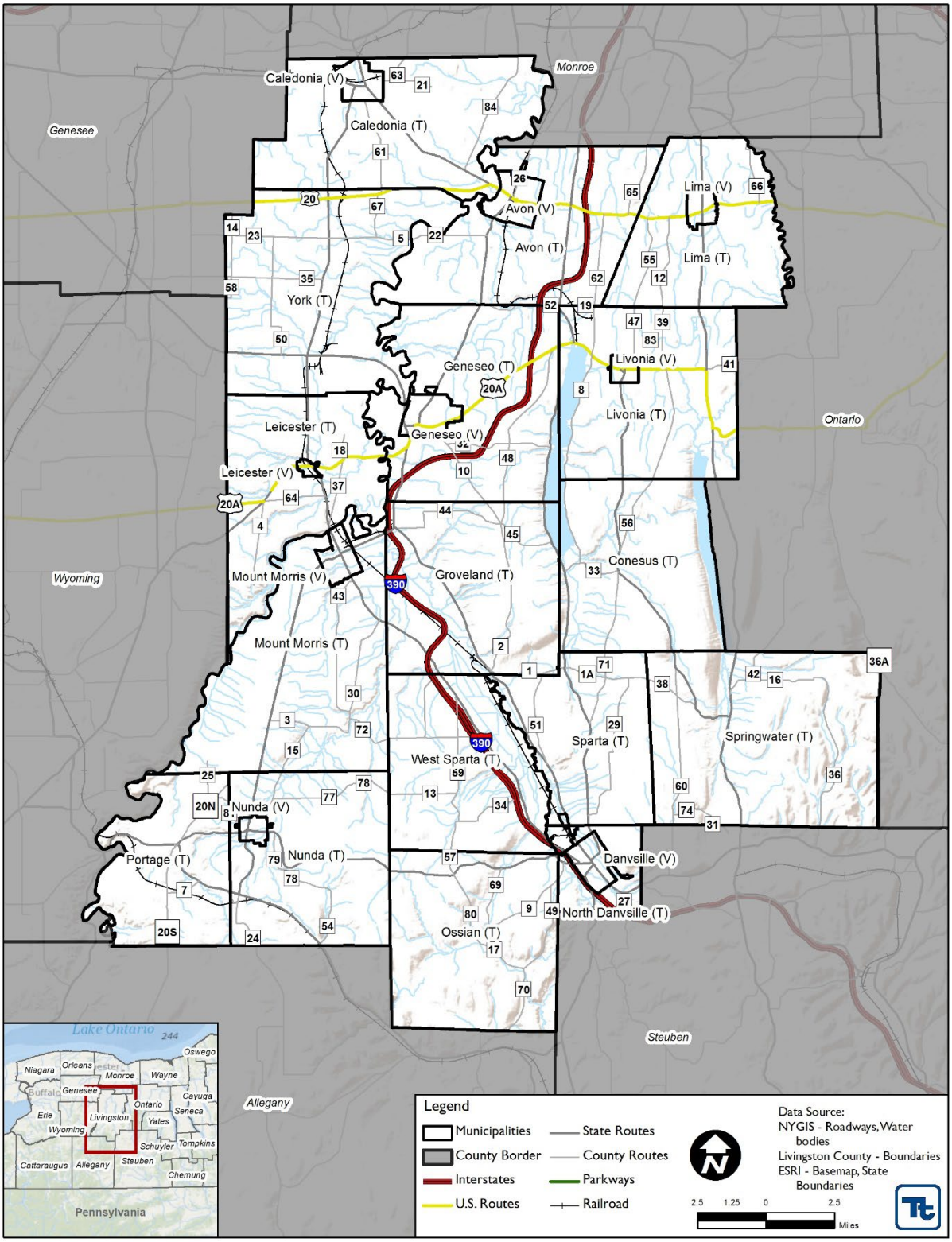


Table 1-2 summarizes the requirements outlined in the DMA 2000 Interim Final Rule and provides the section where each is addressed in this HMP.

Table 1-2. FEMA Local Mitigation Plan Review Crosswalk

Plan Criteria	Primary Location in Plan
Prerequisites	
Adoption by the Local Governing Body: §201.6(c)(5)	Section 2.0; Appendix A
Planning Process	
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)	Section 3.0
Risk Assessment	
Identifying Hazards: §201.6(c)(2)(i)	Sections 5.2
Profiling Hazards: §201.6(c)(2)(i)	Section 5.4
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	Section 5.4
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)	Section 4.0 Section 5.4
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	Section 5.4
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)	Section 4.0; Section 9 Annexes
Mitigation Strategy	
Local Hazard Mitigation Goals: §201.6(c)(3)(i)	Section 6.0; Section 9 Annexes
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	Section 6.0; Section 9 Annexes
Implementation of Mitigation Actions: §201.6(c)(3)(iii)	Section 6.0; Section 9 Annexes
Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)	Section 6.0; Section 9 Annexes
Plan Maintenance Process	
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)	Section 7.0
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)	Section 7.0; Section 9 Annexes
Continued Public Involvement: §201.6(c)(4)(iii)	Section 7.0

Organization

The Livingston County HMP update is organized as a two-volume plan. Volume I provides information on the overall planning process and natural hazard profiling and vulnerability assessments, which serves as a basis for understanding risk and identifying appropriate mitigation actions. As such, Volume I is intended for use as a resource for ongoing mitigation analysis. Volume II provides an annex dedicated to each participating jurisdiction. Each annex summarizes the jurisdiction's legal, regulatory, and fiscal capabilities; identifies vulnerabilities to natural hazards; documents mitigation plan integration with other planning efforts; records status of past mitigation actions; and presents an individualized mitigation strategy. The annexes are intended to provide a useful resource for each jurisdiction for implementation of mitigation projects and future grant opportunities as well as a place for each jurisdiction to record and maintain their local aspect of the countywide plan.

Goals and Objectives

The planning process included a review and update of the prior mitigation goals and the addition of all new objectives as a basis for the planning process and selection of appropriate mitigation actions addressing all hazards of concern. Further, the goal development process considered the mitigation goals expressed in the New York State HMP as well as other relevant county and local planning documents, as discussed in Section 6 (Mitigation Strategy).

Hazards of Concern

Livingston County and participating jurisdictions reviewed the natural hazards that caused measurable impacts based on events, losses, and information available since the development of the 2015 Livingston County HMP and the New York State HMP 2019 Update. A list of potential hazards of concern was reviewed by the Steering Committee, and each was evaluated to identify the hazards of concern for the 2022 planning process. The list was presented to each of the participating jurisdictions where they evaluated their risk and vulnerability from each hazard of concern. While the overall hazard rankings were calculated for the county and each participating jurisdiction, the overall hazard rankings displayed in each annex reflect jurisdictional input. The hazard risk rankings were used to focus and prioritize individual jurisdictional mitigation strategies.

2022 HMP Update Hazards of Concern

- Drought
- Earthquake
- Flood
- Hazardous Materials
- Invasive Species
- Landslide
- Mine Subsidence
- Pandemic
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire

Plan Integration into Other Planning Mechanisms

Plan integration is the process by which jurisdictions look at their existing planning framework and align efforts with the goal of building a safer, smarter, and more resilient community. It is specific to each community and depends on the vulnerability of the built environment. Community-wide plan integration supports risk reduction through various planning and development measures, both before and after a disaster. Plan integration involves a community's plans, policies, codes, and programs that guide development and the roles of people and government in implementing these capabilities. Successful integration occurs through collaboration among a diverse set of stakeholders in the community (FEMA 2015).

Effective mitigation is achieved when hazard awareness and risk management approaches and strategies are integrated into local planning mechanisms and become an integral part of public activities and decision making. Within Livingston County, there are numerous existing plans and programs that support hazard risk management and reduction, and thus, it is critical that the 2022 HMP update integrates, coordinates with, and complements those mechanisms.

The *Capability Assessment* section of Section 6 (Mitigation Strategy) provides a summary and description of the existing plans, programs, and regulatory mechanisms at all levels of government (federal, state, county, local) that support hazard mitigation within the county. Within each jurisdictional annex in Section 9 (Jurisdictional Annexes), the county and each participating jurisdiction identified how they have integrated hazard risk management into their existing planning, regulatory, and operational/administrative framework ("existing integration") and how they intend to promote this integration ("opportunities for future integration").

A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 9 (Jurisdictional Annexes).

1.1.4 Implementation of Prior and Existing Local Hazard Mitigation Plans

Section 6 (Mitigation Strategy) and Section 9 (Jurisdictional Annexes) of the plan present the status of the mitigation projects identified in the 2015 Livingston County HMP. Numerous projects and programs have been implemented that have reduced hazard vulnerability to assets in the planning area. The county and jurisdictional annexes, as well as the plan maintenance procedures described in Section 7 (Plan Maintenance), were developed to encourage specific activities. Future actions include integrating hazard mitigation goals into comprehensive

plan updates; reviewing the HMP during updates of codes, ordinances, zoning, and development; and ensuring a more thorough integration of hazard mitigation, with its related benefits, will be completed within the upcoming five-year planning period.

1.1.5 Implementation of the Planning Process

The planning process and findings are required to be documented in local HMPs. To support the planning process in developing this HMP, Livingston County and the participating jurisdictions have accomplished the following:

- Developed a Steering Committee and countywide planning partnership with jurisdictions and stakeholders.
- Reviewed the 2015 *Livingston County All-Hazard Mitigation Plan*.
- Identified and reviewed those natural hazards that are of greatest concern to Livingston County and its jurisdictions (hazards of concern) to be included in the plan.
- Profiled the relevant natural hazards.
- Estimated the inventory at risk and potential losses associated with the relevant hazards.
- Reviewed and updated the hazard mitigation goals and added new objectives.
- Reviewed mitigation strategies identified in the 2015 Livingston County HMP.
- Developed new mitigation actions to address reduction of vulnerability of hazards of concern.
- Involved a wide range of stakeholders and the public in the plan process.
- Developed mitigation plan maintenance procedures to be executed after obtaining approval of the plan from NYS DHSES and FEMA.

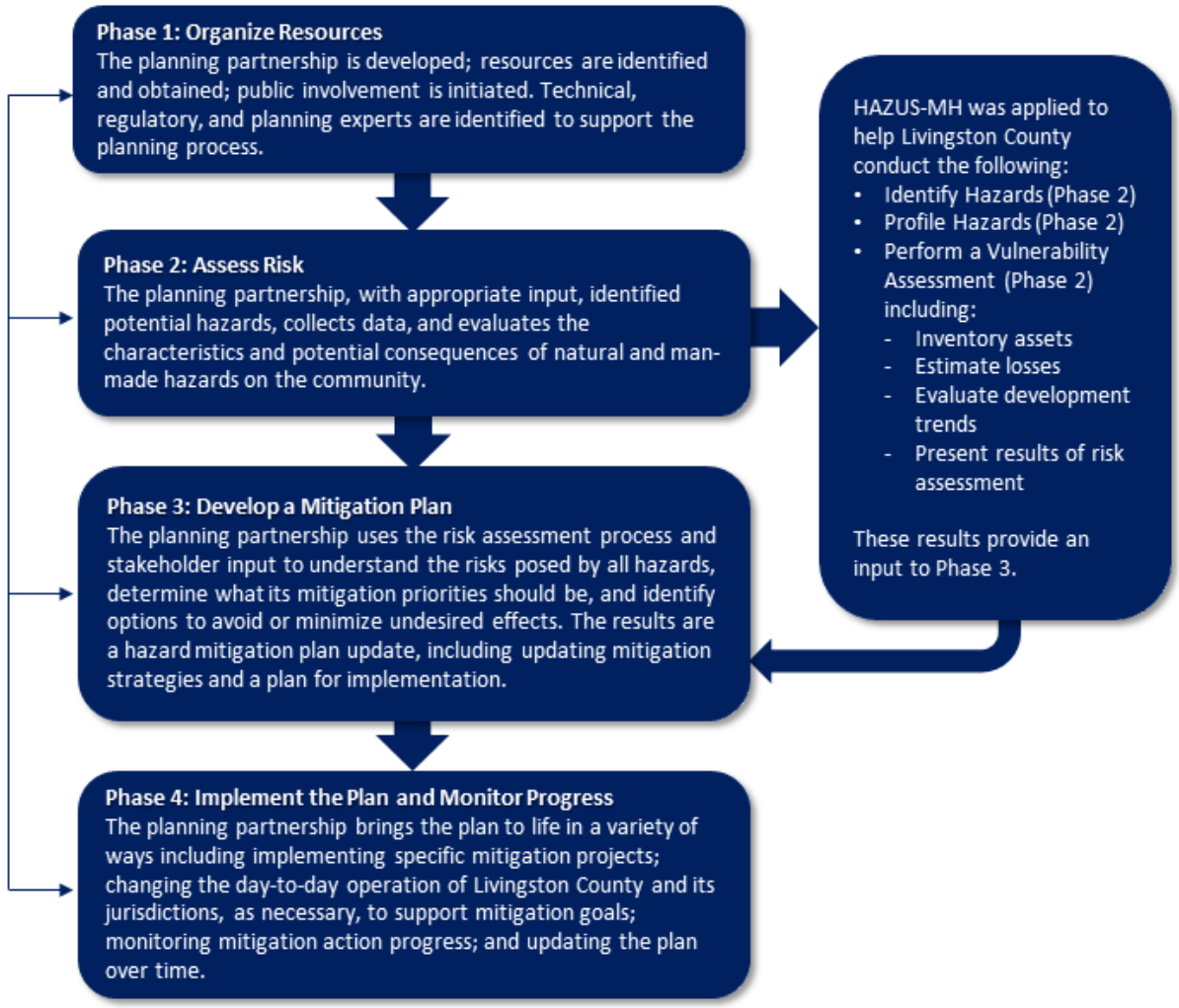
As required by the DMA 2000, Livingston County and its participating jurisdictions have informed the public and provided opportunities for public comment and input. Numerous agencies and stakeholders have participated as core or support members by providing input and expertise throughout the planning process. Refer to Appendix D (Public and Stakeholder Outreach) for copies of public service announcements, newspaper articles, and social media posts.

This HMP update documents the process and outcomes of Livingston County and the jurisdictions' efforts. Section 2 (Plan Adoption) includes documentation that the prerequisites for plan approval have been met. Section 3 (Planning Process) includes additional information on the process to develop this plan.

1.1.6 Organization of This Mitigation Plan

This HMP is organized in accordance with FEMA and NYS DHSES guidance. The structure of this HMP follows the four-phase planning process recommended by FEMA and summarized in Figure 1-2.

Figure 1-2. Livingston County Hazard Mitigation Planning Process



The HMP is organized into two volumes: Volume I includes all information that applies to the entire planning area (Livingston County), and Volume II includes participating jurisdiction-specific information.

Volume I of this plan includes the following sections:

Section 1: Introduction: Overview of participants and planning process.

Section 2: Plan Adoption: Information regarding the adoption of the HMP by Livingston County and each participating jurisdiction.

Section 3: Planning Process: Description of the HMP methodology and development process; Steering Committee, Planning Committee, and stakeholder involvement efforts; and a description of how this HMP will be incorporated into existing programs.

Section 4: County Profile: Overview of Livingston County, including: (1) general information, (2) economy, (3) land use trends, (4) population and demographics, (5) general building stock inventory, and (6) critical facilities.

Section 5: Risk Assessment: Documentation of the hazard identification and hazard risk ranking process, hazard profiles, and findings of the vulnerability assessment (estimates of the impact of hazard events on life, safety, health, general building stock, critical facilities, the economy); description of the status of local data; and planned steps to improve local data to support mitigation planning.

Section 6: Mitigation Strategies: Information regarding the mitigation goals and objectives identified by the Steering Committee in response to priority hazards of concern and the process by which Livingston County and local mitigation strategies have been developed or updated.

Section 7: Plan Maintenance Procedures: System established by the Steering Committee to continue to monitor, evaluate, maintain, and update the HMP.

Appendices include the following:

Appendix A: Resolution of Plan Adoption: Resolutions from the county and each jurisdiction included as each formally adopts the HMP update.

Appendix B: Participation Matrix: Matrix that provides a broad overview of who attended meetings and when input was provided to the HMP update as well as Letters of Intent to Participate (as described in Section 3).

Appendix C: Meeting Documentation: Agendas, attendance sheets, minutes, and other documentation (as available and applicable) of planning meetings convened during the development of the plan.

Appendix D: Public and Stakeholder Outreach Documentation: Documentation of the public and stakeholder outreach effort, including webpages, informational materials, public and stakeholder meetings and presentations, surveys, and other methods used to receive and incorporate public and stakeholder comment and input to the plan process.

Appendix E: Risk Assessment Supplementary Data: Hazard events listed in tables from the 2015 version of this HMP.

Appendix F: Critical Facilities: Critical facilities included in the risk assessment.

Appendix G: FEMA Plan Review Tools: Examples of plan review templates available to support annual plan review.

Appendix H: Linkage Procedures: Provides procedures for the increase or decrease in planning partners linked to this plan.

Volume II of this plan includes the following sections:

Section 8: Planning Partnership: Description of the planning partnership, their responsibilities, and description of jurisdictional annexes.

Section 9: Jurisdictional Annexes: Jurisdiction-specific annex for Livingston County and each participating jurisdiction containing their hazards of concern, hazard risk ranking, capability assessments, mitigation actions, action prioritization specific only to Livingston County or that jurisdiction, progress on prior mitigation activities (as applicable), and a discussion of prior local HMP integration into local planning processes.

1.2 THE UPDATED PLAN – WHAT IS DIFFERENT?

Due to the success of the 2015 plan, no major changes were made to the format or function of the 2022 update. The 2022 update has been enhanced using best available data and technology, especially in the risk assessment portion of the plan in Section 5 (Risk Assessment). The updated plan differs from the initial plan in a variety of ways:

- Updated NYS DHSES guidance existed at the time of its development. The 2017 New York State Hazard Mitigation Planning Standards and Guide were used to develop the 2022 update.
- Newly available data provided for a more detailed and accurate risk assessment. The updated plan is based on new data including FEMA's countywide Digital Flood Insurance Rate Maps (DFIRMs).
- User-friendly tone to cater to the strong desire for this plan to be understandable to the general public and not overly technical.
- Actions are identified rather than strategies. Strategies provide direction, but actions are fundable under grant programs. The identified actions meet multiple measurable objectives so that each planning partner can measure the effectiveness of their mitigation actions.
- Identification and priority for numerous actions to be implemented by the planning partnership. The status of these actions will be monitored over the plan performance period by a plan maintenance strategy identified in Section 7 (Plan Maintenance) that included annual progress reporting.

Table 1-3 indicates the major changes between the two plans as they relate to 44 CFR planning requirements.

Table 1-3. Plan Changes Crosswalk

44 CFR Requirement	2015 Plan	2022 Updated Plan
Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: *An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;* *An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and* *Review and incorporation, if appropriate, of existing plans, studies, reports and technical information.*	The 2015 plan followed an outreach strategy utilizing multiple media developed and approved by the Steering Committee. This strategy involved the following: • Public participation on an oversight Steering Committee. • Establishment of a plan informational website. • Press releases. Use of a public information survey. Stakeholders were identified and coordinated with throughout the process. A comprehensive review of relevant plans and programs was performed by the planning team.	Building upon the success of the 2015 plan, the 2022 planning effort deployed the same public engagement methodology. The plan included the following enhancements: • Using social media. • Web-deployed survey. • Informational brochure. As with the 2015 plan, the 2022 planning process identified key stakeholders and coordinated with them throughout the process. The planning team performed a comprehensive review of relevant plans and programs.
§201.6(c)(2): The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.	The 2015 plan included a comprehensive risk assessment of hazards of concern. Risk was defined as (probability x impact), where impact is the impact on people, property, and economy of the planning area. All planning partners ranked risk as it pertains to their jurisdiction. The potential impacts of climate change are discussed for each hazard.	The same methodology, using new, updated data, was deployed for the 2022 plan update.

44 CFR Requirement	2015 Plan	2022 Updated Plan
§201.6(c)(2)(i): [The risk assessment] shall include a] description of the … location and extent of all-natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.	The 2015 plan presented a risk assessment of each hazard of concern. Each section included the following: • Hazard profile, including maps of extent and location, previous occurrences, and probability of future events. • Climate change impacts on future probability. • Impact and vulnerability on life, health, safety, general building stock, critical facilities, and economy. • Impact on people, property, critical facilities, and environment. • Future growth and development. • Additional data and next steps. • Overall vulnerability assessment.	The same format, using new and updated data, was used for the 2022 plan update. Each section of the risk assessment includes the following: • Hazard profile, including maps of extent and location, previous occurrences, and probability of future events. • Climate change impacts on future probability using the best available data for New York State. • Vulnerability assessment includes impact on life, safety, and health, general building stock, critical facilities, and the economy, as well as future changes that could impact vulnerability. • The vulnerability assessment also includes changes in vulnerability since the 2022 plan. • Identified issues have been documented in each hazard profile.
§201.6(c)(2)(ii): [The risk assessment] shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i). This description shall include an overall summary of each hazard and its impact on the community.	Vulnerability was assessed for all hazards of concern. The HAZUS-MH-MH computer model was used for the severe storm, earthquake, and flood hazards. These were Level 2 analyses using county data. Site-specific data on county-identified critical facilities were entered into the HAZUS-MH model. HAZUS-MH outputs were generated for other hazards by applying an estimated damage function to an asset inventory extracted from HAZUS-MH-MH.	The same methodology was deployed for the 2022 plan update, using new and updated data.
§201.6(c)(2)(ii): [The risk assessment] must also address National Flood Insurance Program insured structures that have been repetitively damaged floods.	A summary of NFIP insured properties including an analysis of repetitive loss property locations was included in the plan.	The same methodology was deployed for the 2022 plan update using new and updated data, though only summary-level data was available from FEMA.
Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure and critical facilities located in the identified hazard area.	A complete inventory of the numbers and types of buildings exposed was generated for each hazard of concern. The Steering Committee defined "critical facilities" for the planning area, and these were inventoried by exposure. Each hazard chapter provides a discussion on future development trends.	The same methodology was deployed for the 2022 plan update using new and updated data.
Requirement §201.6(c)(2)(ii)(B): [The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) and a description of the methodology used to prepare the estimate.	Loss estimates were generated for all hazards of concern. These were generated by HAZUS-MH-MH for the severe storm, earthquake, and flood hazards. For the other hazards, loss estimates were generated by applying a regionally relevant damage function to the exposed inventory. In all cases, a	The same methodology was deployed for the 2022 plan update using new and updated data.

44 CFR Requirement	2015 Plan	2022 Updated Plan
	damage function was applied to an asset inventory. The asset inventory was the same for all hazards and was generated in HAZUS-MH.	
Requirement §201.6(c)(2)(ii)(C): [The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.	There is a summary of anticipated development in the county profile, as well as in each individual annex.	The same methodology was deployed for the 2022 plan update using new and updated data.
§201.6(c)(3): [The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.]	The 2015 plan contained a mission statement, goals, objectives, and actions. The guiding principle, goals, and objectives were regional and covered all planning partners. Each planning partner identified actions that could be implemented within their capabilities. The actions were jurisdiction-specific and strove to meet multiple objectives. All objectives met multiple goals and stand alone as components of the plan. Each planning partner completed an assessment of its regulatory, technical, and financial capabilities.	The same methodology for setting goals, objectives, and actions was applied to the 2022 plan update. The Steering Committee reviewed and reconfirmed the mission statement, goals, and objectives for the plan. Each planning partner used the progress reporting from the plan maintenance and evaluated the status of actions identified in the 2015 plan. Actions that were completed or no longer considered to be feasible were removed. The balance of the actions was carried over to the 2022 plan, and in some cases, new actions were added to the action plan.
Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.	The Steering Committee identified a mission statement, goals, and objectives targeted specifically for this HMP. These planning components supported the actions identified in the plan.	The same methodology for setting goals, objectives, and actions was applied to the 2022 plan update. The Steering Committee reviewed and updated the mission statement, goals, and objectives for the plan to include a focus on increased resiliency. This resulted in the finalization of three goals and nine objectives to frame the plan.
Requirement §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.	The 2015 plan includes a hazard mitigation catalog that was developed through a facilitated process. This catalog identifies actions that manipulate the hazard, reduce exposure to the hazard, reduce vulnerability, or increase mitigation capability. The catalog further segregates actions by scale of implementation. A table in the action plan section analyzes each action by mitigation type to illustrate the range of actions selected.	The mitigation catalog was reviewed and updated by the Steering Committee for the 2022 update. As with the 2015 plan, the catalog has been included in the 2022 plan to represent the comprehensive range of alternatives considered by each planning partner. The table with the analysis of mitigation actions was used in jurisdictional annexes to the plan.
Requirement: §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program, and continued compliance with the program's requirements, as appropriate.	All municipal planning partners that participate in the National Flood Insurance Program identified an action stating their commitment to maintain compliance and good standing under the program.	Towns' and villages' participation in the NFIP and continued compliance are described in the jurisdictional annexes.
Requirement: §201.6(c)(3)(iii): [The mitigation strategy shall describe] how the actions identified in section (c)(3)(ii) will be prioritized, implemented and administered by the local jurisdiction. Prioritization shall include a special	Each recommended action was prioritized using a qualitative methodology based on the objectives the project will meet, the timeline for completion, how the project will be funded, the impact of the project, the	A revised methodology based on the STAPLEE criteria and using new and updated data was used for the 2022 plan update.

44 CFR Requirement	2015 Plan	2022 Updated Plan
emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.	benefits of the project, and the costs of the project.	
Requirement §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.	The 2015 plan outlined a detailed maintenance strategy.	The 2022 plan details a plan maintenance strategy similar to that of the initial plan.
Requirement §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.	The 2015 plan details recommendations for incorporating the plan into other planning mechanisms.	The 2022 plan details recommendations for incorporating the plan into other planning mechanisms such as the following: • Comprehensive Plan • Emergency Response Plan • Capital Improvement Programs • Municipal Code
Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.	The 2015 plan details a strategy for continuing public involvement.	The 2015 plan maintenance strategy was carried over to the 2022 plan. In addition, the county will use a proprietary online tool to support the annual progress reporting of mitigation actions.
Requirement §201.6(c)(5): [The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).	26 planning partners participated in the 2015 planning process.	The 2022 plan achieves DMA compliance for 23 planning partners. Resolutions for each partner adopting the plan can be found in Appendix A of this volume.

SECTION 2. PLAN ADOPTION

This section contains information regarding adoption of the HMP by Livingston County and each participating jurisdiction.

2.1 PLAN ADOPTION BY LOCAL GOVERNING BODIES

Adoption by the local governing bodies demonstrates the commitment of Livingston County and each participating jurisdiction to fulfill the mitigation goals and objectives outlined in this HMP. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities.

All participating jurisdictions, including Livingston County, will proceed with formal adoption proceedings when FEMA provides conditional approval of this plan. Following adoption or formal action on the plan, the jurisdiction must submit a copy of the resolution or other legal instrument showing formal adoption (acceptance) of the plan to NYS DHSES. Each copy will then be submitted to FEMA, along with the resolution provided in Appendix A of this plan. The jurisdictions understand that FEMA will acknowledge verification of formal plan adoption, and its official approval to the mitigation plan coordinator.

The template resolution issued to support adoption of the plan is included as Appendix A, Resolution of Plan Adoption.

Plan adoption is required by DMA 2000. According to FEMA, official plan adoption is necessary because it:

- Authorizes the plan to serve as a guiding document for all local and state government officials.
- Gives legal status to the plan in the event that it is challenged in court.
- Certifies the program and demonstrates to grant administrators that the plan's recommendations have been properly considered and approved by the governing authority and citizens within that jurisdiction.
- Helps to ensure the continuity of mitigation programs and policies over time because elected officials, staff, and other community decision-makers can refer to the official document when making planning decisions about the community's future.

Source: FEMA 2003. "How-to Series" *Bringing the Plan to Life* (FEMA 386-4).

SECTION 3. PLANNING PROCESS

3.1 INTRODUCTION

This section includes a description of the planning process used to update the 2015 Livingston County Hazard Mitigation Plan (HMP) to its 2022 version, including how the update was prepared, who was involved in the process, and how the public was involved. To ensure that the plan meets requirements of the DMA 2000 and that the planning process had the broad and effective support of the participating jurisdictions, regional and local stakeholders, and the public, an approach to the planning process and plan documentation was developed to achieve the following:

- The plan is multi-jurisdictional, with the intention of including all municipalities in the county. Livingston County invited all municipalities to participate in the planning process. To date, the county and 22 of the 26 local municipal governments in the county participated in the 2022 planning process, as indicated in Table 3-1. The plan will consider hazards of concern facing the area and will satisfy the mitigation planning requirements specified in the Disaster Mitigation Act of 2000 (DMA 2000).
- The plan was developed following the process outlined by the DMA 2000, Federal Emergency Management Agency (FEMA) regulations, prevailing FEMA guidance, and the 2017 New York State Division of Homeland Security and Emergency Services (NYS DHSES) hazard mitigation planning standard. Following this process ensures that all the requirements are met and support HMP review.

Table 3-1. Participating Livingston County Jurisdictions

Participating Jurisdictions		Non-Participating Jurisdictions
Livingston County	Town of Lima	Village of Lima
Town of Avon	Town of Mount Morris	Town of Livonia
Village of Avon	Town of North Dansville	Village of Livonia
Town of Caledonia	Town of Nunda	Village of Mount Morris
Village of Caledonia	Village of Nunda	
Town of Conesus	Town of Ossian	
Village of Dansville	Town of Portage	
Town of Geneseo	Town of Sparta	
Village of Geneseo	Town of Springwater	
Town of Groveland	Town of West Sparta	
Town of Leicester	Town of York	
Village of Leicester		

The Livingston County HMP update was written using the best available information obtained from a wide variety of sources. Throughout the HMP update process, a concerted effort was made to gather information from municipal and regional agencies and staff, as well as stakeholders, federal and state agencies, and the residents of the county. The HMP Steering Committee solicited information from local agencies and individuals with specific knowledge of certain hazards and past historical events. In addition, the Steering Committee and Planning Partnership took into consideration planning and zoning codes, ordinances, and recent land use planning decisions. The hazard mitigation strategies identified in this HMP update were developed through an extensive planning process involving local, county, and regional agencies, residents, and stakeholders.

This section of the plan describes the mitigation planning process, including (1) Organization of the Planning Process; (2) Stakeholder Outreach and Involvement; (3) Integration of Existing Data, Plans, and Technical Information; (4) Integration with Existing Planning Mechanisms and Programs; and (5) Continued Public Involvement.

3.2 ORGANIZATION OF THE PLANNING PROCESS

This section of the plan identifies how the planning process was organized with the many planning partners involved and outlines the major activities that were conducted in the development of this HMP update.

3.2.1 Organization of Planning Partnership

Livingston County applied for and was awarded a multi-jurisdictional planning grant under the FEMA Pre-Disaster Mitigation grant program, which supported the development of this multi-jurisdictional HMP update.

Project management and grant administration have been the responsibility of the Livingston County Office of Emergency Management (OEM). A contract planning consultant (Tetra Tech, Inc., referred to herein as Tetra Tech) was selected to guide the county and participating jurisdictions through the HMP update process. A contract between Tetra Tech and Livingston County was executed in March 2021. Specifically, Tetra Tech was tasked with the following:

- Assisting with the organization of a Steering Committee and the Planning Partnership
- Assisting with the development and implementation of a public and stakeholder outreach program
- Data collection
- Facilitation and attendance at meetings (Steering Committee, Planning Partnership, municipal, stakeholder, public, and other)
- Review and update of the hazards of concern, hazard profiling, and risk assessment
- Assistance with the review and update of mitigation planning goals and objectives
- Assistance with the review of past mitigation strategies progress
- Assistance with the screening of mitigation actions and the identification of appropriate actions
- Assistance with the prioritization of mitigation actions
- Developing the draft and final plan documents.

In June 2021, Livingston County notified all municipalities within the county of the pending planning process and invited them to formally participate.

To facilitate plan development, Livingston County developed a Steering Committee to provide guidance and direction to the HMP update effort and to ensure the resulting document will be embraced politically by the constituency within the planning area (refer to Table 3-2). Specifically, the Steering Committee was charged with the following:

- Providing guidance and oversight of the planning process on behalf of the Planning Partnership.
- Attending and participating in Steering Committee meetings.
- Assisting with the development and completion of certain planning elements, including:
  - Reviewing and updating the hazards of concern;
  - Developing a public and stakeholder outreach program;
  - Ensuring that the data and information used in the plan update process are the best available;
  - Reviewing and updating the hazard mitigation goals; and
  - Identifying and screening appropriate mitigation strategies and activities.

- Reviewing and commenting on plan documents prior to submission to NYS DHSES and FEMA.

The Steering Committee provided guidance and leadership, oversight of the planning process, and acted as the point of contact for all participating jurisdictions and the various interest groups in the county.

Table 3-2. Livingston County Hazard Mitigation Steering Committee Members

Affiliation	Name	Title
Livingston County	Angela Ellis	Deputy County Administrator
Livingston County Economic Development Department	Bill Bacon	Director
Livingston County Office of Emergency Management	Andrew P. Brodell	Director
Livingston County Office of Emergency Management	Brad Austin	Former Director
Livingston County Department of Health	Mark Grove	Director
Livingston County Highway Department	Jason Wolfanger	Director
Livingston County Planning Department	Heather Ferrero	Deputy Director
Livingston County Soil and Water Conservation District	Robert Stryker	District Manager
Town of Geneseo	Dean Pendergast	Floodplain Administrator
Town of Leicester	David Fanaro	Supervisor
Town of North Dansville	Dennis Mahus	Supervisor
Town of Ossian	Dwight Knapp	Supervisor

Table 3-3 lists the current municipal members of the Planning Partnership at the time of this HMP development. It is noted that the Steering Committee members also are part of the overall project Planning Partnership, fulfilling these responsibilities on behalf of Livingston County. The Planning Partnership members (Steering Committee and participating jurisdictions) were charged with the following:

- Represent their jurisdiction throughout the planning process.
- Ensure participation of all department and functions within their jurisdiction that have a stake in mitigation (e.g., planning, engineering, code enforcement, police and emergency services, public works).
- Assist in gathering information for inclusion in the HMP update, including the use of previously developed reports and data.
- Support and promote the public involvement process.
- Report on progress of mitigation actions identified in prior or existing HMPs, as applicable.
- Identify, develop, and prioritize appropriate mitigation initiatives.
- Report on progress of integration of prior or existing HMPs into other planning processes and municipal operations.
- Support and develop a jurisdictional annex for their jurisdiction.
- Review, amend, and approve all sections of the plan update.
- Adopt, implement, and maintain the plan update.

Table 3-3. Livingston County Hazard Mitigation Planning Partnership Members

Jurisdiction	Primary Point of Contact	Title	Alternate Point of Contact	Title
Livingston County	Andrew P. Brodell	OEM Director	Heather Ferrero	Deputy Planning Director
Avon, Town of	Sharon Knight	Town Clerk	David LeFeber	Town Supervisor
Avon, Village of	Heather Randall	Village Clerk	Thomas Freeman	Mayor

Jurisdiction	Primary Point of Contact	Title	Alternate Point of Contact	Title
Caledonia, Town of	Mark Schroeder	Highway Superintendent	Daniel Pangrazio	Town Supervisor
Caledonia, Village of	Scott DiLiberto	Mayor	Ann Marie Grattan	Clerk-Treasurer
Conesus, Town of	Donald W. Wester	Town Supervisor	Steve Martucio	Highway Superintendent
Dansville, Village of	Peter Vogt	Mayor	Tammy Sylor-Malone	--
Geneseo, Town of	Sarah Wright	Town Clerk	Will Wadsworth	Town Supervisor
Geneseo, Village of	Aprile S. Mack	Village Clerk/Treasurer	Margaret Duff	Mayor
Groveland, Town of	William Devine	Acting Supervisor	Kimberly Burgess	Town Clerk
Leicester, Town of	David Fanaro	Town Supervisor	Shawn Grasby	Code Officer
Leicester, Village of	Barry Briffa	Village Mayor	Kristie DeGraff	Village Clerk/Treasurer
Lima, Town of	Michael J. Falk	Town Supervisor	Jenifer Heim	Town Clerk
Lima, Village of	Did not participate			
Livonia, Town of	Did not participate			
Livonia, Village of	Did not participate			
Mount Morris, Town of	Dave DiSalvo	Deputy Supervisor	Don Huff	Councilman
Mount Morris, Village of	Did not participate			
North Dansville, Town of	Dennis Mahus	Town Supervisor	Tim Wolfanger	Town Clerk
Nunda, Town of	Merilee G. Walker	Town Supervisor	Rick Moran	Highway Superintendent
Nunda, Village of	LeRoy J. Wood	Administrator/Clerk-Treasurer	Mark Mullikin	Code Enforcement Officer
Ossian, Town of	Dwight Knapp	Town Supervisor	Sheila Hess	Planning Consultant
Portage, Town of	Esther Howe	Town Clerk	Steve Howe	Superintendent of Highways
Sparta, Town of	Mark Schuster	Town Supervisor	Kevin Robinson	Highway Superintendent
Springwater, Town of	Deborah Babbitt Henry	Town Supervisor	Larry Gnau	Deputy Town Supervisor
West Sparta, Town of	Susan Erdle	Town Supervisor	Doug Reniff	Highway Superintendent
York, Town of	Carl Peter	Code Enforcement Officer	Christine Harris	Town Clerk

The jurisdictions in Livingston County have differing levels of capabilities and resources available to apply to the plan update process and, further, have differing exposure and vulnerability to the natural hazard risks being considered in this plan. Livingston County's intent was to encourage participation by all-inclusive jurisdictions and to accommodate their specific needs and limitations while still meeting the intents and purpose of plan update participation. Such accommodations have included the establishment of a Steering Committee, engaging a contract consultant to assume certain elements of the plan update process on behalf of the jurisdictions, and the provision of additional and alternative mechanisms to meet the purposes and intent of mitigation planning.

Ultimately, jurisdictional participation is evidenced by a completed municipal annex to the HMP (Section 9) wherein jurisdictions have individually identified their planning points of contact; evaluated their risk to the hazards of concern; identified their capabilities to effect mitigation in their community; identified and prioritized an appropriate suite of initiatives, actions, and projects to mitigate their hazard risk; and eventually, adopted the updated plan via resolution.

Appendix B (Participation Matrix) identifies those individuals who represented the municipalities during this planning effort and indicates how they contributed to the planning process.

All 26 municipalities in Livingston County actively participate in the National Flood Insurance Program (NFIP). Floodplain administration is provided by the municipal officials identified in the jurisdictional annexes.

3.2.2 Planning Activities

Members of the Planning Partnership (individually and as a whole), as well as key stakeholders, convened and/or communicated regularly to share information and participate in workshops to identify hazards; assessed risks; reviewed existing inventories and identified new critical facilities; assisted in updating and developing new mitigation goals and strategies; and provided continuity through the process to ensure that natural hazards, vulnerability information, and appropriate mitigation strategies were incorporated. All members of the Steering Committee and Planning Partnership had the opportunity to review the draft plan, supported interaction with other stakeholders, and assisted with public involvement efforts.

A summary of Steering Committee and Planning Partnership meetings held and key milestones met during the development of the HMP update is included in Table 3-4, which also identifies activities that meet DMA 2000 requirements. Documentation of meetings (e.g., agendas, sign-in sheets, minutes) are provided in Appendix C (Meeting Documentation). Table 3-4 identifies only the formal meetings held during plan development and does not reflect the planning activities conducted by individuals and groups throughout the planning process. In addition to these meetings, there was a great deal of communication between the county, committee members, and the contract consultant through individual local meetings, email, and by phone.

After completion of the HMP update, implementation and ongoing maintenance will become a function of the Steering Committee and Planning Partnership, as described in Section 7 (Plan Maintenance). The Planning Partnership is responsible for reviewing the HMP and soliciting and considering public comment as part of the 5-year mitigation plan update.

The table below summarizes a list of mitigation planning activities and meetings and their respective participants. A more detailed list of participants for each meeting is provided in Appendix B (Participation Matrix) and Appendix C (Meeting Documentation).

Table 3-4. Summary of Mitigation Planning Activities / Efforts

Date	DMA 2000 Requirement	Description of Activity	Participants
May 13, 2021	1b, 2	Steering Committee Kickoff Meeting (Data Collection, Review of Mission Statement and Goals, Identification of Hazards of Concern, Public Outreach Strategy)	Livingston County, Leicester Town, Ossian Town, North Dansville Town, NYS DHSES
June 24, 2021	1b, 2	Planning Partnership Kickoff (Municipal Kickoff Meeting and Planning Overview)	Livingston County, Avon Town, Caledonia Village, NYS DHSES, Geneseo Village, Groveland Town, Leicester Town, York Town, National Grid, NYSEG, Caledonia-Mumford CSD, American Red Cross, RG&E, SUNY Geneseo, US Army Corps of Engineers
August 23, 2021	1b, 2	Steering Committee Meeting #2 (Data Collection, Review of Mission Statement and Goals, Identification of Hazards of Concern, Public Outreach Strategy)	Livingston County, North Dansville Town, Geneseo Town

Date	DMA 2000 Requirement	Description of Activity	Participants
August 31, 2021	1b, 2, 3a, 3b, 3c, 3d, 3e	Planning Partnership Meeting to Review the Results of the Risk Assessment (Presentation of risk assessment overview, development of hazard problem statements by community)	Livingston County, Avon Village, Caledonia Town, Dansville Village, Geneseo Town, Geneseo Town, Leicester Town, Mt. Morris Town, Mt. Morris Village, North Dansville Town, Ossian Town, RG&E, SUNY Geneseo, US Army Corps of Engineers
September 8, 2020	1b, 2, 4a, 4b, 4c	Mitigation Workshop	Livingston County, Caledonia Town, Dansville Village, Geneseo Town, Geneseo Village, Livonia Village, North Dansville Town, Ossian Town, Springwater Town, York Town
December 13, 2021	1b, 2, 3, 4, 5	Draft Plan Review Meeting	Livingston County, NYS DHSES

Notes:
CSD = Central School District
NYS DHSES = New York State Division of Homeland Security and Emergency Services
NYSEG = New York State Electric and Gas
RG&E = Rochester Gas and Electric Corporation
TBD = To be determined
SUNY = State University of New York
Each number in column 2 identifies specific DMA 2000 requirements, as follows:
1a – Prerequisite – Adoption by the Local Governing Body
1b – Public Participation
2 – Planning Process – Documentation of the Planning Process
3a – Risk Assessment – Identifying Hazards
3b – Risk Assessment – Profiling Hazard Events
3c – Risk Assessment – Assessing Vulnerability: Identifying Assets
3d – Risk Assessment – Assessing Vulnerability: Estimating Potential Losses
3e – Risk Assessment – Assessing Vulnerability: Analyzing Development Trends
4a – Mitigation Strategy – Local Hazard Mitigation Goals
4b – Mitigation Strategy – Identification and Analysis of Mitigation Measures
4c – Mitigation Strategy – Implementation of Mitigation Measures
5a – Plan Maintenance Procedures – Monitoring, Evaluating, and Updating the Plan
5b – Plan Maintenance Procedures – Implementation through Existing Programs
5c – Plan Maintenance Procedures – Continued Public Involvement

3.3 STAKEHOLDER OUTREACH AND INVOLVEMENT

Stakeholders are the individuals, agencies, and jurisdictions that have a vested interest in the recommendations of the hazard mitigation plan, including all planning partners.

Diligent efforts were made to ensure broad regional, county, and local representation in this planning process. To that end, a comprehensive list of stakeholders was developed with the support of the Steering Committee and Planning Partnership. Stakeholder outreach was performed early and throughout the planning process. This HMP update includes information and input provided by these stakeholders where appropriate, as identified in the references.

The following is a list of the various stakeholders that were invited to participate in the development of this plan, along with a summary of how these stakeholders participated and contributed. This summary listing does not represent the total of stakeholders that were aware of and contributed to this HMP update, as outreach efforts were being made, both formally and informally, throughout the process by the many planning partners involved in the effort, and documentation of all such efforts is impossible. Instead, this summary is intended to demonstrate the scope and breadth of the stakeholder outreach efforts made during the plan update process.

3.3.1 Federal Agencies

FEMA Region II: Provided updated planning guidance, provided summary and detailed data from the NFIP (including repetitive loss information), and conducted plan review.

Information regarding hazard identification and the risk assessment for this HMP update was requested and received or incorporated by reference from the following agencies and organizations:

- National Centers for Environmental Information (NCEI)
- National Hurricane Center (NHC)
- National Oceanic and Atmospheric Administration (NOAA)
- National Weather Service (NWS)
- Storm Prediction Center (SPC)
- U.S. Army Corps of Engineers (USACE)
- U.S. Census Bureau

3.3.2 State Agencies

NYS DHSES: Administered planning grant and facilitated FEMA review, provided updated planning guidance, and provided review of draft and final HMP.

New York State Department of Environmental Conservation (NYSDEC): Provided data and information.

New York State Department of Health (NYS DOH): Attended the Planning Partnership Kickoff Meeting. Provided information.

New York State Police: Attended the Planning Partnership Kickoff Meeting. Provided information.

3.3.3 Livingston County Departments

Several county departments were represented on the Steering Committee and involved in the HMP update planning process. Appendix B (Participation Matrix) provides further details regarding regional and local stakeholder agencies. All responses to the stakeholder surveys are provided in Appendix D (Public and Stakeholder Outreach).

Livingston County Office of Emergency Management: Secured and administered FEMA planning grant, managed project, served on the Steering Committee, arranged and attended meetings, provided data and information, facilitated and supported public and stakeholder outreach, and reviewed progress on previous mitigation actions.

Livingston County Economic Development Department: Served on the Steering Committee, provided data and information, including countywide information, facilitated and supported public and stakeholder outreach, and reviewed draft and final plan sections.

Livingston County Department of Health: Served on the Steering Committee, provided data and information, including countywide information, facilitated and supported public and stakeholder outreach, and reviewed draft and final plan sections.

Livingston County Highway Department: Served on the Steering Committee, attended meetings, reviewed progress on previous mitigation actions, provided data and information, identified vulnerabilities, updated mitigation strategies, and reviewed draft and final sections of the plan.

Livingston County Planning Department: Served on the Steering Committee and led the update of the HMP, provided data and information, including countywide information such as land use, open space, population and

demographics, and watersheds, reviewed progress on previous mitigation actions, facilitated and supported public and stakeholder outreach, and reviewed draft and final plan sections.

Livingston County Soil and Water Conservation District: Served on the Steering Committee, provided data and information, including countywide information, facilitated and supported public and stakeholder outreach, and reviewed draft and final plan sections.

Genesee/Finger Lakes Regional Planning Council: Provided regional and countywide data and information.

3.3.4 Regional and Local Stakeholders

Appendix B (Participation Matrix) provides further details regarding regional and local stakeholder agencies. The stakeholders listed below were directly contacted via email in August 2021 by the Livingston County Planning Department to take a stakeholder survey, which included the identification of specific mitigation strategies, review of the draft HMP, or both. Results of the surveys are included in Appendix D (Public and Stakeholder Outreach). Feedback was reviewed by the Steering Committee and Planning Partnership and integrated where appropriate in the plan (e.g., within the jurisdictional annexes in Section 9).

Academia

All schools, school districts, and libraries in the county were provided with the Stakeholder survey, invited to provide input, and notified of the draft HMP review period. The Caledonia-Mumford Central School District and the State University of New York College at Geneseo participated in the plan update by attending a meeting and providing information.

Business and Commercial Interests

Businesses and commercial industries in Livingston County were notified of the stakeholder survey and invited to provide input on the draft HMP, though none did.

Emergency Services

All state, county, and local emergency service providers (police, fire, emergency medical services [EMS]) were notified of the stakeholder survey and invited to provide input on the draft HMP. The Livingston County Director of Emergency Management and Livingston County Fire Coordinator, Village of Avon Fire Marshal, Village of Geneseo Police Department Chief, and the Town of York Fire and EMS Manager participated in the planning process by attending meetings and providing information.

Hospitals and Healthcare Facilities

Hospitals and healthcare facilities located in Livingston County were invited to take the stakeholder survey and provide input to the planning process. Major facilities were notified of HMP meetings, and the Livingston County Center for Nursing and Rehabilitation completed the stakeholder survey. The healthcare community was also represented by the Livingston County Department of Health's participation on the Steering Committee.

Highway and Public Works

All state, county, and local highway and public works departments were notified of the Public Works stakeholder survey and invited to provide input on the draft HMP. In addition, many of the participating municipalities had representatives from their highway and public works departments representing them on the Planning Partnership. The Town of Java and the Town of Sheldon provided input to the planning process via the public works stakeholder survey. The Livingston County Highway Superintendent participated on the Steering Committee,

attended meetings, and provided information. The Village of Caledonia's Water and Streets Department Supervisor attended a planning meeting and provided information.

Utilities

Utility providers in the county were notified of the Stakeholder survey and invited to provide input on the draft HMP. New York State Electric and Gas (NYSEG) and Rochester Gas and Electric Corporation (RG&E) attended two meetings during the plan update process.

3.3.5 Adjacent Counties

Livingston County has tried to keep surrounding counties and municipalities apprised of the project and allowed the opportunity to provide input to this planning process. Specifically, representatives from adjoining and nearby counties (listed below) were contacted in July 2021 to inform them about the availability of the project website, draft plan documents, and surveys and to invite them to provide input to the planning process.

- Allegany County, New York
- Monroe County, New York
- Ontario County, New York
- Genesee County, New York
- Wyoming County, New York
- Steuben County, New York

Representatives of Allegany, Genesee, Steuben, and Wyoming Counties submitted valuable input via the Neighboring County survey.

3.3.6 Public Outreach

The Steering Committee and Planning Partnership made the following efforts toward public participation in the development and review of the HMP:

- A public project website was developed and is being maintained to facilitate communication between the Steering Committee, Planning Partnership, public, and stakeholders The public website provides a project overview, county and local contact information, access to the citizen's survey and various stakeholder surveys, and sections of the HMP for public review and comment. Figure 3-1 provides a screenshot of the current website homepage. (https://www.livingstoncountynyhmp.com/).
- An online natural hazards preparedness citizen survey was developed to gauge household preparedness relevant to hazards in Livingston County and to assess the level of knowledge of tools and techniques available to assist in reducing risk and loss of those hazards. The questionnaire asked quantifiable questions about citizen perception of risk, knowledge of mitigation, and support of community programs, as well as several demographic questions to help analyze trends. The questionnaire was posted on the county's public website in February 2021 and was available for over 9 months to facilitate public input garnering 18 responses. The survey results were sorted by municipality and provided to the Steering Committee and Planning Partnership members to use to identify vulnerabilities and develop mitigation strategies. A summary of survey results is provided in Appendix D (Public and Stakeholder Outreach).
- All participating municipalities were encouraged to post the links to the project webpage and citizen and stakeholder surveys. In addition, all participating municipalities were requested to advertise the availability of the project website via local homepage links and other available public announcement methods (e.g., Facebook, Twitter, email blasts).

- Starting in October 2021, draft sections of the plan were posted on the project website (https://www.livingstoncountynyhmp.com/draft-plans/) for public review and comment. In addition, links were provided to the participating jurisdictions to post on their respective websites.
- Once approved by NYS DHSES and FEMA, the final HMP will be available on the county and municipal websites.

Figure 3-1. Livingston County HMP Website Homepage



3.4 INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, AND TECHNICAL INFORMATION

The Livingston County HMP update strives to use the best available technical information, plans, studies, and reports throughout the planning process to support hazard profiling; risk and vulnerability assessment; review and evaluation of mitigation capabilities; and the identification, development, and prioritization of county and local mitigation strategies.

The asset and inventory data used for the risk and vulnerability assessments are presented in the County Profile (Section 4). Details of the source of this data, along with technical information on how the data was used to develop the risk and vulnerability assessment, are presented in the Hazard Profiling and Risk Assessment Section (Section 5), specifically within Section 5.3 (Data and Methodology), as well as throughout the hazard profiles in Section 5.4 (Hazard Profiles). Further, the source of technical data and information used can be found within Volume I under *References*.

Plans, reports, and other technical information were identified and provided directly by the county, participating jurisdictions, and numerous stakeholders involved in the planning effort, as well as through independent research by the planning consultant. The county and participating jurisdictions were tasked with updating the inventory

of their planning and regulatory capabilities in Section 9 (Jurisdictional Annexes) and providing relevant planning and regulatory documents, as applicable. Relevant documents, including plans, reports, and ordinances, were reviewed to identify the following:

- Existing municipal capabilities
- Needs and opportunities to develop or enhance capabilities, which may be identified within the county or local mitigation strategies
- Mitigation-related goals or objectives considered in the review and update of the overall goals and objectives listed in Section 6 (Mitigation Strategy)
- Proposed, in-progress, or potential mitigation projects, actions, and initiatives to be incorporated into the updated county and local mitigation strategies

The following local regulations, codes, ordinances, and plans were reviewed during this process to develop mitigation planning goals, objectives, and strategies that are consistent across local and regional planning and regulatory mechanisms to accomplish complementary and mutually supportive strategies:

- Building Codes
- Capital Improvement Plans
- Comprehensive/Master Plans
- Emergency Management and Response Plans
- Local Flood Mitigation Action Plans
- Local Hazard Mitigation Plans
- NFIP Flood Damage Prevention Ordinances
- Strategic Plans
- Subdivision Regulations
- Water Laws and Regulations

3.5 INTEGRATION WITH EXISTING PLANNING MECHANISMS AND PROGRAMS

Effective mitigation is achieved when hazard awareness and risk management approaches and strategies become an integral part of public activities and decision making. Within Livingston County, many plans and programs exist that support hazard risk management, and thus it is critical that this hazard mitigation plan integrate, coordinate with, and complement those existing plans and programs.

The Capability Assessment section of Section 6 (Mitigation Strategy) provides a summary and description of the existing plans, programs, and regulatory mechanisms at all levels of government (federal, state, county, and local) that support hazard mitigation within the county. Within each jurisdictional annex in Section 9, the county and each participating jurisdiction identified how they integrated hazard risk management into their existing planning, regulatory, and operational/administrative framework (*integration capabilities*) and how they intend to promote this integration (*integration actions*).

Section 7 (Plan Maintenance) presents a further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation.

3.6 CONTINUED PUBLIC INVOLVEMENT

Livingston County and participating jurisdictions are committed to the continued involvement of the public in the hazard mitigation process. This HMP update will be posted online at the following website:

https://www.Livingstonco.net/190/Emergency-Services and municipalities will be encouraged to maintain links to the plan website. Further, the county will make hard copies of the HMP available for review at public locations as identified on the website.

A notice regarding annual updates of the plan and the location of plan copies will be publicized annually after the Planning Partnership's annual evaluation and posted on the public website at the following website: https://www.livingstoncounty.us/203/Emergency-Management-Office-of.

Each jurisdiction's governing body will be responsible for receiving, tracking, and filing public comments regarding this plan.

The public will have an opportunity to comment on the plan as a part of the annual mitigation planning evaluation process and the next 5-year mitigation plan update. The HMP Coordinator is responsible for coordinating the plan evaluation portion of the meeting, soliciting feedback, collecting and reviewing the comments, and ensuring their incorporation in the 5-year plan update as appropriate; however, members of the Planning Partnership will assist the HMP Coordinator. Additional meetings may be held as deemed necessary by the Planning Committee to provide the public an opportunity to express concerns, opinions, and ideas about the plan.

Further details regarding continued public involvement are provided in Section 7 (Plan Maintenance).

After completion of this plan, implementation and ongoing maintenance will continue to be a function of the Planning Partnership. The Planning Partnership will review the plan and accept public comments as part of an annual review and as part of 5-year mitigation plan updates.

After the HMP Committee's annual evaluation, a notice regarding annual updates of the plan and the location of plan copies will be publicized and posted on the public website.

Andrew P. Brodell is identified as the Livingston County HMP Coordinator in Section 7 (Plan Maintenance) and is responsible for receiving, tracking, and filing public comments regarding this plan. Contact information is:

Andrew P. Brodell, Director
Livingston County Office of Emergency Management
3360 Gypsy Lane
Mt. Morris, NY 14510
585-243-7160
Email: abrodell@co.livingston.ny.us

SECTION 4. COUNTY PROFILE

This section presents county profile information that was analyzed to develop an understanding of (1) the study area, including the economic, structural, and population assets at risk and (2) the particular concerns that may be related to hazards analyzed later in this plan (e.g., areas prone to flooding or a high percentage of vulnerable persons in a particular area).

This section presents a general profile of Livingston County, which includes general information, major past hazard events, physical setting, population and demographics, land use and population trends, and critical facilities located within the county.

4.1 GENERAL INFORMATION



Livingston County is in the far western end of the Finger Lakes Region of New York State. Rochester is nearby to the north, and Buffalo is approximately 1 hour to the west. Formerly a portion of Genesee and Ontario Counties, Livingston County officially became its own county on February 23, 1821. The boundaries were adjusted five times between 1821 and 1922 – with Steuben in 1822, Monroe in 1825, Allegany in 1846 and 1857, and Ontario in 1922. Livingston County was named for Robert P. Livingston, a former Chancellor of New York State, and an author of the Declaration of Independence. Prior to American settlement, Seneca Indians (the "Keepers of the Western Door") settled the land of the county as the westernmost nation of the Iroquois Confederacy. Today, the county is sometimes referred to as the "Western Gateway to the Finger Lakes."

During the Revolutionary War, the Iroquois Confederacy was split in its allegiance between the United States and the British Empire. The Seneca of Livingston County remained loyal to the British. In 1779, General Washington sent a military party of 6,200 men (one-fifth of his force) under generals John Sullivan and George Clinton to subdue Iroquois resistance. The Seneca capital, Little Beard's Town, was burnt on September 14, 1779. Today the site surrounds Route 39, between Geneseo and Cuylerville.

After breaking the military strength of the Iroquois, New York State moved to take control of the land through treaties. New York and Connecticut settled their competing claims to the region in 1786 with the Treaty of Hartford, whereby New York obtained sovereignty over the land while Connecticut retained "pre-emptive" rights to acquire the title to the land from the Iroquois. In 1788, Connecticut sold its preemptive rights to land speculators Oliver Phelps and Nathaniel Gorham; when financial difficulties forced Phelps and Gorham to give up their rights, the Pulteney Association obtained title to all the land east of the Genesee River and sold it off to speculators and settlers. The treaty of Big Tree, signed in 1797 in present day Geneseo, secured state control of all the land west of the Genesee River. Local Native Americans were relocated out from the territory or onto five reservations (the most of any county in New York). All these reservations were relinquished through treaties by 1826.

Following the Revolutionary War, people from New England, Maryland, and Pennsylvania came to settle the Genesee River Valley, bringing their knowledge of agriculture and methods of raising cattle and sheep. The settlers built flour and grist mills on the numerous small streams and along the Genesee River. The most

prominent family of this period was the Wadsworth clan from Connecticut, a family of wealthy landowners headed by brothers John and William. They oversaw the county's early development by surveying boundaries and guiding settlement. Some of the Wadsworth descendants became local representatives. James Jeremiah Wadsworth served as ambassador to the United Nations during President Eisenhower's second term. They also founded the current county seat, the Town of Geneseo, in 1788. Most of the other towns were founded between 1789 and 1795, except Nunda, Ossian, and Springwater, which were settled between 1804 and 1807.

Livingston County was home to many prominent persons, including two presidents. Millard Fillmore worked at a mill in West Sparta, and Chester A. Arthur lived in York and attended Temple Hill Academy in Geneseo. Additional noteworthy residents include Clara Barton, who organized the First Chapter of the American Red Cross in 1881, and Francis Bellamy, who authored the Pledge of Allegiance in 1892. Revolutionary War hero Daniel Shays and pioneer Nathaniel Rochester also called Livingston County home. The earliest settlers were generally Protestants of English, Scots-Irish, and German ancestry, followed by Irish Catholics in the 1830s and 1840s. Some settlers brought enslaved persons with them when it was legal prior to 1827. Growth of population came with the completion of the Genesee Valley Canal (1840-1872) and with the expansion of railroads and the growing popularity of health spas, which reached its height in the 1850s. After the Civil War, a community of freed slaves from Virginia settled in Caledonia. Italians and people of Slavic ancestry settled in the township of Mount Morris in significant numbers around the turn of the century, in response to the growth of small industry and manufacturing jobs in that area. Today, the county is comprised of 26 municipalities: 17 towns and 9 villages. The towns and villages of Livingston County are shown in Table 4-1.

Table 4-1. Towns and Villages in Livingston County, New York

Towns			Villages	
Avon	Lima	Portage	Avon	Lima
Caledonia	Livonia	Sparta	Caledonia	Livonia
Conesus	Mount Morris	Springwater	Dansville	Mount Morris
Geneseo	North Dansville	West Sparta	Geneseo	Nunda
Groveland	Nunda	York	Leicester	
Leicester	Ossian			

4.2 MAJOR PAST HAZARD EVENTS

Presidential disaster declarations are typically issued for hazard events that cause more damage than state and local governments can handle without assistance from the federal government, although no specific dollar loss threshold has been established for these declarations. A presidential disaster declaration puts federal recovery programs into motion to help disaster victims, businesses, and public entities. Some of the programs are matched by state programs. Review of presidential disaster declarations helps establish the probability of reoccurrence for each hazard and identify targets for risk reduction. Table 4-2 shows Federal Emergency Management Agency (FEMA) disaster declarations that included Livingston County through September 2021 (records date back to 1954).

Table 4-2. History of Hazard Events in Livingston County, New York

Disaster Number	Event Date	Declaration Date	Incident Type	Title
DR338	June 23, 1972	1972	Flood	Tropical Storm Agnes
DR494	March 19, 1976	1976	Severe Ice Storm	Ice Storm, Severe Storms & Flooding
DR898	March 21, 1991	1991	Snow	Severe Winter Storm
EM3107	March 17, 1993	1993	Snow	Severe Blizzard
DR1095	January 24, 1996	1996	Flood	Severe Storms and Flooding

Disaster Number	Event Date	Declaration Date	Incident Type	Title
DR1233	July 7, 1998	1998	Severe Storm(s)	Severe Storms and Flooding
EM3138	March 10, 1999	1999	Snow	Snow
DR1335	July 21, 2000	2000	Severe Storm(s)	Severe Storms and Flooding
DR1391	September 11, 2001	2001	Fire	Fires and Explosions
EM3155	October 11, 2000	2001	Other	West Nile Virus
DR1467	May 12, 2003	2003	Severe Ice Storm	Ice Storm
EM3186	August 23, 2003	2003	Other	Power Outage
DR1486	August 29, 2003	2003	Severe Storm(s)	Severe Storms, Flooding, and Tornadoes
DR1534	August 3, 2004	2004	Severe Storm(s)	Severe Storms and Flooding
EM3262	September 30, 2005	2005	Hurricane	Hurricane Katrina Evacuation
DR1993	June 10, 2011	2011	Flood	Severe Storms, Flooding, Tornadoes, and Straight-line Winds
EM3351	October 28, 2012	2013	Hurricane	Hurricane Sandy
DR4180	July 8, 2014	2014	Severe Storm(s)	Severe Storms and Flooding
EM3434	March 13, 2020	2020	Biological	COVID-19
DR4480	March 20, 2020	2020	Biological	COVID-19 Pandemic

Source: FEMA 2021

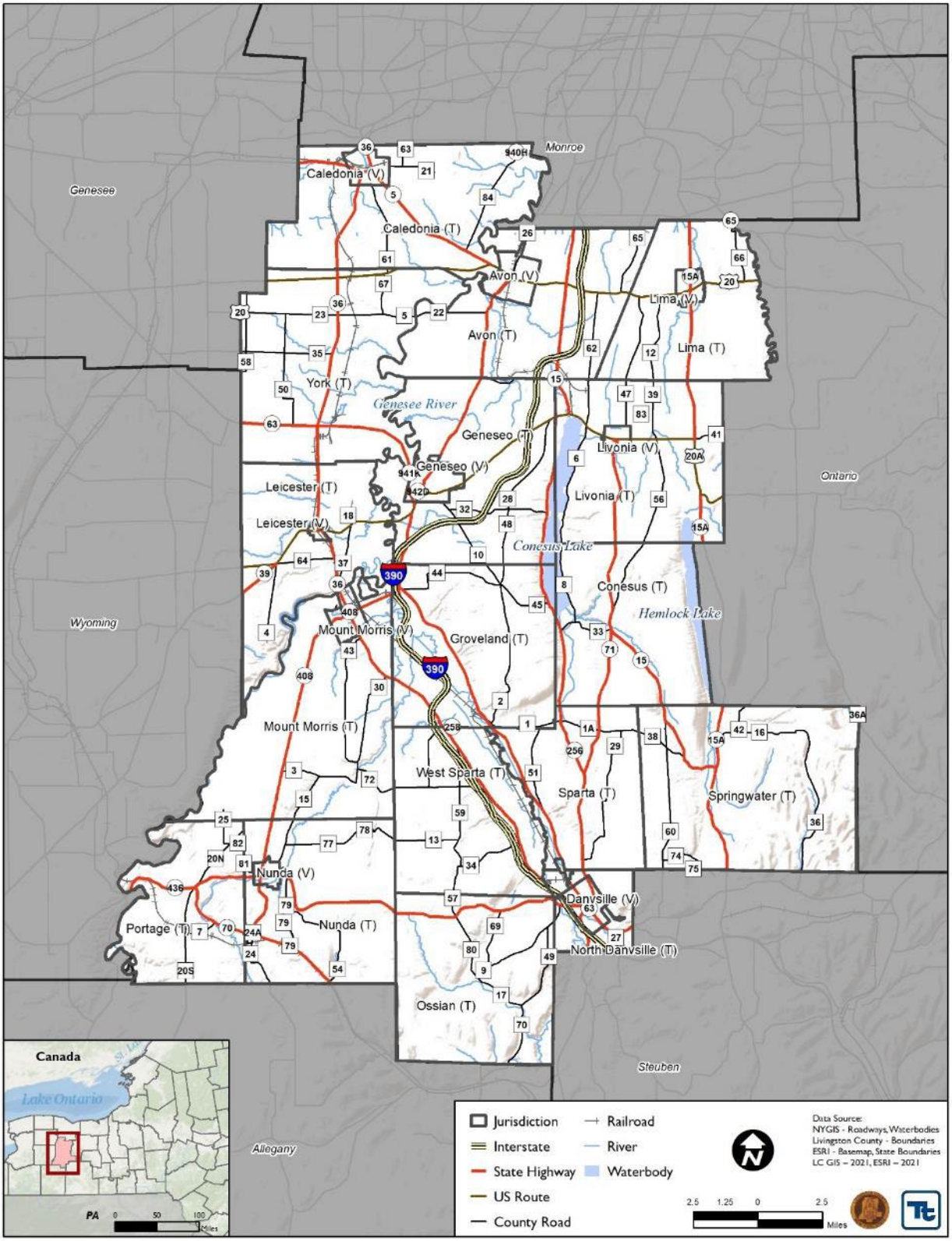
4.3 PHYSICAL SETTING

This section presents the physical setting of Livingston County, including its location, topography, hydrography and hydrology, climate, and land use and land cover.

4.3.1 Location

Livingston County is located within New York's Finger Lakes Region. The county is bordered to the north by Monroe County, on the east by Ontario County, on the west by Genesee and Wyoming Counties, and on the south by Steuben and Allegany Counties. The county is 640 square miles in area and contains a diverse topography of hills, valleys, forests, and agriculture land. Figure 4-1 provides the location of Livingston County and its municipalities.

Figure 4-1. Location of Livingston County, New York



The Genesee River is a central feature of the county and the majestic valley includes the dramatic Letchworth gorge and the broad agricultural valley floor in the county's northern towns. The valley can be broken into two major watersheds: the Canaseraga Creek Valley from Dansville to Mount Morris, and the Genesee River Valley from Mount Morris to Avon. The Genesee River was historically the prime transportation route for the region, especially as a conduit to the completed Erie Canal a few miles north of the county line.

Livingston County has 1,243 miles of road. Interstate (I)-390 is the central route of travel through Livingston County. Interstate I-390, which opened in 1981, runs north-south from Avon to Dansville through the middle of the county. Additionally, Routes 5 and 20, and Route 63 connect the county to its eastern and western neighbors. Another main traffic way, Route 63, separates the southwest portion of the county from North Dansville to York.

4.3.2 Topography and Geology

Topography

The geography and topography of the land that encompasses Livingston County owes its formation to the thawing of glaciers during the last Ice Age, which brought rich agricultural lands. Livingston County is made up of many hills and valleys. At a height of 2,244 feet, Tabor Mark is the highest point in the county and is located in the Town of Springwater. The lowest point in the county is along the Genesee River at 550 feet above sea level in the far north of the county in the Town of Caledonia.

Consistent with the rest of western New York, the geography and topography of the land that encompasses Livingston County owes its formation to the thawing of glaciers during the last Ice Age. The westernmost Finger Lakes of Conesus and Hemlock, the Valleys of the Genesee River and Canaseraga Creek, the hills in the south of the county, and the flatlands in the north are all glacial formations. Most of Livingston County is located in the Appalachian Upland province. The area east of the Canaseraga Creek valley is part of the Finger Lakes Hills sub-region; the area to the west lies within the Cattaraugus Hills sub-region. The uplands consist of rolling hills, dissected by narrow, steep-sided valleys that trend north to south

Geology

Fields and flatlands make up the northernmost section of the county, while the south is dominated by rolling hills. Some of the gentle hills in the county are the result of glacial debris and sediment left behind after the Ice Age. The hills abut the northern flat lands and are part of the Allegheny Plateau, which is comprised of easily eroded shale and limestone. The Allegheny Plateau makes up most of southern Livingston County and is a source of the Genesee River. Livingston County also has a significant mineral resource in the form of rock salt. Beginning in the 1880s, rock salt has been mined in the county and the area became the largest producer of rock salt in North America. Mining continues to be an important economic activity in the county, despite the collapse of the Retsof Salt Mine in 1994.

Approximately 50 million years ago, Livingston County was covered by a shallow inland sea. Over time, layers of sediment (sand, mud, and lime) accumulated on the sea floor. With the passage of time, the weight of new sediment above and the head from the earth below compressed these sediments into layers of shale, limestone, and dolomite. Distinct layer formations are easily visible along the Genesee River gorge.

4.3.3 Hydrography and Hydrology

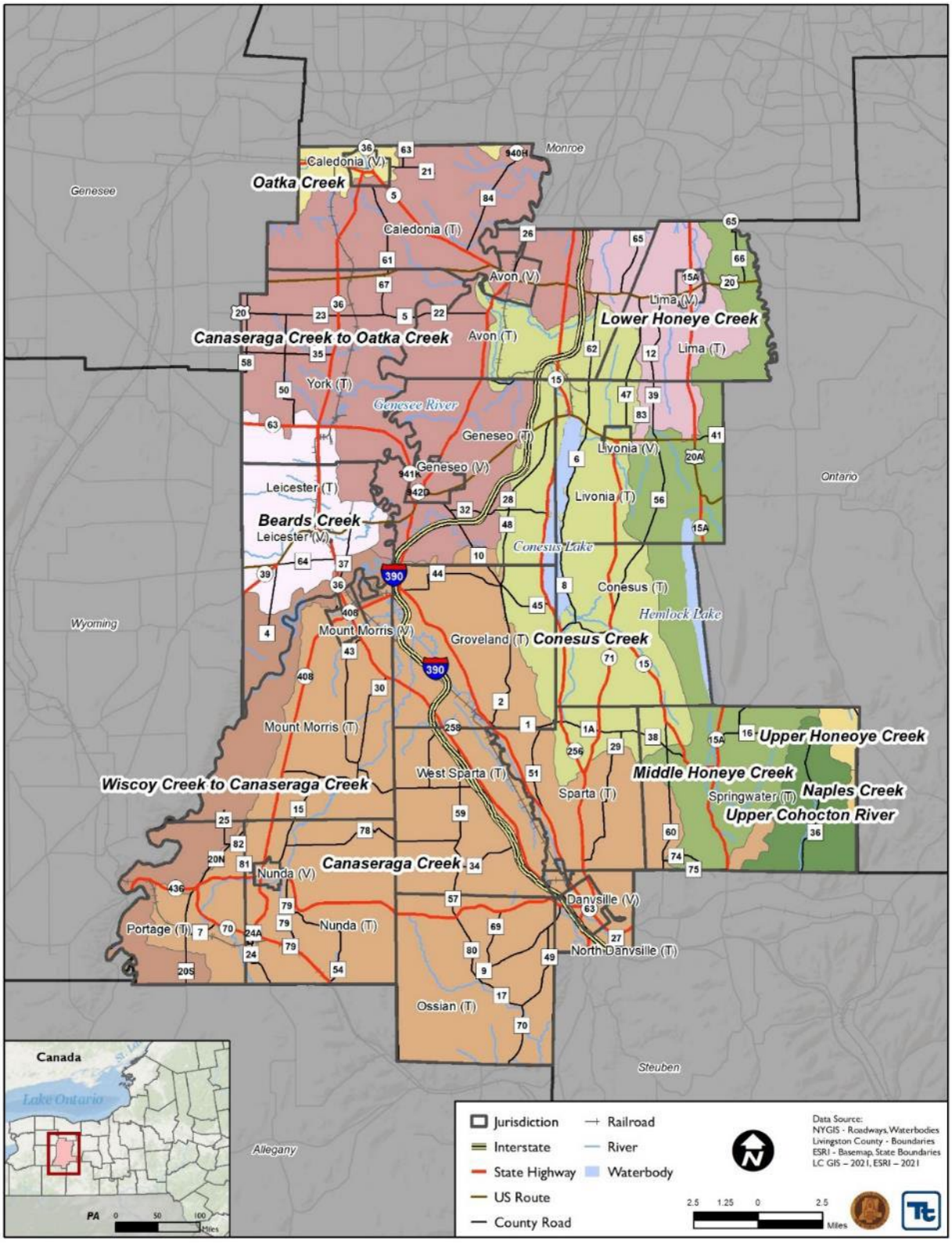
The two main lakes of Livingston County are Conesus and Hemlock. The towns of Conesus, Geneseo, Groveland, and Livonia border Conesus Lake. The Towns of Conesus, Livonia, and Springwater border Hemlock Lake. Created by melted glacial waters and dammed up by glacial debris, the lakes are an important

aesthetic, economic, environmental, and cultural resource for the county. Figure 4-1 presents a surface water map of Livingston County.

While the lakes of Livingston County provide a valuable resource, the most prominent feature of the county is the Genesee River extending from the southwest and then northward into Monroe County. The Genesee River and Letchworth State Park offer some of the most spectacular views of any landscape in the northeast. Letchworth's Genesee Gorge was carved some 12,000 years ago when glaciers moved through the region. The Genesee River cuts through cliffs that rise up to 600 feet. The park's 14,000 acres contain three canyons and three major waterfalls and attract 1 million people annually. The park is also home to the Mount Morris Dam, created in 1952 on the Genesee River to ease flooding in the Rochester area.

Livingston County has one major water drainage basin, the Genesee River Basin, as shown in Figure 4-2. Comprised of the Upper and Lower Genesee watersheds, the basin itself eventually drains north to Lake Ontario. Conesus and Hemlock lakes empty into the Genesee River Basin and drain northward as well. Some of the watersheds that make up the Genesee River Basin include Hemlock Lake, Hemlock Outlet, Oatka Creek, Conesus Creek, and the Genesee River.

Figure 4-2. Watersheds and Sub-Watersheds in Livingston County



4.3.4 Climate

The climate of the county is classified as continental-humid, with cold winters and mild summers with precipitation well distributed throughout the year. The result of this climate is an abundance of flora and fauna throughout the region and a wealth of water resources. Temperatures in January are an average of 28 degrees, while temperatures in July are an average of 77 degrees. Annual precipitation averages 39 inches of rain. Annual snowfall averages 96 inches. In addition to the major river systems, there are numerous natural and man-made lakes and ponds throughout the region as well as plentiful supplies of groundwater (high yields are principally limited to valley aquifers). Due to late spring and early fall frosts, there is a somewhat limited field crop growing season with an average of 120 days. (New York State Energy Research and Development Authority [NYSERDA] 2014)

4.3.5 Land Use and Land Cover

The original primeval forest in Livingston County was a mix of several different forest communities. Black ash, red maple, sycamore, and hemlock trees comprised a swamp forest community that covered the flatland bordering the lower Genesee River and Canaseraga Creek. Significant stands of Alleghenian hardwoods consisting of mixed stands of beech, sugar maple, hemlock, white pine, basswood, oak, and chestnut trees covered portions of the southern and western parts of the county. Central hardwood forests consisting of beech, sugar maple, basswood, and in places, oak and chestnut trees, dominated the southeast and northwest. Oak-chestnut forests occupied the margins of the lower Genesee and Canaseraga Valleys.

Most of the county's prime agricultural land is concentrated in the northern half and in the Canaseraga and Keshequa Creek valleys. Moderately fertile soil is found scattered throughout the area south and southeast of Conesus Lake. Historically, the Iroquois of the area cultivated orchards of apples, peaches, and plums as well as kept horses, oxen, and other livestock. They also farmed beets, potatoes, cabbage, squash, pumpkins, turnips, and beans. The main staple was corn, eaten off the cob, pounded into meal for bread, or mixed into succotash during the "great four-day Green Corn Festival." The wet and fertile lands of Livingston County have provided the region with a rich agricultural heritage that continues to this day.

The completion of the Erie Canal in 1825 just a few miles north of the county line created economic opportunity for Livingston County farmers. The importance of wheat farming grew as the Erie Canal facilitated the shipment of products to the Port of New York and then as far as Britain. The Genesee Valley Canal, which joined the Erie Canal at Rochester, reached the southern part of Livingston County in the early 1840s, allowing goods and commodities to be shipped by water almost anywhere in the world. The Genesee Valley Canal was never extended to the Allegheny River as originally planned, and the project was abandoned in 1878. Several ruined locks from this canal have been preserved as a historical site just south of Letchworth State Park along Route 438 in the Town of Portage.

In the mid-19th century, the railroads replaced the canal as the chief means of shipping goods to market. Between 1852 and 1882, four rail companies laid tracks to complete the county's four north-south trunk lines. The county has always had a road system, with some of the earliest roads following Native American footpaths. Route 5, which runs east to west in the northern part of the county, has been a main thoroughfare since the early 19th century. Today, most of the county's agricultural and manufactured goods are transported by truck. I-390 opened as a north-south route from Avon to Dansville in 1981.

Table 4-3 summarizes the land cover categories by the total area classified under each category (National Land Cover Database [NLCD] 2016).

Table 4-3. Land Use (2016) in Livingston County, New York

Land Use	Total Acreage	Total Area (sq. mi.)	Percent of County
Agricultural	209,953	328	51.2%
Barren Land	760	1	0.2%
Developed	147,662	231	36.0%
Forest	27,784	43	6.8%
Water	6,876	11	1.7%
Wetlands	16,677	26	4.1%
Livingston County (Total)	**409,713**	**640**	**100.0%**

Source: NLCD 2016
Note: sq. mi. = square miles

4.4 POPULATION AND DEMOGRAPHICS

Various U.S. Census Bureau products were used as sources for the population trends section. The Decennial Census is the official population count taken every 10 years. American Community Survey 5-Year Estimates are used to show annual population changes, but it is not an official population count. 5-Year Estimates are used because they are the most accurate form of American Community Survey with the largest sample size, which allows for greater accuracy at smaller geographic areas. The American Community Survey 5-Year Estimate products were used to establish annual changes in population. The numbers provided are not official census counts but are official estimates provided to communities so that they may have a greater understanding in population changes within their jurisdictions.

An understanding of the planning area population characteristics provides a foundation for deciphering the impacts of natural hazards in the county. As noted in Section 5.1, Methodology, modeling of the impacts of natural hazards on the population was performed using FEMA's Hazards U.S. Multi-Hazard (HAZUS-MH). The available population information includes the 2010 U.S. Decennial Census data, which indicates a county population of 42,367. However, more current data, according to U.S. Census Bureau, 2019 American Community Survey 5-Year Estimate, estimates a county population of approximately 63,591, which is a decrease in population since 2010. A detailed population table for the 2010 Census and 2019 American Community Survey 5-Year Estimate is shown in Table 4-4. The 2019 American Community Survey data were used, as it is the best-available data at the time of the plan update. General population distribution is illustrated on Figure 4-3.

Table 4-4. Livingston County Population Statistics

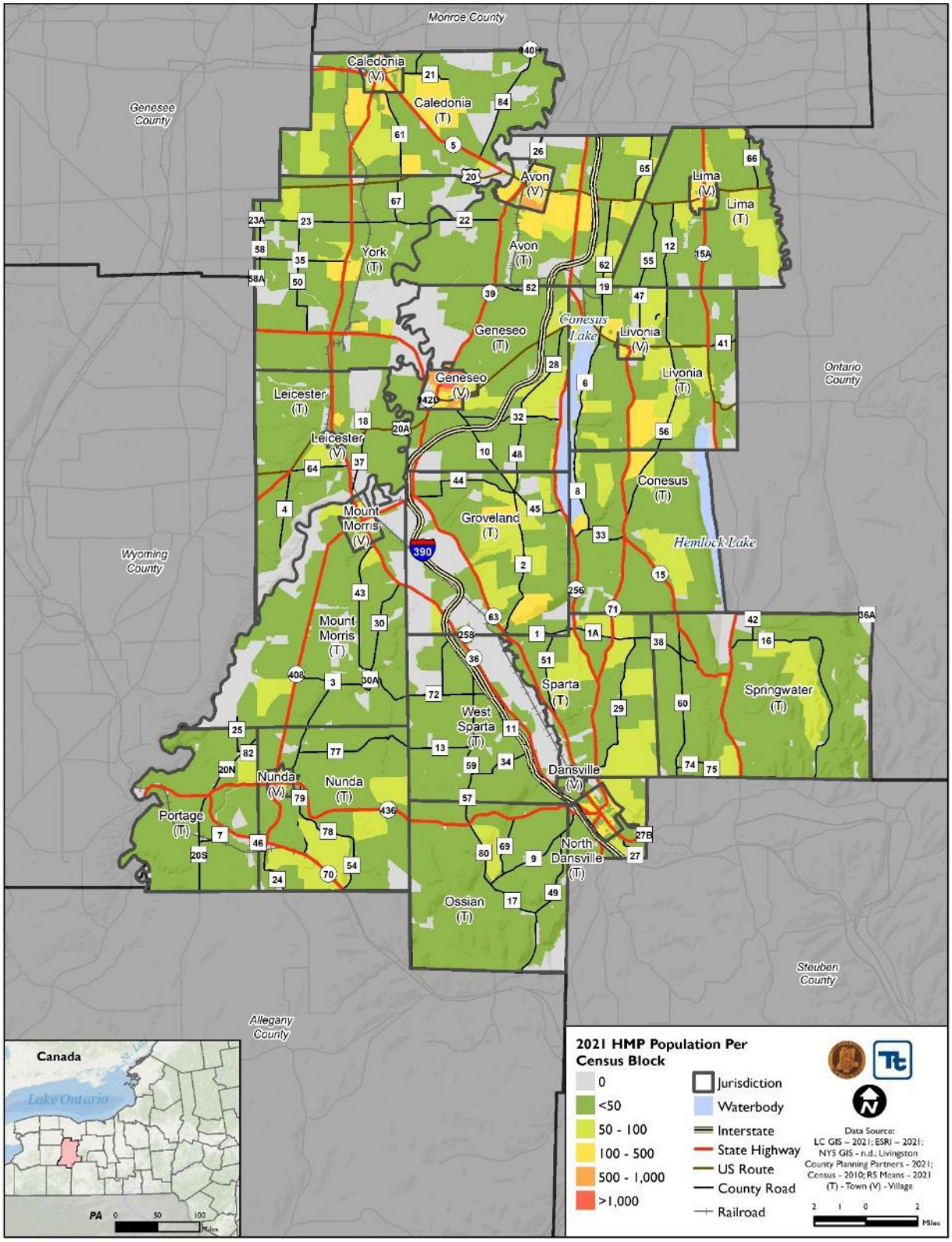
Jurisdiction	2010 Census Bureau Total	2019 American Community Survey Total	Pop. 65+	Pop. Under 5	Pop. Below Poverty Level	Pop. Non-English Speaking	Pop. With Disability
Avon (T)	3,770	3,637	765	113	103	103	581
Avon (V)	3,394	3,260	649	248	436	64	361
Caledonia (T)	2,054	2,060	351	110	108	114	281
Caledonia (V)	2,201	2,078	337	143	115	47	230
Conesus (T)	2,473	2,325	471	76	253	83	247
Geneseo (T)	2,452	2,540	692	152	333	113	337
Geneseo (V)	8,031	8,095	617	126	2,172	1,517	633
Groveland (T)	3,249	3,241	208	86	28	575	116
Leicester (T)	1,732	1,798	313	49	124	27	211
Leicester (V)	468	518	83	31	65	9	45
Lima (T)	2,166	1,833	343	80	95	67	245
Lima (V)	2,139	2,278	319	137	182	155	262

Jurisdiction	2010 Census Bureau Total	2019 American Community Survey Total	Pop. 65+	Pop. Under 5	Pop. Below Poverty Level	Pop. Non-English Speaking	Pop. With Disability
Livonia (T)	6,400	6,231	1,177	272	243	200	629
Livonia (V)	1,409	1,353	212	56	86	72	161
Mount Morris (T)	1,479	1,340	571	47	12	131	215
Mount Morris (V)	2,986	2,931	557	175	725	411	553
North Dansville (T)	819	696	196	0	96	21	117
Dansville (V)	4,719	4,586	693	265	917	96	760
Nunda (T)	1,687	1,716	231	83	209	10	121
Nunda (V)	1,377	1,211	251	55	331	0	282
Ossian (T)	789	701	181	31	46	6	123
Portage (T)	884	837	178	31	121	34	134
Sparta (T)	1,624	1,591	345	75	139	70	243
Springwater (T)	2,439	2,233	432	123	280	89	322
West Sparta (T)	1,255	1,229	222	36	113	28	201
York (T)	3,397	3,273	535	139	240	172	351
Livingston County (Total)	**65,393**	**63,591**	**10,929**	**2,739**	**7,572**	**4,214**	**7,761**

Source: U.S. Census Bureau 2010, 2015-2019 American Community Survey 5-Year Estimates

Notes: Pop. = Population; V = Village, T = Town

Figure 4-3. Distribution of General Population by Census Block for Livingston County



4.4.1 Vulnerable Populations

Disaster Mitigation Act of 2000 (DMA 2000) requires that HMPs consider socially vulnerable populations. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Vulnerable populations include (1) the elderly (persons aged 65 and over) and (2) those living in low-income households. Identifying concentrations of vulnerable populations can assist communities in targeting preparedness, response, and mitigation actions.

Populations with a higher level of vulnerability can be more seriously affected during the course of an emergency or disaster. Vulnerable populations have unique needs that need to be considered by public officials to help ensure the safety of demographics with a higher level of risk.

Age

Children are considered vulnerable to hazard events because they are dependent on others to safely access resources during emergencies and may experience increased health risks from hazard exposure. The elderly are more apt to lack the physical and economic resources necessary for response to hazard events and are more likely to suffer health-related consequences. Those living on their own may have more difficulty evacuating their homes. Elderly people are also more likely to live in senior care and living facilities where emergency preparedness occurs at the discretion of facility operators. According to the 2014-2018 American Community Survey 5-Year Estimates, the median age in Livingston County was 41.9 years.

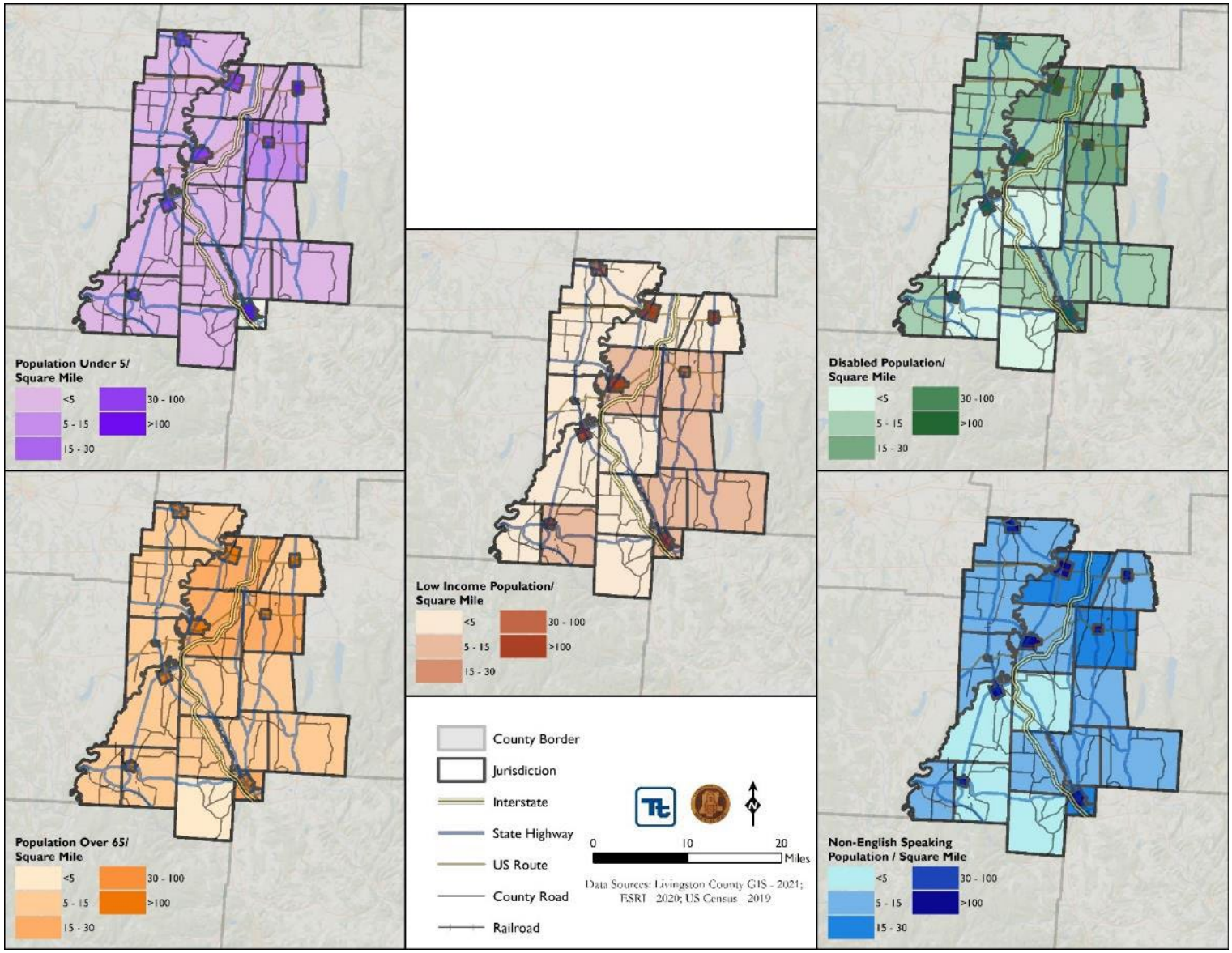
According to the 5-Year American Community Survey Population Estimates for 2019, 4.9 percent of Livingston County's population is under the age 5 and 13.7 percent over the age of 65. Figure 4-4 shows the distribution of persons over age 65 and the distribution of persons under the age of 5 in Livingston County.

Income

The 2015-2019 American Community Survey 5-Year Estimates provides that the median household income in Livingston County was $62,843, and the per capita income was $28,701. The U.S. Census Bureau identifies households with two adults and two children with an annual household income below $26,246 per year as *low income* (U.S. Census 2020). The 2015-2019 American Community Survey 5-Year Estimates indicates 11.9 percent of the population in Livingston County live below the poverty level.

The 2019 5-Year American Community Service identifies the estimated number of persons living below the poverty level at the tract and jurisdictional level. Figure 4-4 below illustrates the population density of persons below the poverty level per square mile in Livingston County.

Figure 4-4. Distribution of Socially Vulnerable Populations in Livingston County, New York



4.4.2 General Building Stock

According to 2019 Census data, 24,176 households are located in Livingston County. A household includes all the people who occupy a housing unit as their usual residence. A housing unit is a house, apartment, mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters (or if vacant, intended for occupancy as separate living quarters). According to the 2015-2019 American Community Survey, the majority of housing units (69.3 percent) in Livingston County are classified as one-unit detached homes. The median price of a single-family home in Livingston County was estimated at $129,400 based on the U.S. Census (U.S. Census 2016; U.S. Census 2019).

For this update, the default general building stock in HAZUS 5.0 was used to estimate the number of structures and replacement cost value (structure and contents) for Livingston County. The replacement cost values in HAZUS are based on RSMeans 2021 valuations.

For the purposes of this plan, approximately 34,652 structures were identified by the tax data and spatial data available. These structures account for a replacement cost value of approximately $21.5 billion. Approximately 82.5 percent of the total buildings in the county are residential. Table 4-5 presents building stock statistics by occupancy class for Livingston County.

Figure 4-5 through Figure 4-7 show the distribution and exposure density of residential, commercial, and industrial buildings in Livingston County based on the New York State Department of Taxation and Finance Property Class Code. Exposure density is considered the dollar value of structures per unit area, including building content value. The densities are shown in units of $1,000 ($K) per square mile. Viewing exposure distribution maps, such as those used for Figure 4-5 through Figure 4-7, can assist communities in visualizing areas of high exposure and in evaluating aspects of the study area in relation to specific hazard risks.

Table 4-5. Building Stock Count and Replacement Cost Value (RCV) by Occupancy Class

Jurisdiction	All Occupancies				Residential		Commercial	
	Count	Replacement Cost Value (Structure Only)	Replacement Cost Value (Contents Only)	Total Replacement Cost Value (Structure + Contents)	Count	Total Replacement Cost Value (Structure + Contents)	Count	Total Replacement Cost Value (Structure + Contents)
Avon (T)	2,149	$748,473,139	$576,373,627	$1,324,846,766	1,711	$580,171,002	121	$197,423,760
Avon (V)	1,245	$724,493,098	$641,277,909	$1,365,771,007	1,100	$464,550,593	95	$315,401,682
Caledonia (T)	1,362	$452,962,784	$339,792,868	$792,755,652	1,003	$370,029,800	76	$89,442,988
Caledonia (V)	979	$400,525,316	$335,083,804	$735,609,120	837	$291,469,553	101	$193,327,875
Conesus (T)	1,774	$394,022,170	$230,983,554	$625,005,723	1,633	$497,559,027	72	$56,969,408
Dansville (V)	1,950	$758,168,781	$583,638,394	$1,341,807,175	1,755	$598,127,250	155	$479,958,919
Geneseo (T)	1,753	$667,107,045	$494,612,996	$1,161,720,041	1,258	$518,662,408	215	$323,900,328
Geneseo (V)	1,329	$828,871,469	$741,833,494	$1,570,704,963	1,144	$575,886,598	106	$339,572,170
Groveland (T)	1,330	$641,935,746	$561,726,837	$1,203,662,583	780	$270,684,654	143	$145,143,905
Leicester (T)	1,214	$399,457,929	$316,529,216	$715,987,145	923	$314,840,553	138	$130,120,381
Leicester (V)	240	$83,861,873	$59,018,080	$142,879,953	217	$76,213,929	17	$46,827,162
Lima (T)	1,436	$490,050,579	$369,586,351	$859,636,929	1,138	$434,113,797	61	$83,408,704
Lima (V)	777	$267,580,467	$185,187,645	$452,768,112	690	$255,256,047	51	$73,903,736
Livonia (T)	3,888	$1,114,042,696	$752,854,485	$1,866,897,181	3,397	$1,141,180,651	209	$282,903,958
Livonia (V)	569	$218,793,862	$152,525,567	$371,319,429	510	$198,599,286	41	$68,521,680
Mount Morris (T)	1,115	$361,251,785	$285,322,543	$646,574,328	857	$281,296,902	88	$173,230,699
Mount Morris (V)	1,337	$453,656,523	$331,849,131	$785,505,655	1,213	$375,248,646	96	$239,796,113
North Dansville (T)	607	$256,760,576	$240,398,607	$497,159,183	508	$152,158,085	69	$156,862,608
Nunda (T)	1,354	$335,017,604	$209,916,838	$544,934,442	1,227	$377,469,108	55	$52,882,720
Nunda (V)	641	$222,025,900	$170,462,696	$392,488,596	562	$195,897,265	66	$94,604,861
Ossian (T)	817	$278,135,728	$210,568,203	$488,703,931	554	$202,702,576	105	$48,190,432
Portage (T)	620	$198,113,200	$140,352,563	$338,465,763	501	$173,281,912	29	$28,511,882
Sparta (T)	1,151	$284,455,557	$165,219,284	$449,674,840	1,037	$361,502,514	8	$6,473,616
Springwater (T)	1,822	$424,654,170	$277,602,133	$702,256,303	1,574	$450,068,865	60	$40,574,348
West Sparta (T)	1,010	$254,194,110	$169,018,906	$423,213,015	808	$240,951,856	10	$32,389,675

Jurisdiction	All Occupancies				Residential		Commercial	
	Count	Replacement Cost Value (Structure Only)	Replacement Cost Value (Contents Only)	Total Replacement Cost Value (Structure + Contents)	Count	Total Replacement Cost Value (Structure + Contents)	Count	Total Replacement Cost Value (Structure + Contents)
York (T)	2,183	$921,690,684	$756,258,322	$1,677,949,006	1,640	$594,999,129	136	$164,617,562
Livingston County (Total)	**34,652**	**$12,180,302,792**	**$9,297,994,050**	**$21,478,296,842**	**28,577**	**$9,992,922,004**	**2,323**	**$3,864,961,174**

Source: Livingston County 2021; RSMeans 2021
Notes: T = Town; V = Village

Figure 4-5. Distribution of Residential Building Stock and Value Density in Livingston County

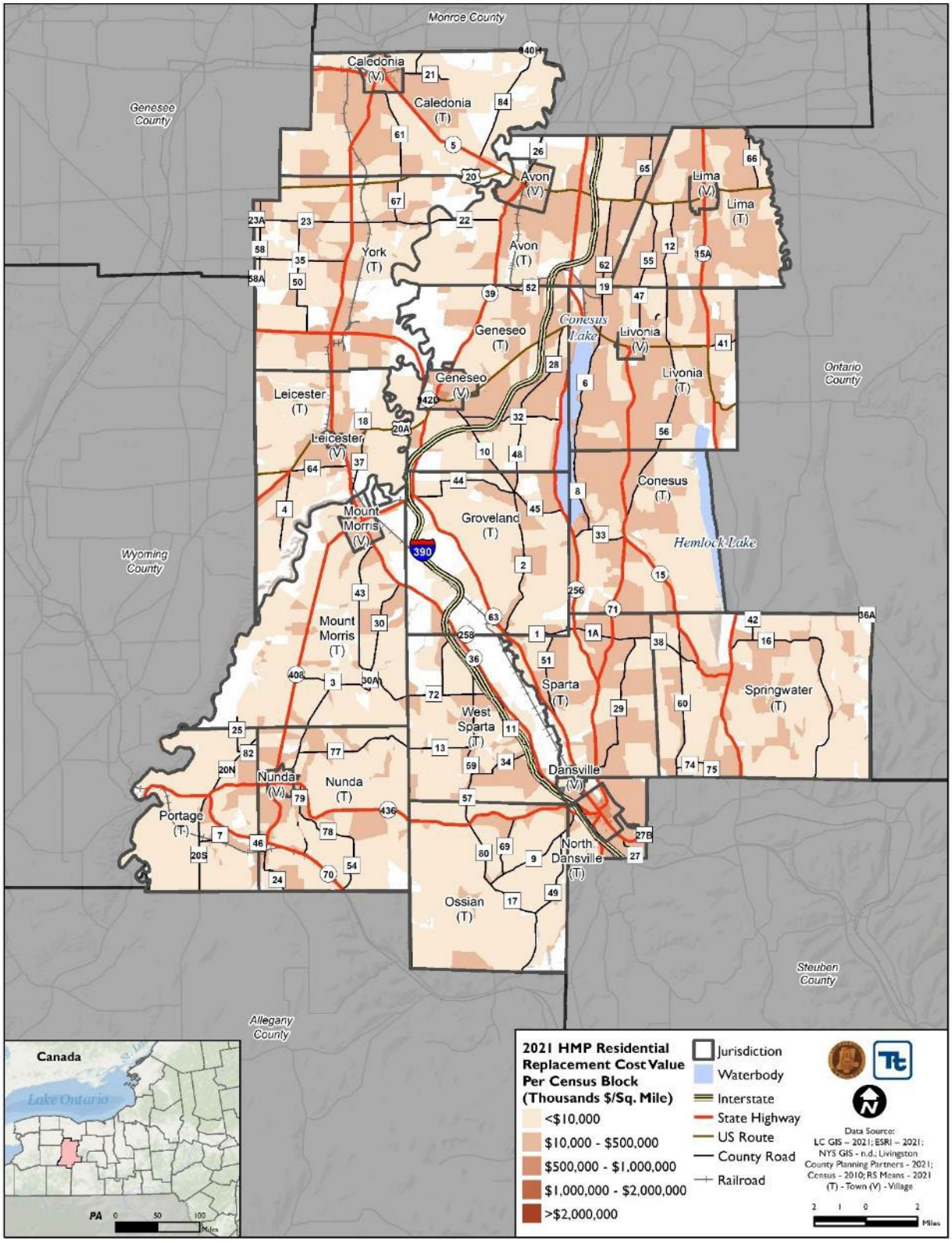


Figure 4-6. Distribution of Commercial Building Stock and Value Density in Livingston County

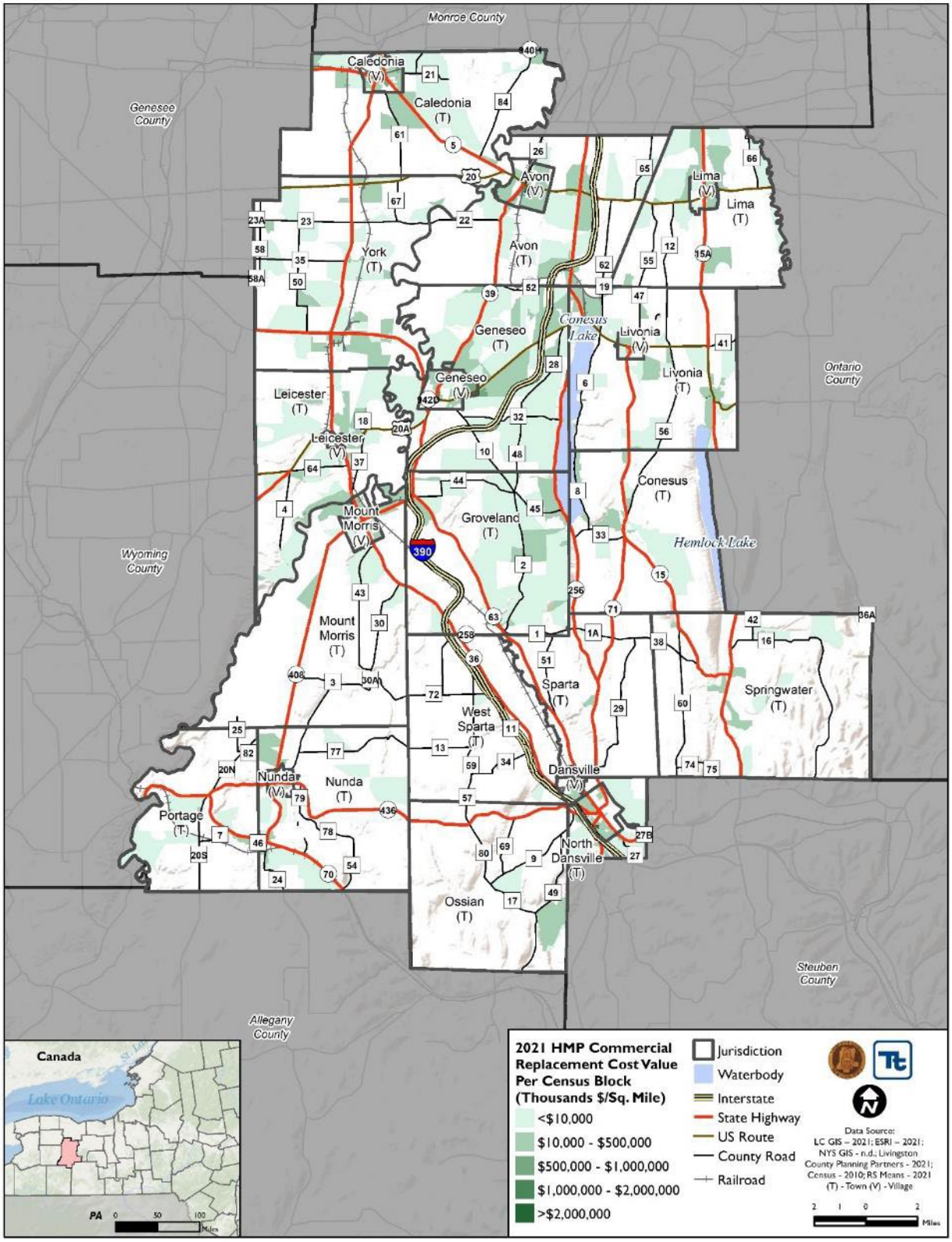
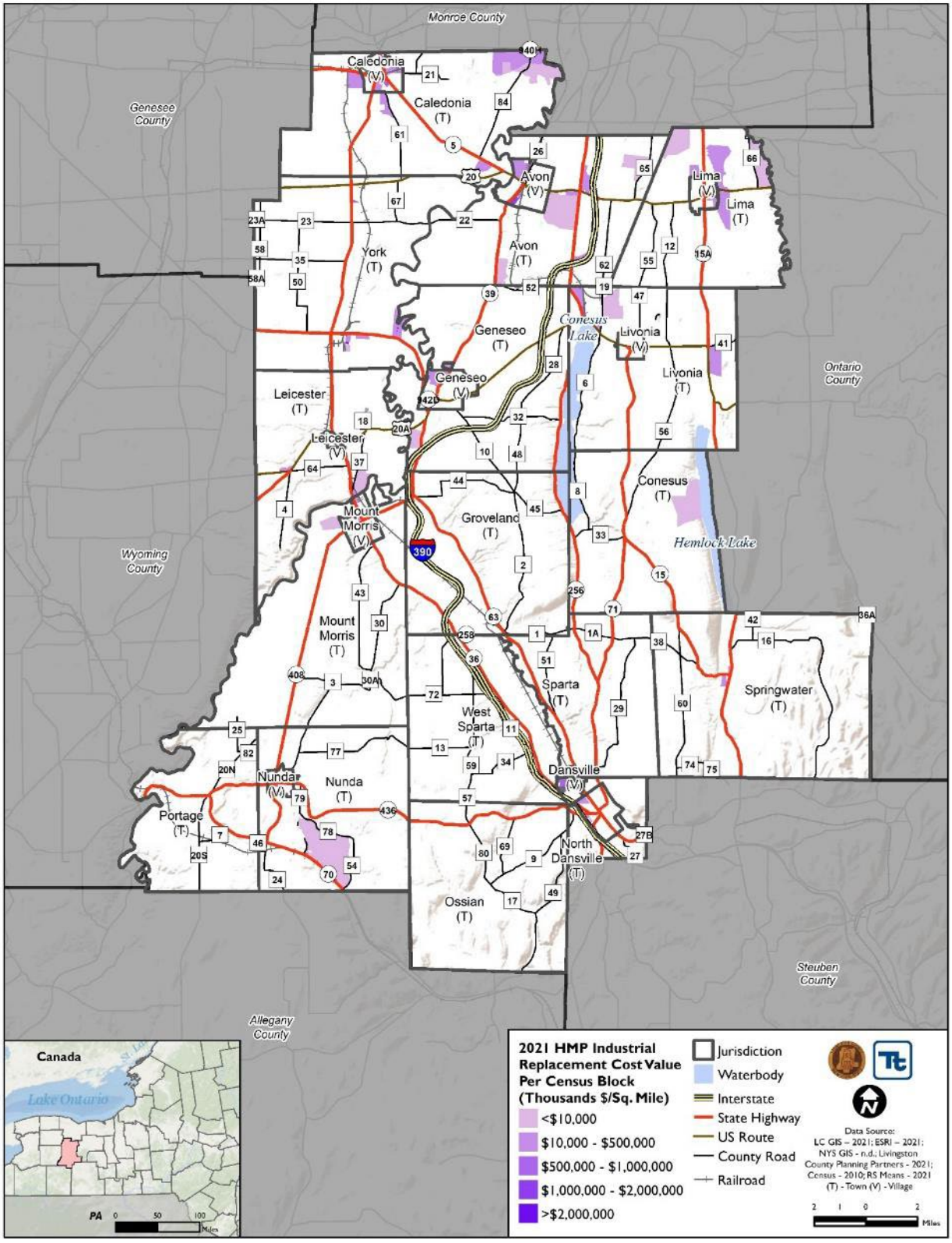


Figure 4-7. Distribution of Industrial Building Stock and Value Density in Livingston County



4.5 LAND USE AND POPULATION TRENDS

Land use regulatory authority is vested in New York State's towns, villages, and cities. However, many development and preservation issues transcend location political boundaries. DMA 2000 requires that communities consider land use trends, which can impact the need for and prioritization of mitigation options over time. Land use trends significantly impact exposure and vulnerability to various hazards. For example, significant development in a hazard area increases the building stock and population exposed to that hazard.

This plan provides a general overview of population, land use, and types of development occurring within the study area. An understanding of these development trends can assist in planning for further development and ensuring that appropriate mitigation, planning, and preparedness measures are in place to protect human health and community infrastructure.

4.5.1 Land Use Trends

Agriculture

The Livingston County Agricultural Development and Farmland Protection Plan 2006 notes that agriculture has historically been, and will continue to be, one of Livingston County's most important industries. Agriculture bolsters the county's economy, helps maintain the county's rural landscape, attracts visitors, maintains community character, and contributes to the health of the county's residents.

Since 1971, Article 25AA of the Agriculture and Markets Law (AML) outlining agricultural districts has been the centerpiece of state- and county-level efforts to preserve, protect, and encourage the development and improvement of agricultural land to produce food and other agricultural products. The Livingston County Soil and Water Conservation District along with the Agricultural Farmland Protection Board manages agriculture district reviews, map management, and 30-day enrollment.

Agriculture in Livingston County is undergoing significant structural change as its traditional base transforms from mid-sized family farms, to a bifurcated base of large, consolidated agribusinesses and small, often equestrian-focused farms. Historically, dairy farms and feed production in support of the dairy industry have comprised the backbone of the county's agricultural industry. Over the years this position has been solidified, with the county playing an integral part in a western New York dairy industry that is growing and consolidating to meet the needs of today's dairy industry. Grain production, in support of the dairy industry, has kept pace with the growth of concentrated dairy operations to serve their need for mixed feed rations.

The county has a well-developed vegetable and dry bean sectors. The vegetable sector is primarily dedicated to the processing market, specifically for canned and frozen vegetable specialties. The county's dry bean sector produces nearly half of the State's bean output.

Livingston County is divided in three agricultural districts that are made up of over 225,000 acres of farmland. Approximately 52 percent of the county is included in the Agricultural Districts Program. The purpose of the Program is to keep farmland in agricultural production by providing agricultural landowners with benefits and protections.

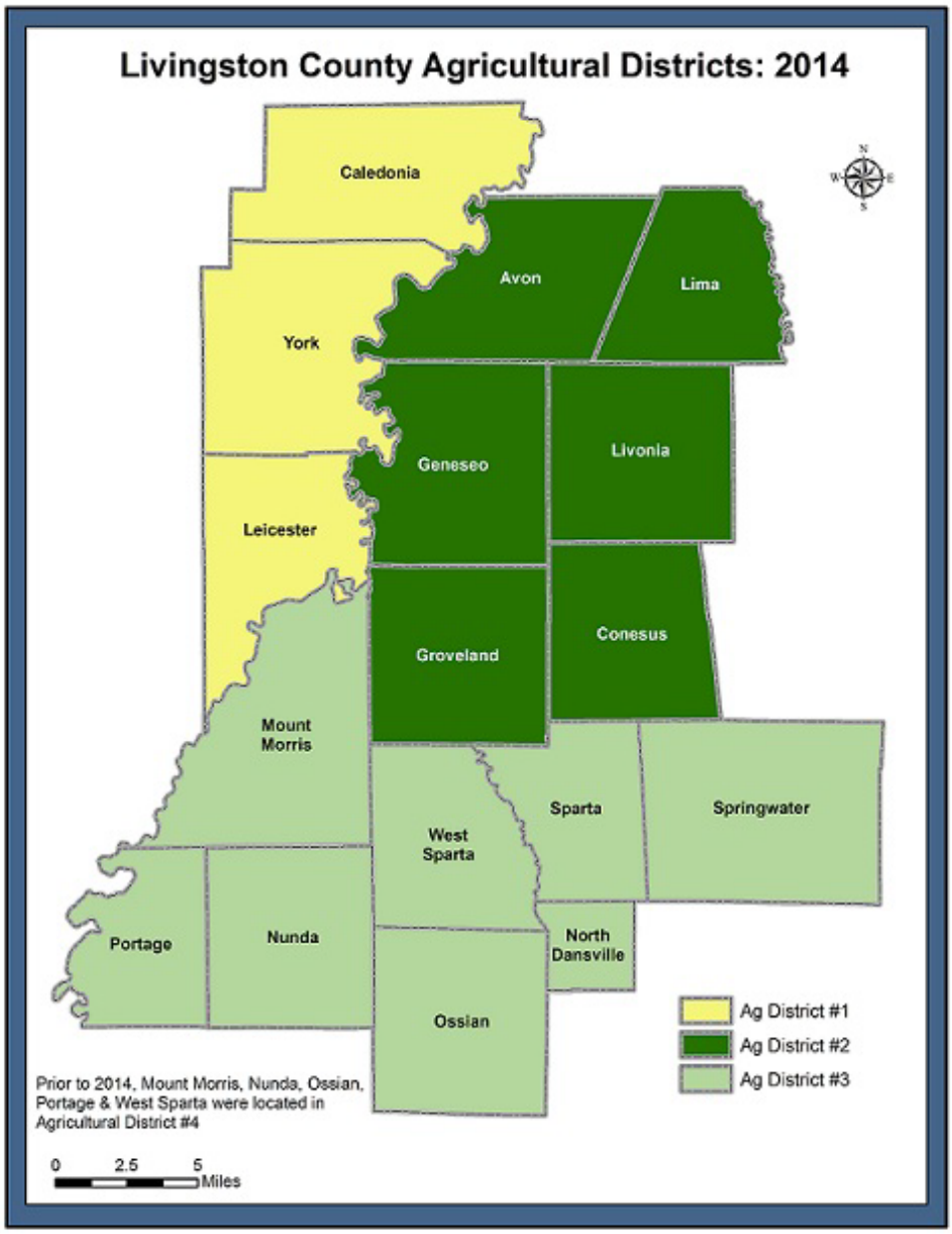
The Districts include:

- Agricultural District #1 – includes property in the Towns of Caledonia, Leicester, and York
- Agricultural District #2 – includes property in the Towns of Avon, Conesus, Geneseo, Groveland, Lima, and Livonia

- Agricultural District #3 – includes property in the Towns of Mount Morris, North Dansville, Nunda, Ossian, Portage, Sparta, West Sparta, and Springwater.

Livingston County is divided into three agricultural districts. Figure 4-8 illustrates the districts across the county. The 2017 Census of Agriculture states the number of farms and total acreage in Livingston County has remained the same and decreased by 2.7 percent respectively since 2012. Between 2012 and 2017, the market value of land and buildings per farm increased by 20 percent. The average market value of products sold per farm decreased by 1.7 percent.

Figure 4-8. Livingston County Agricultural Districts



Source: Livingston County 2014

Economy

While Livingston County's population has decreased since 2010, its labor force has actually increased. The county's unemployment rate dropped from 5.8 percent in the 2014 Census estimates to 3.4 percent, according to the 2019 American Community Survey. The county is home to 1,231 "employer establishments", according to the 2019 Survey of Business Owners.

Livingston County is located in a prime location being in the Finger Lakes Region and bordering the Western New York Region. The location provides easy access to transportation corridors, metropolitan areas, and recreational and tourism destinations. Major tourist attractions include Letchworth State Park and (www.GoLivingstonCountyNY.com, n.d.).

The U.S. Census Bureau's County Business Patterns data identified 2019 patterns for Livingston County. The Census estimates that there are 1,231 business establishments employing approximately 13,657 people in Livingston County. The retail trade industry has the highest number of establishments in the county, with 204. This is followed by other services (except public administration) with 157 establishments and construction with 145 establishments (U.S. Census 2021). The wide variety of products manufactured in the county includes automotive and electronics, wind energy, welding equipment, plastic and rubber products, and food and beverage.

Retail trade, healthcare and social assistance, manufacturing, and construction, employ the most people in the county. The county has also maintained its agribusiness, farming, and forestry base. Livingston County was ranked number one of the top ten counties for farming in New York State by sales in 2017 with $307.5 million in total sales and 729 number of farms. Counties in the Finger Lakes Region rank in the top ten statewide for commodity sales. Livingston County is the top producer of milk in the state with over $201 million in sales as well as sales of cattle and maple syrup. (Office of The New York State Comptroller 2019).

4.5.2 Population Trends

This section discusses population trend information used to estimate future shifts that could significantly change the character of the area. Population trends can provide a basis for making decisions on the type of mitigation approaches to be considered and the locations in which these approaches should be applied. This information can also be used to support planning decisions regarding future development in vulnerable areas.

Livingston County's population has increased every decade since 1960 to 2000. However, according to the 2010 Census and the 2019 Census estimates, Livingston County experienced a 2.7 percent decrease in population, from 65,393 in 2010 to 63,591 in 2019. This decrease runs counter to the overall steady population growth forecasted in 2013 (Genesee/Finger Lakes Regional Planning Council 2013). Population trends will need to be monitored over time to determine updated forecasts. Population growth projections are summarized in Table 4-6.

Table 4-6. Population Growth Projections

Jurisdiction	Historical						5-year Estimates	Projected		
	1960	1970	1980	1990	2000	2010	2019	2030	2040	2050
Avon (T)	1,632	2,857	3,179	3,288	3,466	3,770	3,637	3,755	3,824	3,885
Avon (V)	2,772	3,260	3,006	2,995	2,977	3,394	3,260	3,294	3,370	3,438
Caledonia (T)	1,150	1,505	1,846	2,179	2,240	2,054	2,060	2,035	1,986	1,942
Caledonia (V)	1,917	2,327	2,188	2,262	2,327	2,201	2,078	2,395	2,410	2,425
Conesus (T)	1,221	1,533	1,970	2,196	2,353	2,473	2,325	2,564	2,615	2,660
Geneseo (T)	1,053	1,564	1,927	1,991	2,075	2,452	2,540	2,271	2,318	2,360
Geneseo (V)	3,284	5,714	6,746	7,187	7,579	8,031	8,095	8,382	8,574	8,744

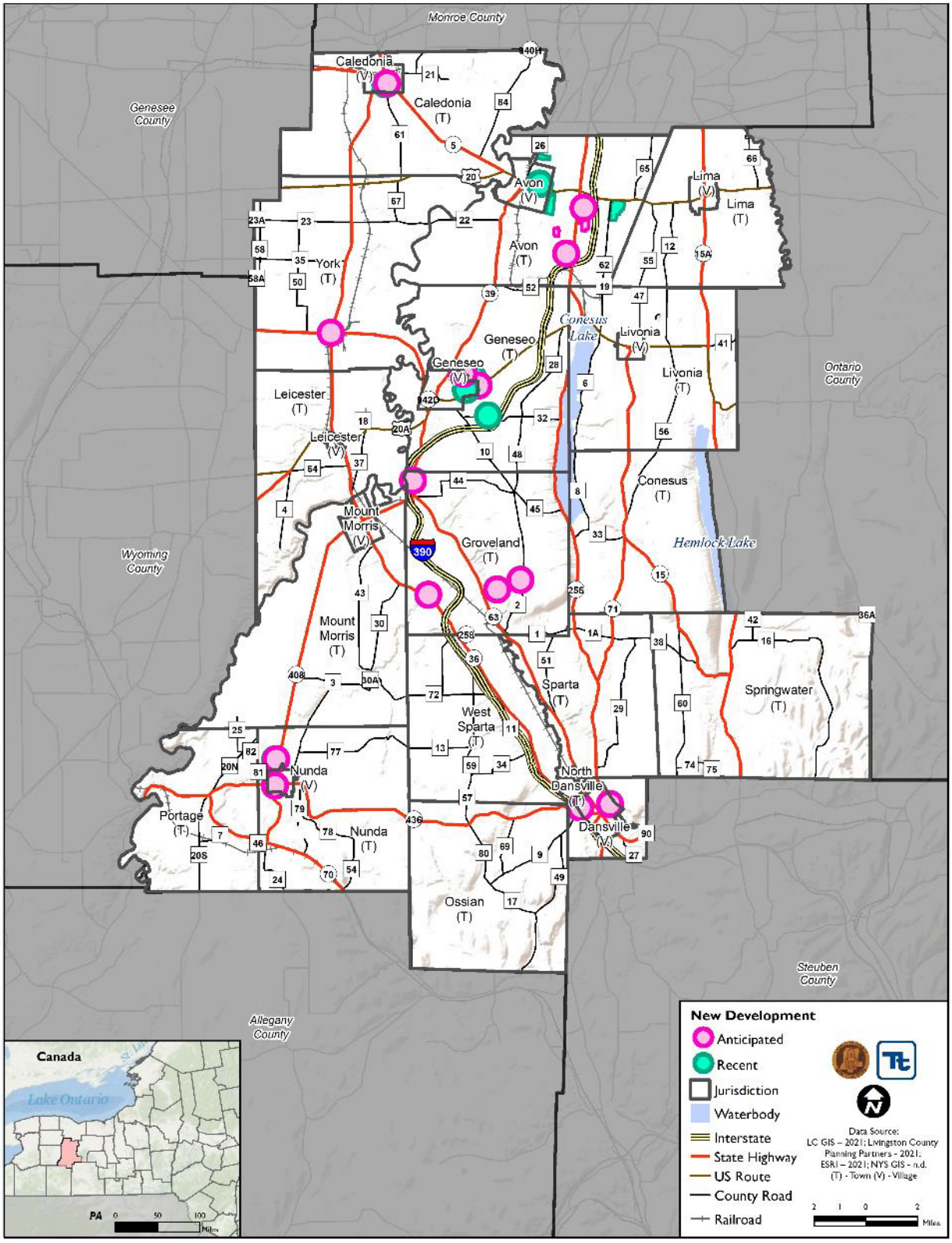
Jurisdiction	Historical						5-year Estimates	Projected		
	1960	1970	1980	1990	2000	2010	2019	2030	2040	2050
Groveland (T)	3,373	3,004	2,140	3,190	3,853	3,249	3,241	3,252	3,107	2,978
Leicester (T)	1,027	1,431	1,426	1,818	1,818	1,732	1,798	1,963	1,998	2,028
Leicester (V)	365	368	462	405	469	468	518	487	491	495
Lima (T)	1,350	1,759	1,834	2,022	2,082	2,166	1,833	2,215	2,247	2,276
Lima (V)	1,366	1,686	2,205	2,165	2,459	2,139	2,278	2,263	2,216	2,175
Livonia (T)	2,580	4,026	4,504	5,370	5,913	6,400	6,231	6,496	6,635	6,759
Livonia (V)	946	1,278	1,238	1,434	1,373	1,409	1,353	1,456	1,477	1,494
Mount Morris (T)	1,317	1,162	1,439	1,531	1,301	1,479	1,340	1,332	1,339	1,346
Mount Morris (V)	3,250	3,417	3,039	3,102	3,266	2,986	2,931	3,244	3,238	3,233
North Dansville (T)	635	922	1,015	781	906	819	696	950	961	970
Dansville (V)	5,460	5,436	4,979	5,002	4,832	4,719	4,586	4,723	4,697	4,673
Nunda (T)	1,085	1,320	1,523	1,584	1,687	1,687	1,716	1,797	1,823	1,847
Nunda (V)	1,224	1,254	1,169	1,347	1,330	1,377	1,211	1,349	1,354	1,358
Ossian (T)	489	551	667	797	751	789	701	808	823	835
Portage (T)	733	731	771	893	859	884	837	887	895	901
Sparta (T)	1,019	1,157	1,458	1,578	1,627	1,624	1,591	1,747	1,775	1,801
Springwater (T)	1,293	1,678	2,143	2,407	2,322	2,439	2,233	2,538	2,590	2,636
West Sparta (T)	817	935	1,100	1,335	1,244	1,255	1,229	1,337	1,360	1,379
York (T)	2,695	3,166	3,212	3,513	3,219	3,397	3,273	3,347	3,378	3,405
Livingston County (Total)	**44,053**	**54,041**	**57.006**	**62,372**	**64,328**	**65,393**	**63,591**	**66,887**	**67,501**	**68,043**

Source: Genesee/Finger Lakes Regional Planning Council 2013; Census 2020

4.5.3 Future Growth and Development

A summary of development planned within Livingston County is illustrated in Figure 4-9. Details regarding development specific to each participating municipality is provided in Section 9, Jurisdictional Annexes. Locations of development are indicated on the Hazard Area Extent and Location Maps included in Section 9, Jurisdictional Annexes.

Figure 4-9. Planned Development in Livingston County, New York



4.5.4 Evacuation Routes, Sheltering, Temporary and Long-Term Housing

Evacuation Routes

The primary roads and highways shown in Figure 4-1 are the evacuation routes for Livingston County. The route used depends on the location of the incident. The county assists with the coordination and communication of evacuation routing as necessitated by the execution of local municipal emergency operation plans. The jurisdictional annexes in Section 9 identify the local evacuation routes identified by each community.

Shelters

Due to the variable nature of hazard events and associated sheltering needs within the county, Livingston County relies on real-time outreach methods to inform the public of pending and active evacuations and available sheltering resources. Outreach methods include variable message sign boards, media (radio, television, newspapers), and social media.

With support and cooperation of the American Red Cross and local jurisdictions, the county maintains an inventory of suitable shelter locations and can assist with the coordination and communication of shelter availability, as necessitated by the execution of local municipal emergency operation plans. Shelters are listed in Table 4-7.

Table 4-7. Shelters in Livingston County

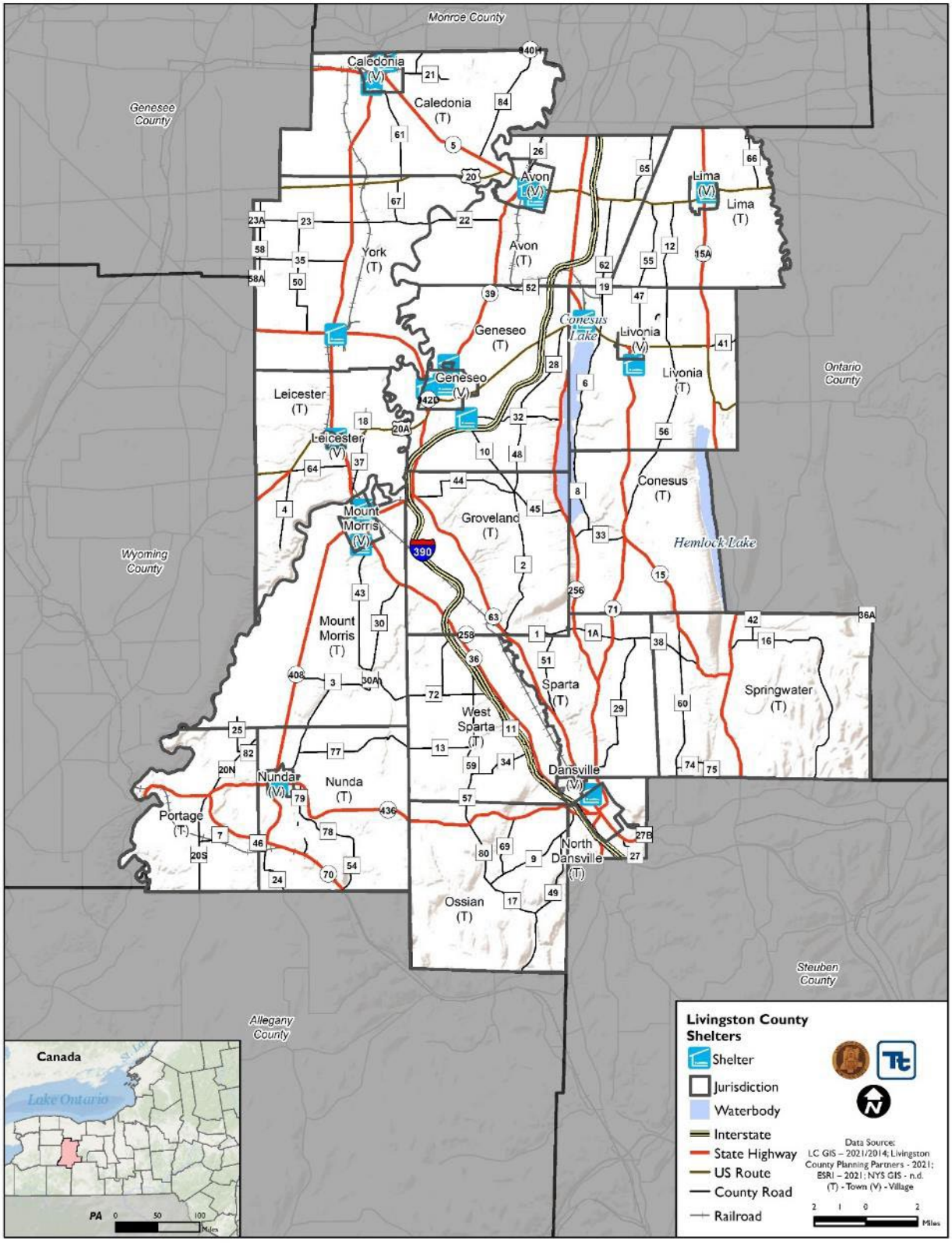
Site Name	Address	Jurisdiction	Capacity	Accommodate Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided	Identified by:
Avon Central School	161-245 Clinton St.	Avon (V)	350	-	-	Yes	-	-	County
Avon Village Hall	74 Genesee St.	Avon (V)	50	-	-	Yes	-	-	County
Caledonia Mumford Central School	99 Main St.	Caledonia (V)	162	-	-	Yes	-	-	County
Dansville Central School	280-284 Main St.	Dansville (V)	250	-	-	No	-	-	County
Genesee Country Christian School	4120 Long Point Rd.	Geneseo (T)	50	-	-	No	-	-	County
Geneseo Central School	4050 Avon Rd.	Geneseo (V)	350	-	-	Yes	-	-	County
Keshequa Central School	15 Mill St.	Nunda (V)	100	-	-	Yes	-	-	County
Lakeville Fire Department	5822 Stone Hill Rd.	Livonia (T)	200	-	-	No	-	-	County
Leicester, Village of, building	52 South Parkway	Leicester (V)	50	-	-	No	-	-	County
Honeoye Falls-Lima Elementary School	7342 College St.	Lima (V)	385	-	-	No	-	-	County
Livonia Central School	2 Bulldog Blvd.	Livonia (T)	300	-	-	No	-	-	County
Mount Morris Central School	30 Bonadonna Ave.	Mount Morris (V)	250	-	-	Yes	-	-	County
York Central School	2578 Genesee St.	York (T)	400	-	-	No	-	-	County

Site Name	Address	Jurisdiction	Capacity	Accommodate Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided	Identified by:
Genesee Valley Educational Partnership - BOCES	27 Lackawanna Ave.	Mount Morris (V)	100	-	-	No	-	-	County
NYS Armory	34&40 Avon Rd.	Geneseo (V)	300	-	-	yes	-	-	County
JW Jones Hall Caledonia Fire Department	354 Leicester St.	Caledonia (V)	-	-	-	No	-	-	County
State University of New York at Geneseo	Route 63	Geneseo (V)	-	-	-	No	-	-	County

Note: - Unavailable

Figure 4-10 displays the shelters throughout the county. Each municipality's capability assessment in Section 9, Jurisdictional Annexes, includes further information on evacuation, sheltering, temporary, and long-term housing provisions within Livingston County.

Figure 4-10. Shelters in Livingston County



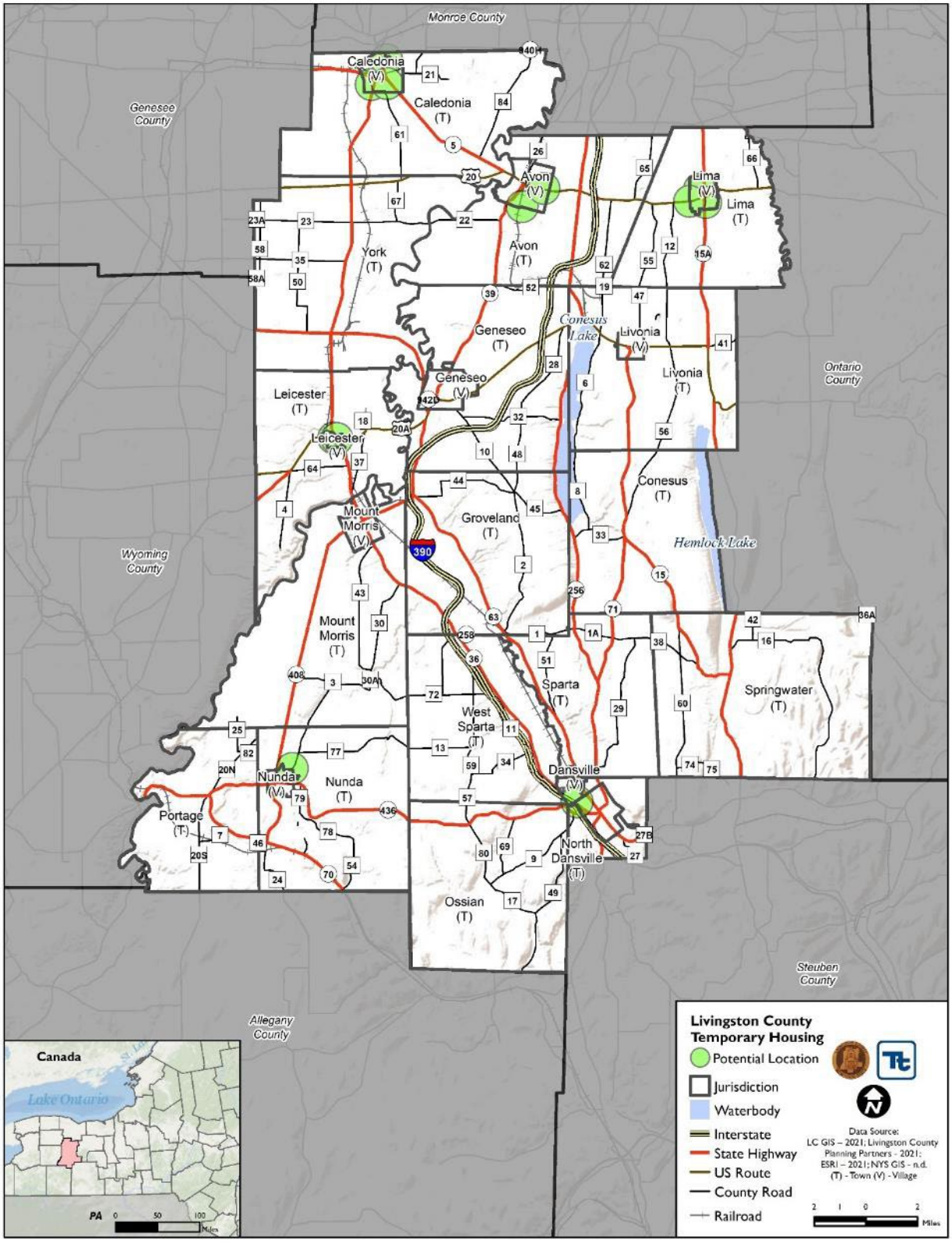
Temporary Housing

In order to identify potential sites for temporary housing and relocation, each municipality provided possible locations suitable for the placement of temporary housing for residents displaced by disaster, including sites to accommodate relocation of houses out of the floodplain or for the construction of new replacement developments. In addition, farming fields, parks, and rural locations could be used for space for temporary housing though proper utility access would need to be addressed. Campgrounds may be able to be utilized for temporary housing as well and are more likely to have access to utilities than other open space locations. Capacity of campgrounds would be dependent on time of year and available vacancies in campsites. These locations are indicated in Table 4-8 and illustrated on the map in Figure 4-11.

Table 4-8. Potential Temporary Housing Locations in Livingston County

Site Name	Address	Jurisdiction	Infrastructure / Utilities Available	Capacity	Type
Village Parking	746 Genesee St	Village of Avon	Water, electric	5	Parking lot
Tops Parking	600 Dream Valley	Village of Avon	None	3	Parking lot
Jones Hall	366 Leicester Rd	Village of Caledonia	Yes	Unsure	Building
Caledonia Mumford School	99 North Street	Village of Caledonia	Yes	Unsure	Building
One Technology	1 Technology Place	Village of Caledonia	Yes	Unsure	Parking Lot
Village Park	25 South Parkway	Village of Leicester	Water, electric	25	Park
Scorsone Property	Route 36/Market St	Village of Leicester	Water, electric (but no hookup)	50	Vacant land
Elim Bible Institute	7245 College St	Town of Lima	Parking lots, thousands of square feet of auditorium space, water, electric, septic	100	
St. Rose Church	1985 Lake Ave	Town of Lima	Parking lots and back lawn areas	10	
Lima Farms	7042 West Main St	Town of Lima	Water, sewer, electric	18	Manufactured or mobile homes
Dansville Airport	176 Franklin St	Town of North Dansville	Yes	57 acres	Airport
Creek Rd Mobile Park	Creek Road	Town of Nunda	Water, septic	20-25	Mobile homes

Figure 4-11. Potential Temporary Housing Locations in Livingston County



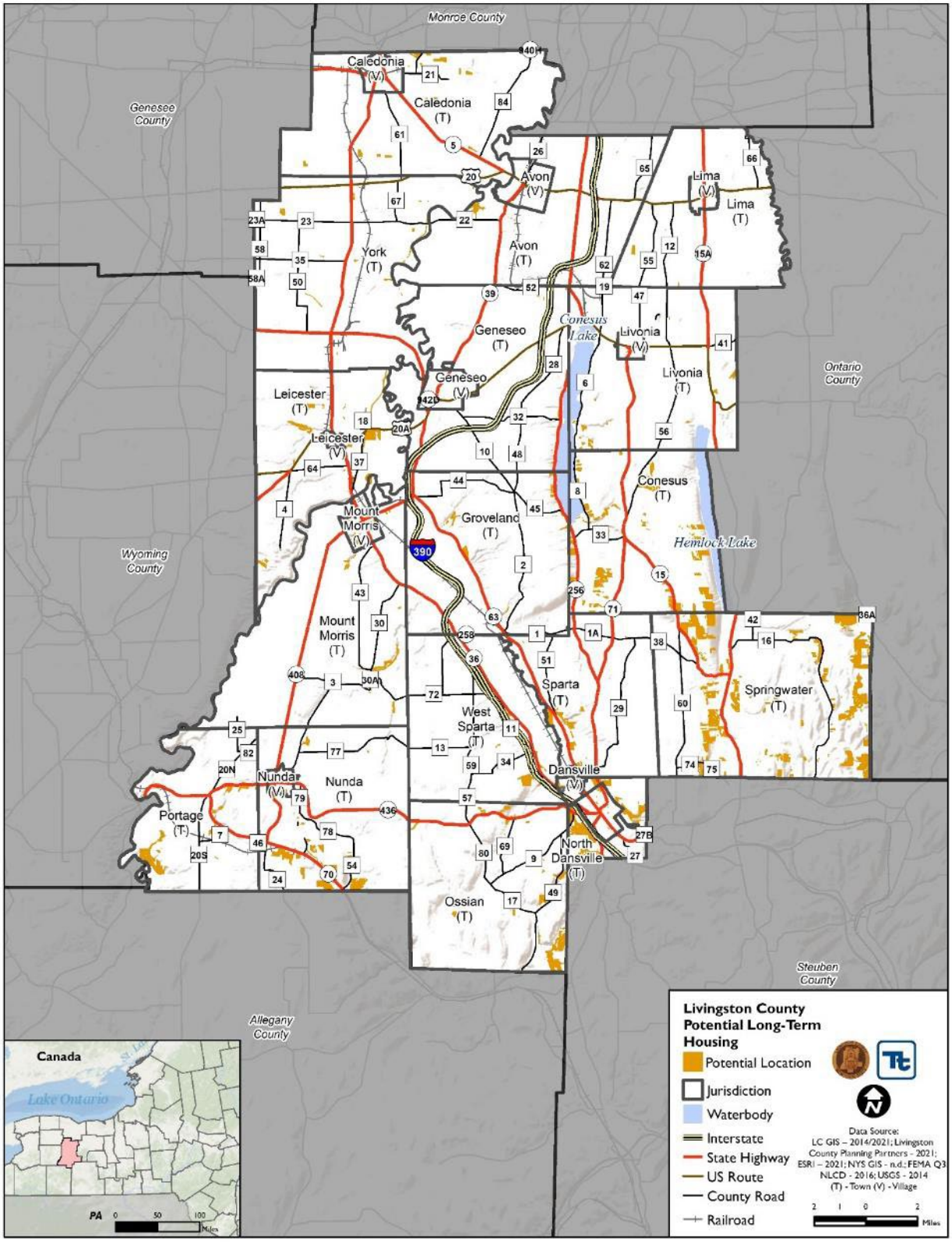
Long-Term Housing

A buildable block analysis was conducted to support identification of potential sites suitable for relocating houses out of hazard areas (i.e., the floodplain) or building new homes in the event structures are destroyed by a natural hazard event. The analysis identified potential areas for post-disaster development in accordance with the 2017 NYS DHSES Hazard Mitigation Planning Standards Guide requirement "to identify long-term housing options for relocating displaced residents to maintain post-disaster social and economic stability." The analysis provides an indication of vacant land suitable for development. In this case, vacant land is defined as a block that is classified as vacant and is located outside the following hazard areas:

1. FEMA floodplain (1- and 0.2-percent annual chance flood)
2. Wetlands (National Wetlands Inventory; National Land Cover Database)
3. Land that has steep slopes (>15-percent gradient) without consideration of ownership or availability

Figure 4-12 provides potential long-term housing locations in Livingston County. Developable land displayed on the figure represents the portion of each identified vacant block with greater than 50 percent of their land area outside the three above hazard areas.

Figure 4-12. Potential Long-Term Housing Locations in Livingston County, New York



4.6 CRITICAL FACILITIES

Critical facilities and infrastructure are those that are essential to the health and welfare of the population. These become especially important after any hazard event. Critical facilities are typically defined to include police and fire stations, schools, and emergency operations centers. Critical infrastructure can include the roads and bridges that provide ingress and egress and allow emergency vehicles access to those in need and the utilities that provide water, electricity, and communication services to the community.

Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

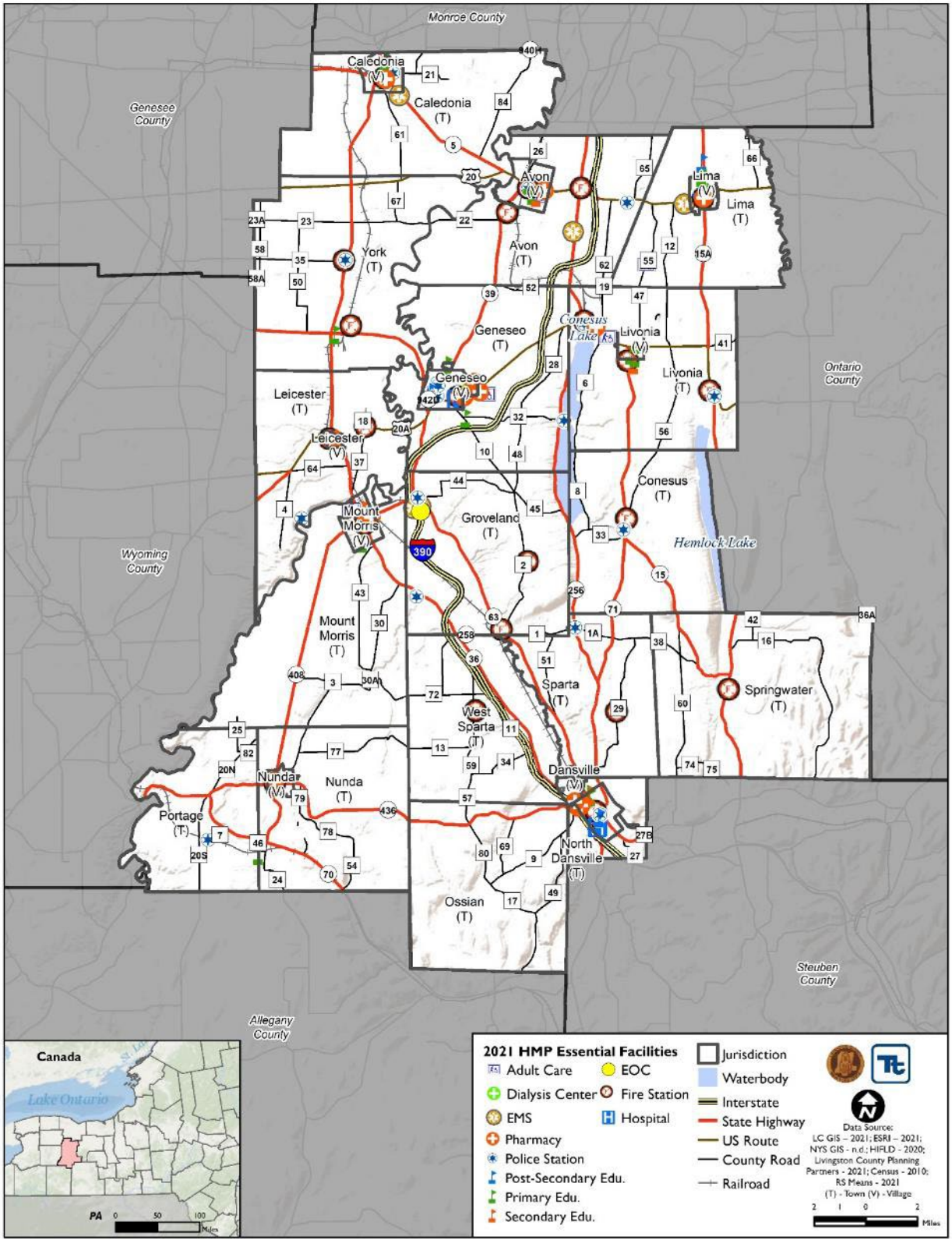
Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the county risk assessment, this category was defined to include police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

A comprehensive inventory of critical facilities in Livingston County was developed from various sources, including input from the Planning Committees. The inventory of critical facilities presented in this section represents the current status of this effort at the time of the HMP publication, and the inventory was used for the risk assessment provided in Section 5, Risk Assessment. When the analysis determined a jurisdiction contained critical facilities within the 1-percent and 0.2-percent annual chance floodplain, or they were at risk from flood damage, mitigation actions were developed to reduce the risk to these facilities. Each relevant jurisdictional annex contains information on critical facility loss estimates, and where appropriate, includes mitigation actions for critical facilities in the floodplain or other hazard areas. A detailed lists of the critical facilities in Appendix E, Critical Facilities.

4.6.1 Essential Facilities

This section provides information on emergency facilities, hospitals, and medical facilities, schools, shelters, and senior care and living facilities. For the purposes of this plan, emergency facilities include police, fire, emergency medical services (EMS), and emergency operations centers (EOC). Figure 4-13 displays the location of the essential facilities in Livingston County.

Figure 4-13. Essential Facilities in Livingston County



Emergency Facilities

The Livingston County Office of Emergency Management (OEM) is responsible for coordinating the county's emergency services and emergency planning. The OEM coordinates with county and local emergency responders so that the county is prepared to respond to and recover from all natural and man-made emergencies. The OEM reduces loss of life and property through an all-hazards emergency management program of mitigation, preparedness, response, and recovery throughout Livingston County. OEM serves as the focal point for the coordination and liaison between local, state, and federal governments in response to and recovery from major emergencies and disasters.

The OEM provides for volunteer fire and EMS training and serves in an administrative and management capacity for all county emergency services. The OEM maintains all emergency plans and actively manages a number of federal preparedness grants.

There are 22 fire stations and 12 emergency medical service providers in Livingston County.

Police enforcement and public safety are maintained by the New York State Police (NYSP), Livingston County Sheriff's Department, and local town and village police departments. The Livingston County Sheriff's Office is located in Geneseo and is responsible for operations at the Livingston County Jail as well as operating the 911 Emergency Communications Center. The center can dispatch the Sheriff's Office, Avon, Caledonia, Geneseo, Mt. Morris, Nunda, and Dansville Police Departments, the New York State Police, New York State Park Police, and the State University Police at SUNY-Geneseo. There is a New York State Police facility on Groveland Station Road in the Town of Groveland.

Law enforcement is also provided by a regional ranger and forest ranger with the New York State Department of Environmental Conservation (NYSDEC), Division of Lands and Forest.

Livingston County residents can receive medical care at the Noyes Health facilities in Dansville and Geneseo. Other EMS locations are in the Towns of Avon, Caledonia, Groveland, Leicester, Lima, Livonia, and York, and the Villages of Dansville, Geneseo, Mount Morris, and Nunda. Emergency medical services are coordinated by the Livingston County Department of Emergency Medical Services, which integrates nine transporting ambulance services, seven fire department first response agencies, four advanced life support services, three air medical agencies, and the SUNY Geneseo First Response Agency.

Schools

Livingston County is home to 24 primary and secondary education facilities and has four post-secondary education institutions. In times of need, schools can function as shelters and are an important resource for the community. For information regarding shelters, see the Shelters subsection above.

Senior Care and Living Facilities

Livingston County has five senior care facilities. The 2015-2019 American Community Survey 5-Year Estimates identified 10,929 people over the age of 65 living within Livingston County. The Livingston County Office of the Aging develops and administers county services directed toward older residents, including direct services such as respite for caregivers, meals on wheels, and case management; coordinating with the State Department of Health and the State Office for the Aging; administering state, federal, and local funds within programs targeted toward older residents; connecting residents with healthcare providers; guiding residents through the process of applying for and managing Medicaid, Medicare, and long-term health insurance; and designing and administering educational programs for older adults and their caregivers.

4.6.2 Transportation Systems

Livingston County is located 10 minutes south of the New York State Thruway I-90 on I-390, western New York State's only north-south expressway. According to the New York State Department of Transportation (NYS DOT) Highway Data Services Highway Mileage Report (2017), the county has 1,363.7 miles of roadway. Of the total roadway miles in Livingston County, 268.7 miles are State-owned roadways, 242.5 miles are county roadways, and 1,074.5 miles are local roadways (NYS DOT 2017).

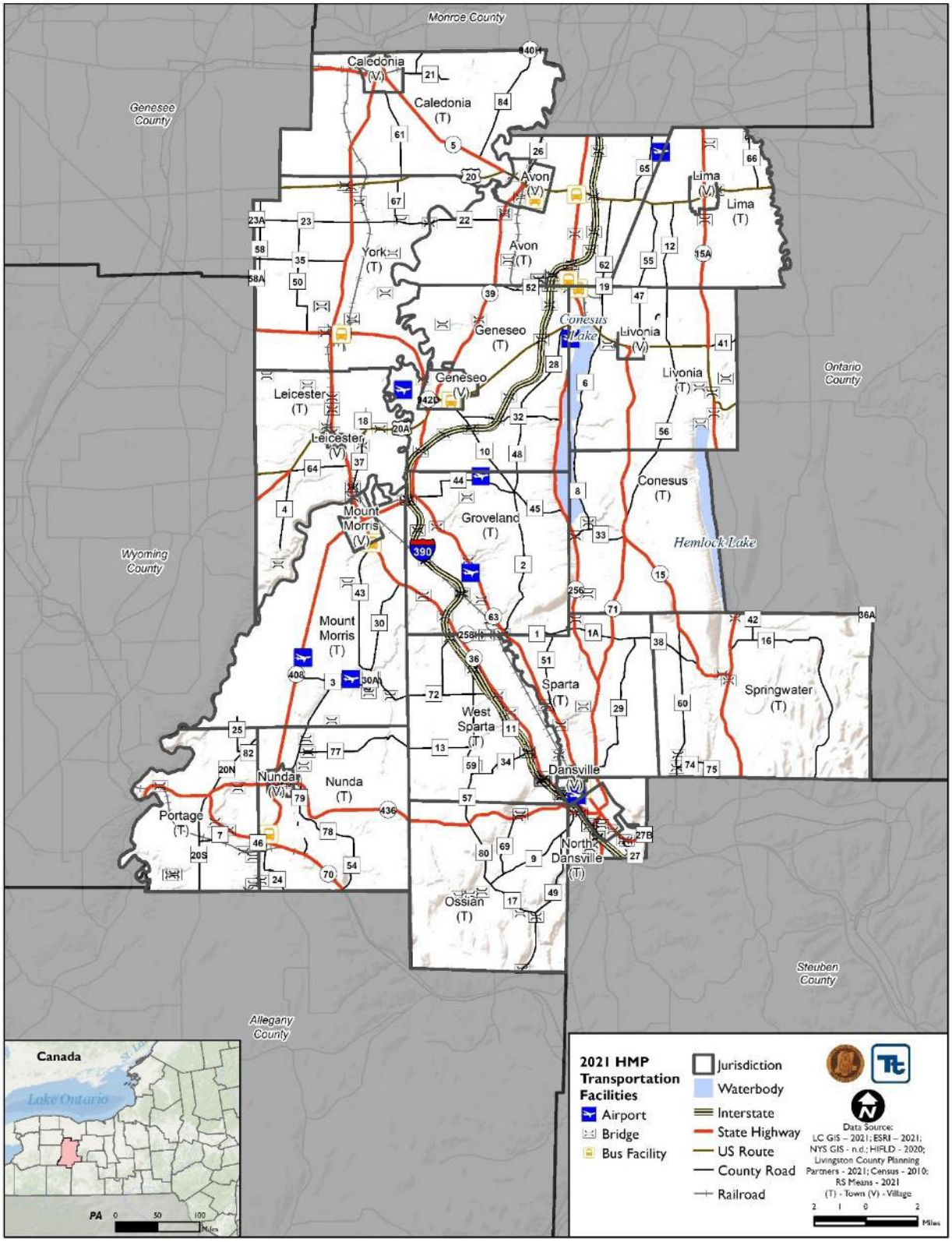
Livingston County's road and bridge infrastructure consists of 243 miles of highway and 72 bridges. The county Highway Department is responsible for maintaining and repairing the county's road and bridge infrastructure.

I-390 (the Genesee Expressway) is a limited access highway that connects with I-90, the New York State Thruway in Monroe County to the north, and with I-86/NYS Route 17 (the Southern Tier Expressway) to the south. I-390 serves commuters and is a major component of the regional freight movement network. Approximately 72 miles of I-390 is in Livingston County (Livingston County Planning Department 2013).

Interchanges are located at U.S. Route 20/NYS Route 5 (Exit 10) and NYS Route 15 (Exit 9) in the Town of Avon, NYS Route 20A (Exit 8) in the Town of Geneseo, NYS Route 63/NYS Route 408 (Exit 7) in the Town of Mount Morris, and NYS Route 36 in the Towns of Groveland (Exit 6) and North Dansville (Exits 4 and 5) (Livingston County Planning Department 2013).

The streets and highways of Livingston County are maintained by the various levels of municipal government, including the New York State Department of Transportation and Livingston County Highway Department, Forestry, and Parks. Tertiary roads and streets are maintained by the individual towns or villages. NYSDEC is responsible for roads within state forest lands. Major transportation routes and railways are illustrated on Figure 4-14.

Figure 4-14. Major Transportation Routes and Railways in Livingston County



Bus and Other Transit Facilities

The Livingston Area Transportation Service (LATS) is a subsidiary of the Rochester-Genesee Regional Transit Authority (RGRTA). LATS provides public transit service within Livingston County and has installed shelters at key locations in villages and at public service offices throughout the county. LATS operates nine fixed routes throughout the county including a medical shuttle into Rochester. Some of the routes are customized for SUNY Geneseo, the Arc of Livingston/Wyoming Counties, Livingston County Office for the Aging, and other organizations (Livingston County Planning Department 2013).

Dial-A-Ride service is available in Avon, Dansville, and Mount Morris Monday through Friday, and between all other communities in the county on specific days of the week. Dial-A-Ride service requires calling 24 hours in advance to reserve a pickup. Fare is $2.00 on the fixed routes. The Dial-A-Ride fare within a community is $1.00, and between communities is $2.00. LATS also operates complementary American with Disabilities Act (ADA)-compliant paratransit service during the hours that LATS fixed routes are in operation (Livingston County Planning Department 2013).

Railroad Facilities

The two active short line railroads in Livingston County are (1) Genesee and Wyoming Inc. (G&W) and (2) Livonia, Avon & Lakeville Railroad Corporation (LAL). Both provide direct interconnections with four Class I railroads: Norfolk Southern (NS), CSX Transportation (CSX), Canadian National (CN), and Canadian Pacific (CP) mainline railroad (Livingston County Planning Department 2014). Approximately 10.6 miles of the Norfolk Southern is located in the Towns of Portage and Nunda in Livingston County. Three short-line railroads operate in Livingston County. They connect to main line tracks through interchanges with CSX located in Rochester and with Norfolk Southern at Silver Spring (Livingston County Planning Department 2013).

LAL operates on 11.5 miles of single track that pass through the Towns of Livonia and Avon. This short line interchanges with CSX Transportation at Genesee Junction, with the Rochester and Southern Railroad (RSR) at Brooks Avenue Yard in Rochester, and with NS and CP along the Southern Tier Line at Silver Springs via trackage rights over RSR. Sidings in the Hamlet of Lakeville and the Village of Avon support the transport of commodities including dry bulk fertilizer, sweeteners, grain, and lumber. LAL operates the Lakeville Yard bulk transfer facility. LAL handles 440,000 tons of freight in 2,744 carloads annually (Livingston County Planning Department 2013).

G&W operates on 34.2 miles of single track in the Towns of Caledonia, York, Leicester, Mount Morris, Groveland, West Sparta, Sparta, and North Dansville. RSR, which was acquired by G&W, Inc. in 1986, operates on 3.3 miles of single track in the Town of Caledonia. Commodities transported on the G&W and RSR include aggregates, brick and cement, chemicals, coal, food and feed products, forest products, and steel and scrap metals. G&W and RSR carry 2.8 million tons of freight in more than 18,700 carloads annually (Livingston County Planning Department 2013).

Airports

Airports in Livingston County fall into two categories: public airports and private airports. Public airports include large commercial airports for major airplane carriers that are open to the public. Private airports are often used for small charter flights and private jests and airplanes. Military airports and restricted land zones are also identified as private airports. In Livingston County, there are two public airports and six private airports, listed in Table 4-9.

Table 4-9. Airports in Livingston County

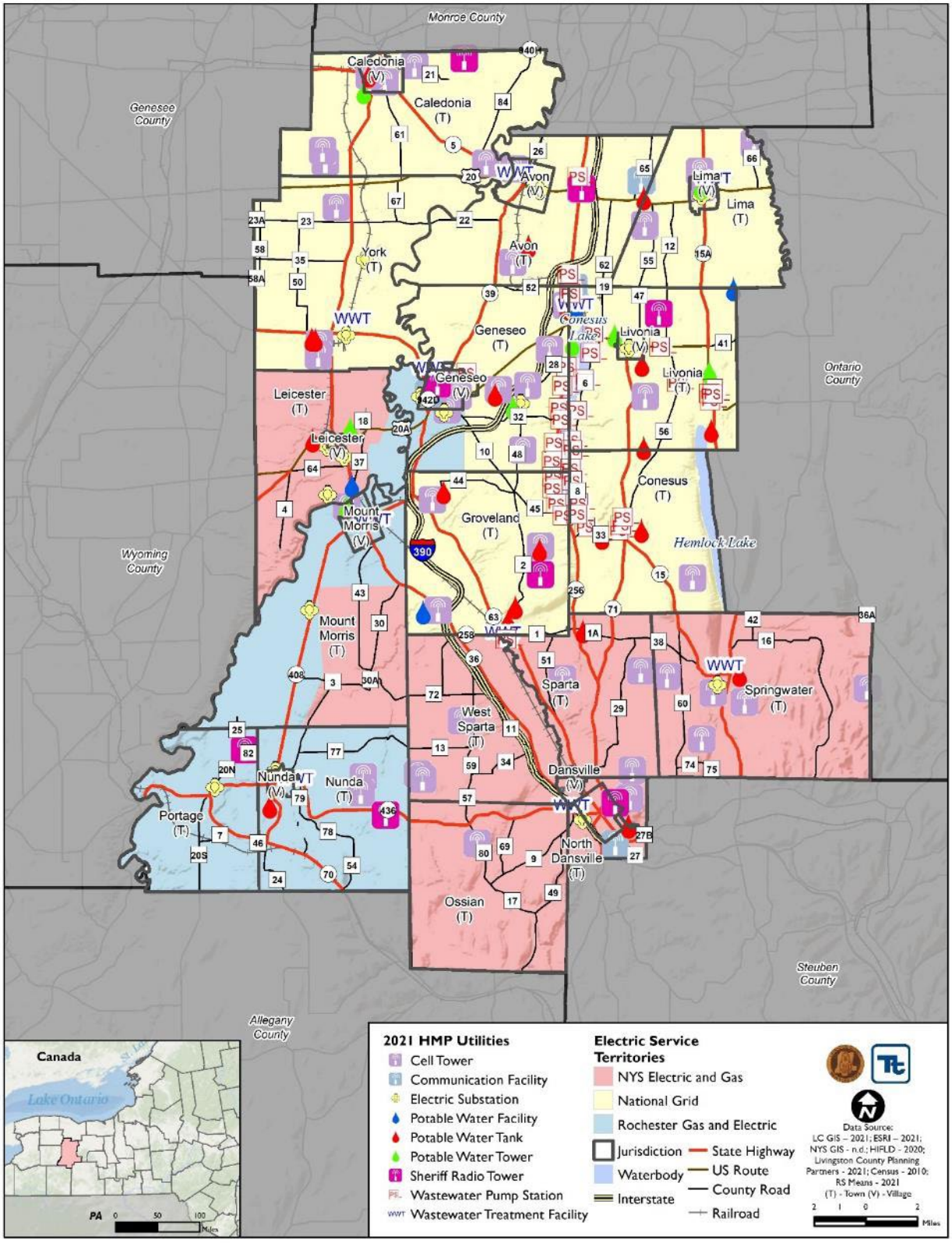
Airport Name	Municipality	Facility Usage
Dansville Municipal Airport	Town of North Dansville	Public
Geneseo Airport	Town of Geneseo	Public
Seven Gullies Airport	Town of Groveland	Private
Bedsons Land Base Airport	Town of Lima	Private
Lakeville Airport	Town of Lakeville	Private
Scotts Sky Ranch Airport	Town of Mount Morris	Private

Regional airports within the vicinity of Livingston County include the Greater Rochester International Airport, Buffalo Niagara International Airport, Elmira Corning Regional Airport, and Syracuse Hancock International Airport (Livingston County Planning Department 2014).

4.6.3 Lifeline Utility Systems

This section presents data and information on potable water, wastewater, energy resources, and communication utility systems. Because of heightened security concerns, only partial local utility lifeline data needed to complete the analysis have been obtained. Figure 4-15 shows the locations of the facilities for these various lifeline utility systems.

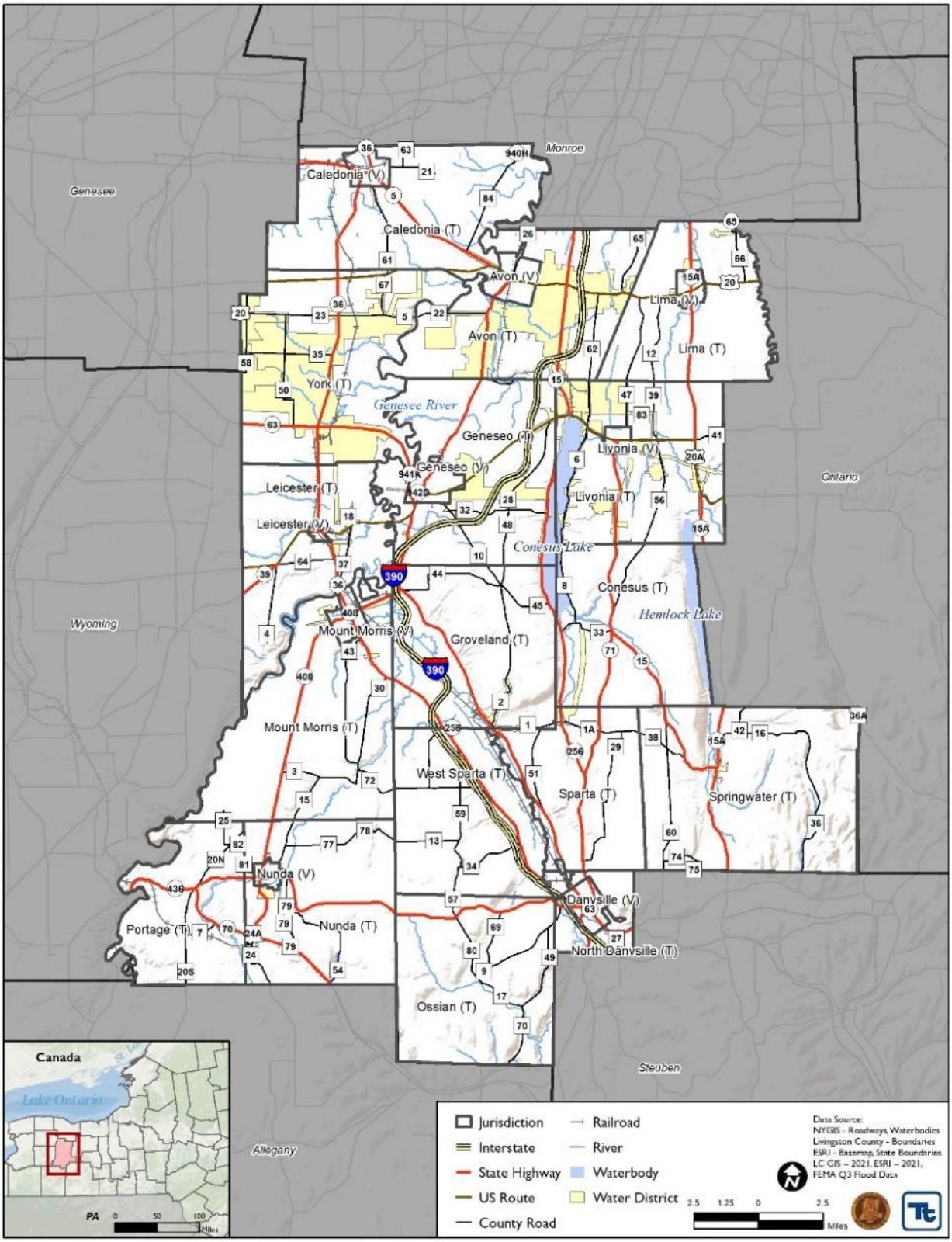
Figure 4-15. Utility Lifelines in Livingston County



Potable Water

Public water service is available in all county villages and parts of most towns. Conesus Lake, Silver Lake, Hemlock Lake, and reservoir impoundments are the principal supply sources (Livingston County 2014). Potable water supply resources in Livingston County are identified in Appendix E. Because the water towers rely on gravity to dispense water, they do not need a backup power supply. Water service areas (i.e., water districts) are shown in Figure 4-16.

Figure 4-16. Water Districts in Livingston County



Wastewater Facilities

Public sewer service is available in the Villages of Avon, Lima, Geneseo, Mount Morris, Nunda, and Dansville. Additional sewer and water service is provided to all population centers and travel corridors through the Livingston County Water and Sewer Authority (WSA). Water and sewer distributions and collections systems in Livingston County have adequate capacity to meet present and future needs (Livingston County 2014). Wastewater facilities in Livingston County are identified in Appendix E.

Energy Resources

Electric service to the county is provided by several investor-owned utility companies. National Grid provides electrical service in the northern half of the county. New York State Electric and Gas Corporation (NYSEG) provides electricity and natural gas in the southern half of the county. Rochester Gas and Electric Corporation (RG&E) provides natural gas in the northern and western parts of the county, and electricity in the southwest corner of the county.

Communications

The Rochester area is one of the largest telecommunications centers in the United States due to the original pioneering efforts in this area developed by Frontier Communications and Global Crossings. Accordingly, the area is a frame-relay network hub offering international transmission coverage (Livingston County 2014).

Frontier is the incumbent local exchange carrier for all of Livingston County. They are a provider of local, data, and Internet services for the business community. Spectrum is the predominant cable provider. In addition, satellite service is readily available.

Radio service in the county is provided by WBEE, WHAM, WYSL, WGSU, and WDNY Stations. WHAM is an emergency alert station. All stations are broadcast out of Livingston County, with the exception of WBEE and WHAM, which are broadcast out of Rochester.

4.6.4 High-Potential Loss Facilities

High-potential loss facilities include dams, levees, hazardous materials (HAZMAT) facilities, nuclear power plants, and military installations. Dams are discussed below. Figure 4-17 shows the locations of the high-potential loss facilities in the county.

Military Installations

The Geneseo Armory is the only military facility located in Livingston County. The 108th Infantry from the National Guard reports to this location.

HAZMAT Facilities

A Superfund site consists of land in the United States that has been contaminated by hazardous waste and identified by the U.S. Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. These sites are placed on the National Priorities List (NPL). The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

Abandoned hazardous waste sites placed on the federal NPL include those that the EPA has determined present "a significant risk to human health or the environment," with the sites being eligible for remediation under the Superfund Trust Fund Program. As of August 2021, Livingston County has no hazardous sites in the federal Superfund Program that are listed on the NPL (CERCLIS 2021).

Superfund sites are contaminated locations requiring a long-term response to clean up hazardous materials; NPL sites are included. The EPA Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) (Superfund) Public Access Database (CPAD) reports that there are currently no archived Superfund sites located in Livingston County (CERCLIS 2021). An archived Superfund site is one that has no further interest under the federal Superfund Program based on available information and is no longer part of the CERCLIS inventory.

In addition to the hazardous waste sites, there are approximately 56 hazardous facilities in Livingston County cataloged by the NYSDEC's Bulk Storage Program Database. The Bulk Storage Program includes three types of facilities: Petroleum Bulk Storage (PBS), Major Oil Storage Facilities (MOSF), and Chemical Bulk Storage (CBS). Registration with NYSDEC is mandatory for all PBS facilities with a total storage capacity of 1,100 gallons or more; all CBS underground tanks and all stationary aboveground tanks with a capacity of 185 gallons or more; and all MOSF sites storing more than 400,000 gallons of petroleum products. As of September 2020, 50 sites are listed in the NYSDEC's Bulk Storage Program Database in Livingston County, New York (NYSDEC 2021).

EPA identifies six facilities under the Toxic Release Inventory (TRI). These facilities are required to annually report how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on and off site (EPA 2021).

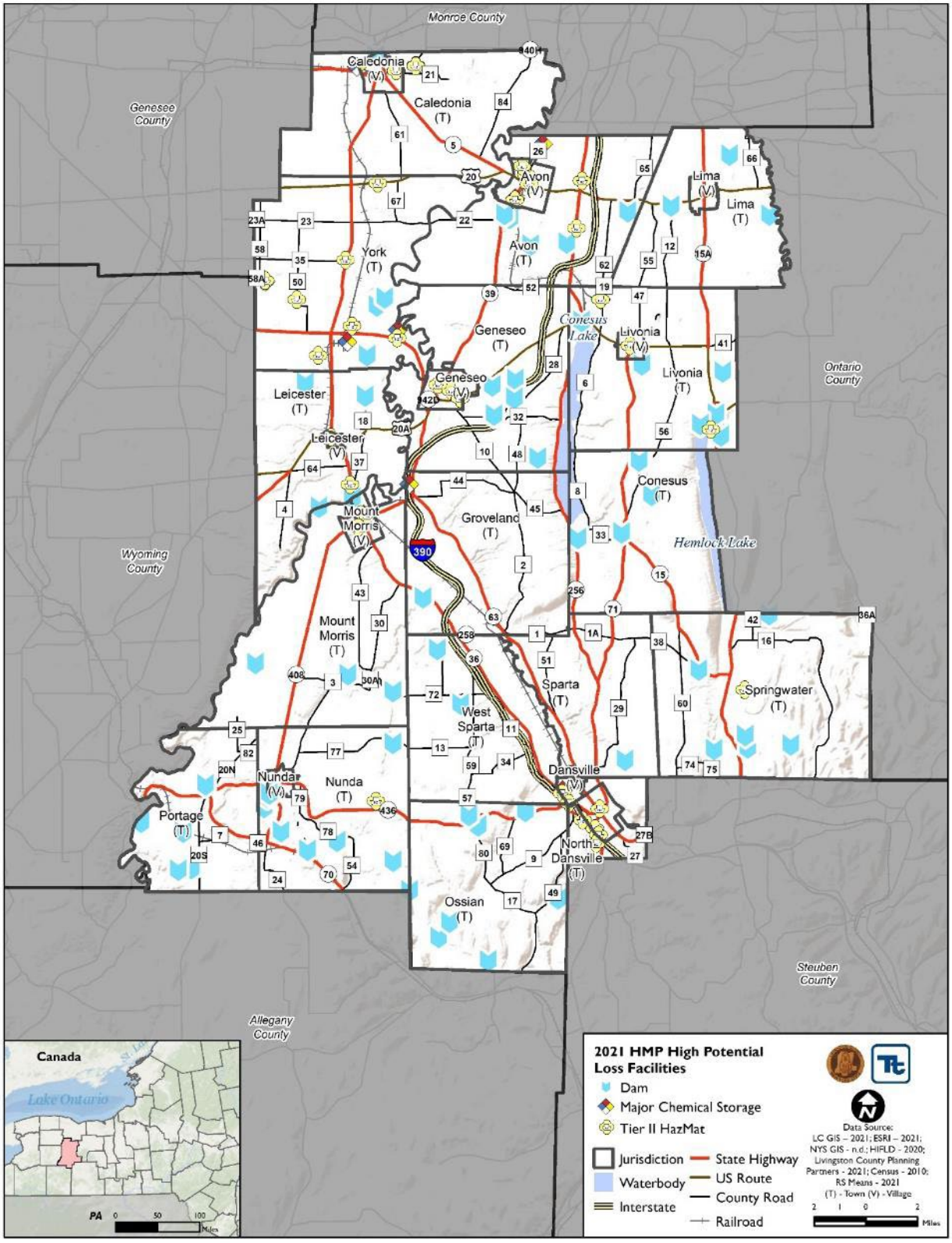
Dams and Levees

According to the NYSDEC Division of Water Bureau and Flood Protection and Dam Safety, there are three hazard classifications of dams in New York State. The dams are classified in terms of potential for downstream damage if the dam were to fail. The hazard classifications are as follows:

- *Low Hazard (Class A)* is a dam located in an area where failure will damage nothing more than isolated buildings, undeveloped lands, or township or county roads and/or will cause no significant economic loss or serious environmental damage. Failure or operation problems would result in no probable loss of human life. Losses are principally limited to the owner's property.
- *Intermediate Hazard (Class B)* is a dam located in an area where failure may damage isolated homes, main highways, and minor railroads; interrupt the use of relatively important public utilities; and will cause significant economic loss or serious environmental damage. Failure or operation problems would result in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. Class B dams are often located in predominantly rural or agricultural areas but may also be located in areas with population and significant infrastructure.
- *High Hazard (Class C)* is a dam located in an area where failure may cause loss of human life; serious damage to homes, industrial, or commercial buildings; important public utilities; main highways or railroads; and will cause extensive economic loss. This is a downstream hazard classification for dams in which excessive economic loss (urban area including extensive community, industry, agriculture, or outstanding natural resources) would occur as a direct result of dam failure.

According to the U.S. Army Corps of Engineers (USACE) National Inventory of Dams (NID) and the National Performance of Dam Programs (NPDP), 13 dams are located within Livingston County (with two listed as high hazard, five listed as significant hazard, six listed as low hazard, and none listed as unknown hazard). For the purpose of this plan, the NYSDEC data from the New York State GIS Clearinghouse will be used. According to GIS data, there are 69 dams located in Livingston County. According to the National Levee Database maintained by USACE, there are no levees in Livingston County (USACE 2021). Appendix F lists the names and locations of the dams and levees found in the county.

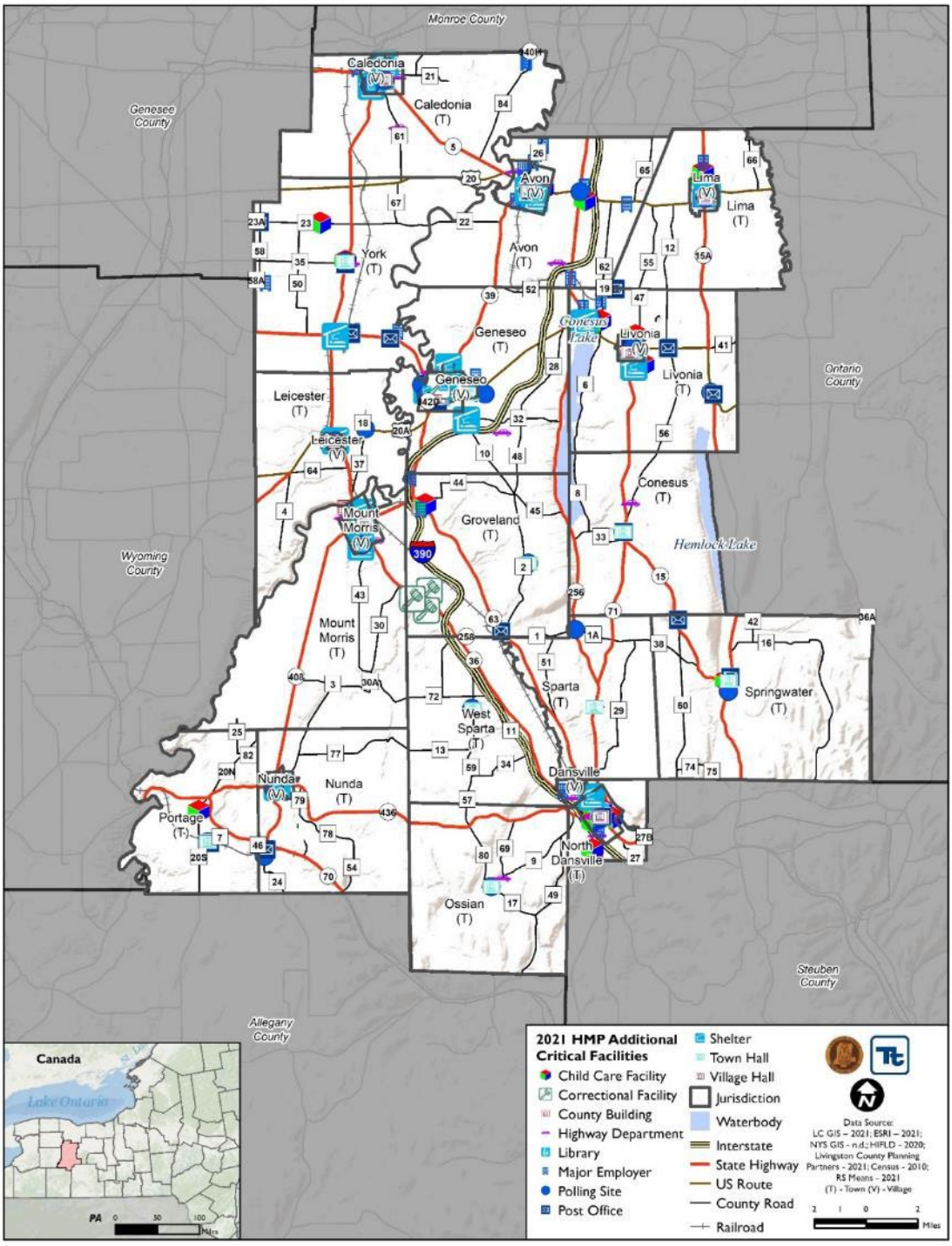
Figure 4-17. High-Potential Loss Facilities in Livingston County



4.6.5 Other Facilities

The Planning Partnership has also identified additional facilities (user-defined facilities) as critical facilities. Some of these additional facilities fall under categories previously defined above as well as under other critical categories. These facilities were included in the risk assessment conducted for the county. Figure 4-18 shows the locations and types of these facilities in the county.

Figure 4-18. Other Facilities in Livingston County



5.1 Methodology and Tools

A risk assessment is the process of measuring the potential loss of life, personal injury, and economic and property damage resulting from identified hazards. Identifying potential hazards and vulnerable assets allows planning personnel to address and reduce hazard impacts and emergency management personnel to establish early response priorities. Results of the risk assessment are used in subsequent mitigation planning processes, including determining and prioritizing mitigation actions that reduce each jurisdiction's risk to a specified hazard. Past, present, and future conditions must be evaluated to most accurately assess risk for the county and each jurisdiction. The process focuses on the following elements:

- **Hazard identification**—Use all available information to determine what types of hazards may affect a jurisdiction.
- **Profile each hazard**—Understand each hazard in terms of:
  - Extent—Severity of each hazard.
  - Location—Geographic area most affected by the hazard.
  - Previous occurrences and losses
- **Assess Vulnerability –**
  - Exposure identification—Estimate the total number of assets in the jurisdiction that are likely to experience a hazard event if it occurs by overlaying hazard maps with the asset inventories.
  - Vulnerability identification and loss estimation—Assess the impact of hazard events on the people, property, economy, and lands of the region, including estimates of the cost of potential damage or cost that can be avoided by mitigation.
  - Future changes that may impact vulnerability—Analyze how demographic changes, projected development and climate change impacts can alter current exposure and vulnerability.

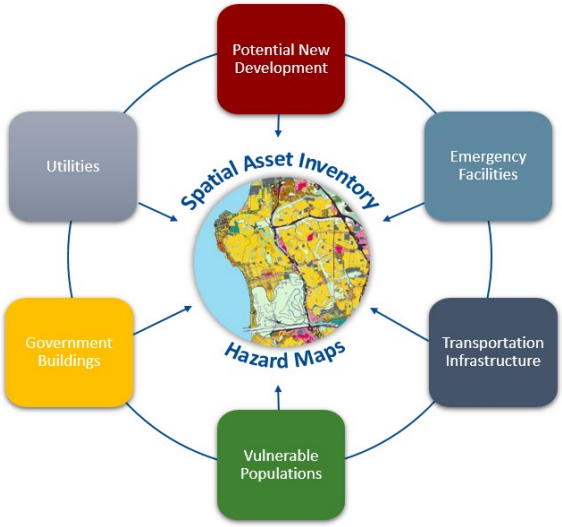
The Livingston County risk assessment was updated using best available information.

- An updated building stock inventory was created using Livingston County's 2020 tax assessor and parcel data, 2018 Microsoft Bing building footprints, and 2021 RS Means values.
- 2015-2019 American Community Survey 5-year Population Estimates were utilized.
- A critical facility was generated and reviewed by the Planning Partnership and County jurisdictions.
- Lifelines were identified in the critical facility inventory to align with FEMA's lifeline definition.
- Hazus was used to estimate potential impacts to the flood, wind, and seismic hazards.
- Best available hazard data was used as described in this section.

The following summarizes the asset inventories, methodology and tools used to support the risk assessment process.

5.1.1 Asset Inventories

Livingston County assets were identified to assess potential exposure and loss associated with the hazards of concern. For the HMP update, Livingston County assessed exposure and vulnerability of the following types of assets: population, buildings and critical facilities/infrastructure, new development, and the environment. Some assets may be more vulnerable because of their physical characteristics or socioeconomic uses. To protect individual privacy and the security of critical facilities, information on properties assessed is presented in aggregate, without details about specific individual personal or public properties.



The risk assessment included the collection and use of an expanded and enhanced asset inventory to estimate hazard exposure and vulnerability.

Population

Total population statistics from the 2015-2019 American Community Survey (ACS) 5-year estimate were used to estimate the exposure and potential impacts to the County's population in place of the 2010 U.S. Census block estimates. To determine population statistics for village and towns, the population of villages was subtracted from the total town population.

Population counts at the jurisdictional level were averaged among the residential structures in the County to estimate the population at the structure level. This estimate is a more precise distribution of population across the County compared to only using the Census block or Census tract boundaries. Limitations of these analyses are recognized, and thus the results are used only to provide a general estimate for planning purposes.

As discussed in Section 4 (County Profile), research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. Vulnerable populations in Livingston County included in the risk assessment are children, elderly, population below the poverty level, limited English speaking individuals, and persons non-institutionalized with a disability.

Buildings

The building stock inventory was updated using Livingston County's 2020 tax assessor and parcel data, 2018 Microsoft Bing building footprint, and supplemental NYS tax assessor data. The occupancy classes available in Hazus were condensed into the following categories (residential, commercial, industrial, agricultural, religious, governmental, and educational) to facilitate the analysis and the presentation of results. Residential loss estimates address both multi-family and single-family dwellings. Replacement cost value (RCV) is the current cost of returning an asset to its pre-damaged condition, using present-day cost of labor and materials. Total replacement cost value consists of both the structural cost to replace a building and the estimate value of contents of a building. Structural and content RCV were calculated for each building utilizing RS Means 2021 values. A regional location factor for Livingston County was applied (1.01 for residential buildings and 1.01 for all other building types).

Critical Facilities and Lifelines

The 2015 HMP critical facility inventory, which includes essential facilities, utilities, transportation features and user-defined facilities was updated by the Planning Partnership and County jurisdictions. The update involved a review for accuracy, additions or deletions of new/moved critical assets, identification of backup power for each asset (if known) and whether the critical facility is considered a lifeline in accordance with FEMA's definition; refer to Appendix E (Risk Assessment Supplementary Data). To protect individual privacy and the security of assets, information is presented in aggregate, without details about specific individual properties or facilities.

*A **lifeline** provides indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security (FEMA).*

Environment and Land Use Area

National land use land cover data created by the U.S. Geological Survey (USGS) in 2016 was used to assess land use characteristics of the County. This dataset was converted from a raster to a vector polygon, which informed spatial areas of agriculture, barren land, forested land, urban areas, water, and wetlands.

New Development

In addition to assessing the vulnerability of the built environment, Livingston County examined recent development over the last 5 years and anticipated new development in the next 5 years. Each jurisdiction was asked to provide a list by parcel ID or address of major development that has taken place within these timeframes.

New development was identified as 1) anticipated in the next five years and 2) recently developed over the last five years. An exposure analysis was conducted in Geographic Information System (GIS) to determine hazard exposure to these development sites.

Identifying these changes and integrating new development into the risk assessment provides communities information to consider when developing the mitigation strategy to reduce these vulnerabilities in the future (one tool in the Mitigation Toolbox discussed in Section 6 – Mitigation Strategy). The new development is listed in Section 4 (County Profile) and hazard exposure analysis results are presented in Section 9 (Jurisdictional Annexes) as a table in each annex.

5.1.2 Methodology

To address the requirements of the DMA 2000 and to better understand potential vulnerability and losses associated with hazards of concern, Livingston County used standardized tools, combined with local, state, and federal data and expertise to conduct the risk assessment. Three different levels of analysis were used depending upon the data available for each hazard as described below. Table 5.1-1 summarizes the type of analysis conducted by hazard of concern.

1. **Historic Occurrences and Qualitative Analysis** – This analysis includes an examination of historic impacts to understand potential impacts of future events of similar size. In addition, potential impacts and losses are discussed qualitatively using best available data and professional judgement.
2. **Exposure Assessment** – This analysis involves overlaying available spatial hazard layers, or hazards with defined extent and locations, with assets in GIS to determine which assets are located in the impact area of the hazard. The analysis highlights which assets are located in the hazard area and may incur future impacts.

3. **Loss estimation** — The FEMA Hazus modeling software was used to estimate potential losses for the following hazards: flood, earthquake, hurricane. In addition, an examination of historic impacts and an exposure assessment was conducted for these spatially-delineated hazards.

Table 5.1-1. Summary of Risk Assessment Analyses

Hazard	Population	General Building Stock	Critical Facilities	New Development
Drought	Q	Q	Q	Q
Earthquake	E, H	E, H	E, H	E
Flood	E, H	E, H	E, H	E
Hazardous Materials	E	E	E	E
Invasive Species	Q	Q	Q	Q
Landslide	E	E	E	E
Mine Subsidence	E	E	E	E
Pandemic	Q	Q	Q	Q
Severe Storm	Q	Q	Q	Q
Severe Winter Storm	Q	Q	Q	Q
Terrorism	Q	Q	Q	Q
Utility Failure	Q	Q	Q	Q
Wildfire	E	E	E	E

E – Exposure analysis; H – Hazus analysis; Q – Qualitative analysis

Hazards U.S. – Multi-Hazard (Hazus)

In 1997, FEMA developed a standardized model for estimating losses caused by earthquakes, known as Hazards U.S. or Hazus. Hazus was developed in response to the need for more effective national-, state-, and community-level planning and the need to identify areas that face the highest risk and potential for loss. Hazus was expanded into a multi-hazard methodology, Hazus with new models for estimating potential losses from wind (hurricanes) and flood (riverine) hazards. Hazus is a GIS-based software tool that applies engineering and scientific risk calculations, which have been developed by hazard and information technology experts, to provide defensible damage and loss estimates. These methodologies are accepted by FEMA and provide a consistent framework for assessing risk across a variety of hazards. The GIS framework also supports the evaluation of hazards and assessment of inventory and loss estimates for these hazards.

Hazus uses GIS technology to produce detailed maps and analytical reports that estimate a community's direct physical damage to building stock, critical facilities, transportation systems and utility systems. To generate this information, Hazus uses default data for inventory, vulnerability, and hazards; this default data can be supplemented with local data to provide a more refined analysis. Damage reports can include induced damage (inundation, fire, threats posed by hazardous materials and debris) and direct economic and social losses (casualties, shelter requirements, and economic impact) depending on the hazard and available local data. Hazus' open data architecture can be used to manage community GIS data in a central location. The use of this software also promotes consistency of data output now and in the future and standardization of data collection and storage. More information on Hazus is available at http://www.fema.gov/hazus.

In general, modeled losses were estimated in the program using depth grids for the flood analysis and probabilistic analyses were performed to develop expected/estimated distribution of losses (mean return period losses) for hurricane wind and seismic hazards. The probabilistic model generates estimated damages and losses for specified return periods (e.g., 100- and 500-year). Table 5.1-2 displays the various levels of analyses that can be conducted using the Hazus software.

Table 5.1-2. Summary of Hazus Analysis Levels

Hazus Analysis Levels	
Level 1	Hazus provides hazard and inventory data with minimal outside data collection or mapping.
Level 2	Analysis involves augmenting the Hazus provided hazard and inventory data with more recent or detailed data for the study region, referred to as "local data"
Level 3	Analysis involves adjusting the built-in loss estimation models used for the hazard loss analyses. This Level is typical done in conjunction with the use of local data.

Drought

All of Livingston County is at risk to drought events. To assess the vulnerability of Livingston County to drought and its associated impacts, a qualitative assessment was conducted. The United States Department of Agriculture (USDA) Census of Agriculture 2017 was used to estimate economic impacts. Information regarding the number of farms and farmland area was extracted from the report and summarized in the vulnerability assessment. Additional resources from New York State Energy Research and Development Authority, New York State's 2019 Hazard Mitigation Plan, New York State Division of Homeland Security & Emergency Services, and the U.S. Environmental Protection Agency were used to assess the potential impacts to the population from a drought event.

Earthquake

A probabilistic assessment was conducted for Livingston County for the 500-year mean return period (MRPs) through a Level 2 analysis in Hazus v5.0 to analyze the earthquake hazard and provide a range of loss estimates. The probabilistic method uses information from historic earthquakes and inferred faults, locations and magnitudes, and computes the probable ground shaking levels that may be experienced during a recurrence period by Census tract.

As noted in the Hazus Earthquake User Manual, "*Although the software offers users the opportunity to prepare comprehensive loss estimates, it should be recognized that uncertainties are inherent in any estimation methodology, even with state-of-the-art techniques. Any region or city studied will have an enormous variety of buildings and facilities of different sizes, shapes, and structural systems that have been constructed over a range of years under diverse seismic design codes. There are a variety of components that contribute to transportation and utility system damage estimations. These components can have differing seismic resistance.*" (FEMA 2020). However, Hazus' potential loss estimates are acceptable for the purposes of this HMP.

Ground shaking is the primary cause of earthquake damage to man-made structures and soft soils amplify ground shaking. One contributor to the site amplification is the velocity at which the rock or soil transmits shear waves (S-waves). The National Earthquake Hazard Reductions Program (NEHRP) has developed five soil classifications defined by their shear-wave velocity that impact the severity of an earthquake. The soil classification system ranges from A to E, where A represents hard rock that reduces ground motions from an earthquake and E represents soft soils that amplify and magnify ground shaking and increase building damage and losses. Class D and E NEHRP soils are the two classes most susceptible to amplified ground motion during an earthquake.

An exposure analysis was conducted for the County's assets (population, building stock, critical facilities, and new development) using NEHRP soil data provided by New York State and the national landslide susceptibility data where landslide susceptibility was listed as high susceptibility. The exposure analysis focused on soil types that would experience amplified ground motion during an earthquake (i.e., Class D and E). Assets with their centroid in the hazard areas were totaled to estimate the numbers and values vulnerable to these soil types.

Data from New York State was used in Hazus to replace default NEHRP soils. Groundwater was set at a depth of five (5) feet (default setting). The default assumption is a magnitude 7.0 earthquake for all return periods. Although damages are estimated at the census tract level, results were presented at the municipal level. Since there are multiple census tracts that contain more than one jurisdiction, an area analysis was used to extract the percent of each tract that falls within individual jurisdictions. The percentage was multiplied against the results calculated for each tract and summed for each jurisdiction.

Damage estimates are calculated for losses to buildings (structural and non-structural) and contents; structural losses include load carrying components of the structure, and non-structural losses include those to architectural, mechanical, and electrical components of the structure, such as nonbearing walls, veneer and finishes, HVAC systems, boils, etc.

Flood

The 1- and 0.2-percent annual chance flood events were examined to evaluate the County's risk from the flood hazard. These flood events are generally those considered by planners and evaluated under federal programs such as NFIP.

The depth grid generated for the 2015 HMP and flood data provided by the County was used to evaluate exposure and determine potential future losses for this plan update. The depth grid generated in the 2015 HMP was created using the following data:

- The FEMA digital Quality 3 (Q3) flood data
- A 10-meter elevation dataset was used in the Enhanced Quick Look tool in Hazus to generate the 1-percent annual chance flood depth grid

The depth grid generated for the 2015 HMP was integrated into the Hazus riverine flood model used to estimate potential losses for the 1-percent annual chance flood event.

To estimate exposure to the 1-percent- and 0.2-percent annual chance flood events, the flood boundaries provided by Livingston County ere overlaid on the centroids of updated assets (population, building stock, critical facilities, lifelines, and new development). Centroids that intersected the flood boundaries were totaled to estimate the building replacement cost value and population vulnerable to the flood inundation areas. A Level 2 Hazus riverine flood analysis was performed in Hazus v5.0. Both the critical facility and building inventories were formatted to be compatible with Hazus and its Comprehensive Data Management System (CDMS). Once updated with the inventories, the Hazus riverine flood model was run to estimate potential losses in Livingston County for the 1-percent annual chance flood events. A user-defined analysis was also performed for the building stock. Buildings located within the floodplain were imported as user-defined facilities to estimate potential losses to the building stock at the structural level. Hazus calculated the estimated potential losses to the population (default 2010 U.S. Census data across dasymetric blocks), potential damages to the general building stock, and potential damages to critical facility inventories based on the depth grids generated and the default Hazus damage functions in the flood model.

Hazardous Materials

The specific substances transported or at fixed facilities is unknown and can vary. Overall, potential losses from HazMat incidents are difficult to quantify due to the many variables and human elements. Data regarding this hazard were obtained from Livingston County and the Planning Partnership as well as appropriate state and federal resources.

An exposure analysis was conducted for the County's assets (population, building stock, critical facilities, lifelines and new development) using selected radius boundaries around Tier II facilities, and half mile buffers around pipelines, railways, and the following roadways: Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A.

Assets with their centroid located in the hazard area were totaled to estimate the totals and values potentially vulnerable if a hazardous materials release should occur.

Invasive Species

All of Livingston County is exposed to infestation and invasive species. Resources from the New York State Department of Environmental Conservation, Livingston County Soil and Water Conservation District, United States Department of Agriculture, and the Livingston County Environmental Management Council were referenced to assess the potential impacts to the County's assets.

Landslide

An exposure assessment was conducted using steep slope to determine the County's risk to the landslide. Steep slopes are an indication of where landslides may occur, and carbonate soils may be prone to subsidence. Based on the Highlands NJ Council's Steep Slope Protection Area classifications, steep slopes are considered to be greater than 15-percent. Local ordinances often impose more stringent regulations on land development that occurs on slopes of 15% or greater. A steep slope layer was created using the 2014 USGS 1-meter resolution Digital Elevation Model (DEM). The DEM was converted to percent slope and slopes greater than 15-percent were selected.

To determine what assets are exposed to steep slopes, the County's assets were overlaid with these hazard areas. Assets with their centroid located in the hazard area were totaled to estimate the number (or count) and replacement cost values exposed to a hazard event.

Mine Subsidence

Mine subsidence is a new hazard of concern for Livingston County. "Mine Subsidence" means lateral or vertical ground movement caused by a failure initiated at the mine level, of manmade underground mines, including, but not limited to coal mines, clay mines, limestone mines, and fluorspar mines that directly damages residences or commercial buildings. The AkzoNobel Salt Incorporated Retsof salt mine boundary was provided by Livingston County and used to assess areas at risk to subsidence based on the historical collapse of 1994. To determine what assets are exposed to mine subsidence, the County's assets were overlaid with the Retsof salt mine boundary. Assets with their centroid located in the hazard area were totaled to estimate the number (or count) and replacement cost values exposed to a hazard event.

Pandemic

Pandemics are a new hazard of concern for Livingston County. A qualitative assessment was conducted for this hazard. Information from the World Health Organization, Centers for Disease Control and Prevent, New York State Department of Health, Natural Resources Defense Council, and New York State ClimAID was used to assess the County's overall risk.

Severe Storm

All of Livingston County is exposed to severe storm events. A Hazus probabilistic analysis was performed to analyze the wind hazard losses for Livingston County for the 500-year mean return period event. The probabilistic Hazus hurricane model activates a database of thousands of potential storms that have tracks and

intensities reflecting the full spectrum of Atlantic hurricanes observed since 1886 and identifies those with tracks associated with Livingston County. Hazus contains data on historic hurricane events and wind speeds. It also includes surface roughness and vegetation (tree coverage) maps for the area. Surface roughness and vegetation data support the modeling of wind force across various types of land surfaces. Default demographic and updated building and critical facility inventories in Hazus were used for the analysis. Although damages are estimated at the census tract level, results were presented at the municipal level. Since there are multiple census tracts that contain more than one jurisdiction, the general building stock inventory was leveraged to extract the percent of each tract that falls within individual jurisdictions. The percentage was multiplied against the results calculated for each tract and summed for each jurisdiction.

Severe Winter Storm

All of Livingston County is exposed and vulnerable to the winter storm hazard. In general, structural impacts include damage to roofs and building frames, rather than building content. Current modeling tools are not available to estimate specific losses for this hazard. A percentage of the custom-building stock structural replacement cost value was utilized to estimate damages that could result from winter storm conditions (i.e., 1-percent, 5-percent, and 10-percent of total replacement cost value). Given professional knowledge and currently available information, the potential losses for this hazard are considered to be overestimated; hence, providing a conservative estimate for losses associated with winter storm events.

Terrorism

All of Livingston County is at risk to terrorism events, including cyber attacks. A qualitative assessment was conducted for the terrorism hazard. Information from the U.S. Department of Homeland Security, FEMA, Centers for Disease Control and Prevent, and the US Department of Justice was referenced to review the County's overall risk.

Utility Failure

All of Livingston County is at risk to utility failure. A qualitative assessment was conducted for the terrorism hazard. Information from the Environmental Protection Agency, FEMA, and the New York State Energy Research and Development Authority was referenced to review the County's overall risk.

Wildfire

The Wildland-Urban Interface (Interface and Intermix) obtained through the SILVIS Laboratory, Department of Forest Ecology and Management, University of Wisconsin – Madison, was referenced to delineate wildfire hazard areas. The University of Wisconsin – Madison wildland fire hazard areas are based on the 2010 Census and 2006 National Land Cover Dataset and the Protected Areas Database. For this risk assessment, the high-, medium-, and low-density interface areas were combined and used as the "Interface" hazard area, and the high-, medium-, and low-density intermix areas were combined and used as the "Intermix" hazard areas.

To determine what assets are exposed to wildfire, available and appropriate GIS data were overlaid with the hazard area. Assets with their centroid located in the hazard area were totaled to estimate the totals and values exposed to a wildfire event.

Considerations for Mitigation and Next Steps

The following items are to be discussed for considerations for the next plan update to enhance the vulnerability assessment:

- All Hazards
  - Utilize updated and current demographic data. If 2020 U.S. Census demographic data is available at the U.S. Census block level during the next plan update, use the census block estimates and residential structures for a more precise distribution of population, or the current American Community Survey 5-Year Estimate populations counts at the Census tract level.
- Flood
  - The general building stock inventory can be updated to include attributes regarding first floor elevation and foundation type (basement, slab on grade, etc.) to enhance loss estimates.
  - Conduct a Hazus loss analysis for more frequent flood events (e.g., 10 and 50-year flood events).
  - Conduct a repetitive loss area analysis.
  - Continue to expand and update urban flood areas to further inform mitigation.
  - As more current FEMA floodplain data become available (i.e., DFIRMs), update the exposure analysis and generate a more detailed flood depth grid that can be integrated into the current Hazus version.
- Earthquake
  - Identify unreinforced masonry in critical facilities and privately-owned buildings (i.e., residences) by accessing local knowledge, tax assessor information, and/or pictometry/orthophotos. These buildings may not withstand earthquakes of certain magnitudes and plans to provide emergency response/recovery efforts at these properties can be developed.
- Landslide
  - Use higher resolution Digital Elevation Model (DEM) provided from the County to create an updated steep slopes hazard area.
- Mine Subsidence
  - As models evolve for subsidence, use updated modeling to assess estimated impacts caused by subsidence that is driven by other hazards of concern such as flooding and earthquakes.
- Pandemic
  - Utilize data collection that summarizes the outcome from Covid-19 to assess areas where the County is most vulnerable.
- Severe Storm
  - The general building stock inventory can be updated to include attributes regarding protection against strong winds, such as hurricane straps, to enhance loss estimates.
  - Integrate evacuation route data that is currently being developed.
- Severe Winter Storm
  - Assess damages using winter storm modeling as these climate models become available.
- Utility Failure
  - Once Hazus has progressed its utility failure models, use Hazus to assess estimated downtime for utilities of concern during specified hazard events such as flood, earthquake, and wind events.
- Wildfire
  - General building stock inventory can be updated to include attributes such as roofing material or fire detection equipment or integrate distance to fuels as another measure of vulnerability.

5.1.3 Data Source Summary

Table 5.1-3 summarizes the data sources used for the risk assessment for this plan.

Table 5.1-3. Risk Assessment Data Documentation

Data	Source	Date	Format
Population data	U.S. Census Bureau; American Community Survey 5-Year Estimates	2010; 2019	Digital (GIS) format
Parcel Inventory	Livingston Parcel Data, Real Property Tax Data	2020	Digital (GIS) format
Building Footprints	Microsoft Bing	2018	Digital (GIS) format
Wildland-Urban Intermix/Interface Wildfire Hazard	University of Wisconsin - Madison	2010	Digital (GIS) format
Critical facilities	Livingston Planning Partnership and County Jurisdictions	2014/2021	Digital (GIS) format
NEHRP Soil	NYS	n.d.	Digital (GIS) format
Tier II Facilities	Livingston County OEM	2021	Digital (GIS) format
HazMat Roadways/Railways/Pipelines	Livingston County GIS	2021	Digital (GIS) format
New Development Data	Livingston County Planning Partnership and County Jurisdictions	2021	Digital (GIS) Format
Flood Depth Grids	FEMA/2014 HMP	n.d.	FEMA Q3
Mine Subsidence	Livingston County GIS	2021	Digital (GIS) Format

Limitations

Loss estimates, exposure assessments, and hazard-specific vulnerability evaluations rely on the best available data and methodologies. Uncertainties are inherent in any loss estimation methodology and arise in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from the following:

1) Approximations and simplifications necessary to conduct such a study
2) Incomplete or dated inventory, demographic, or economic parameter data
3) The unique nature, geographic extent, and severity of each hazard
4) Mitigation measures already employed by the participating municipalities
5) The amount of advance notice residents have to prepare for a specific hazard event
6) Uncertainty of climate change projections

These factors can result in a range of uncertainty in loss estimates, possibly by a factor of two or more. Therefore, potential exposure and loss estimates are approximate. These results do not predict precise results and should be used to understand relative risk. Over the long term, Livingston County will collect additional data to collect additional data, update and refine existing inventories, to assist in estimating potential losses.

Potential economic loss is based on the present value of the general building stock utilizing best available data. The County acknowledges significant impacts may occur to critical facilities and infrastructure as a result of these hazard events causing great economic loss. However, monetized damage estimates to critical facilities and infrastructure, and economic impacts were not quantified and require more detailed loss analyses. In addition, economic impacts to industry such as tourism and the real-estate market were not analyzed.

5.2 IDENTIFICATION OF HAZARDS OF CONCERN

To provide a strong foundation for mitigation actions considered in Sections 6 (Mitigation Strategy) and 9 (Jurisdictional Annexes), Livingston County focused on considering a full range of hazards that could impact the area and then identified and ranked those hazards that presented the greatest concern. The hazards of concern identification process incorporated input from the county and participating jurisdictions; review of the New York State Hazard Mitigation Plan (NYS HMP 2019); review of the 2015 Livingston County All-Hazard Mitigation Plan (2015 HMP); research and local, state, and federal information on the frequency, magnitude, and costs associated with the various hazards that have previously, or could feasibly, impact the region; and qualitative or anecdotal information regarding hazards and the perceived vulnerability of the study area's assets to them. Table 5.2-1 documents the process of identifying the natural hazards of concern for further profiling and evaluation. Specific hazards not identified as a hazard of concern for Livingston County will not be further discussed in detail.

Hazards of Concern are those hazards that are considered most likely to impact a community. These are identified using available data and local knowledge.

Natural Hazards are those hazards that are a source of harm or difficulty created by a meteorological, environmental, or geological event.

5.2.1 Changes from 2015 Hazard Mitigation Plan

The 2015 HMP assessed impacts of the following hazards of concern: flood, drought, earthquake, flood, hazardous materials, invasive species, landslide, severe storms, severe winter storms, terrorism, utility failure, and wildfire. The 2022 update profiles all of the hazards above, plus the mine subsidence and pandemic hazards.

The 2022 Livingston County Hazard Mitigation Plan Update includes best available data throughout the plan to present an updated understanding of Livingston County's risk.

5.2.2 Hazard Groupings

As per the 2015 Livingston County HMP, the Steering Committee and Planning Partnership maintained the grouping of hazards based on the similarity of hazard events, typical concurrence or impacts, consideration of how hazards have been grouped in Federal Emergency Management Agency (FEMA) guidance documents (*FEMA 386-2 Understanding Your Risks, Identifying Hazards and Estimating Losses*; *Multi-Hazard Identification and Risk Assessment – The Cornerstone of the National Mitigation Strategy*; *Local Mitigation Planning Handbook*), and consideration of hazard grouping in the NYS HMP. This HMP update specifically addresses the following natural hazards:

- A *Drought* is a period of unusually constant dry weather that persists long enough to cause deficiencies in water supply (surface or underground) that can last a short period or for many years. Droughts are slow-onset hazards, but they can severely affect crops, municipal water supplies, recreational resources, and wildlife over time. If drought conditions extend over a number of years, the direct and indirect economic impacts can be significant.
- The *Earthquake* hazard is the sudden movement of the earth's surface caused by the release of stress accumulated within or along the edge of the earth's tectonic plates, a volcanic eruption, or by a man-made explosion.
- The *Flood* hazard includes riverine flooding, flash flooding, shallow flooding, ice jam flooding, and dam failure flooding. Inclusion of the various forms of flooding under a general *Flood* hazard is consistent with that used in FEMA's *Multi-Hazard Identification and Risk Assessment* guidance and the NYS HMP.

- The *Invasive Species* hazard includes invasive species that affect Livingston County and the surrounding region.
- The *Landslide* hazard occurs when natural rock, soil, artificial fill, or a combination move along a downward slope rapidly, striking at avalanche speeds that can travel several miles and growing in size as the landslide picks up trees, boulders, cars, and other materials.
- A *Pandemic* occurs when there are more cases of a particular disease than expected in a given area or among a specific group of people over a particular period of time. In an outbreak or epidemic, it is presumed that the cases are related to one another or that they have a common cause.
- The *Severe Storm* hazard includes windstorms that often entail a variety of other influencing weather conditions, including thunderstorms, hail, lightning, and tornadoes. Tropical disturbances (hurricanes, tropical storms, and tropical depressions) are often identified as a type of severe storm. For this HMP update, *Severe Storm* includes thunderstorms, hail, lightning, tornadoes, hurricanes, tropical storms, and Nor'easters.
- The *Severe Winter Storm* hazard includes heavy snowfall, blizzards, freezing rain/sleet, and ice storms. This grouping is consistent with the NYS HMP.
- The *Wildfire* hazard profile specifically addresses wildfires that occur in Livingston County or have a considerable impact on the county.

Technological and man-made hazards are also addressed in this 2022 HMP planning process. This plan specifically addresses the following technological and man-made hazards:

- The *Hazardous Materials* hazard includes materials and wastes considered severely harmful to human health and the environment, as defined by the United States Environmental Protection Agency (EPA). Many hazardous materials are commonly used substances, which are harmless in their normal uses but are quite dangerous if released.
- The *Mine Subsidence* hazard includes sinking and settling of the ground over the Retsof Salt Mine.
- *Utility Failure* is defined as any interruption or loss of electrical service caused by disruption of power transmission due to accident, sabotage, natural hazards, or equipment failure (also referred to as a loss of power or power outage). A significant power failure is defined as any incident of a long duration that would require involvement of local and/or state emergency management organizations to coordinate provision of food, water, heating, cooling, and shelter.

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)
Avalanche	No	No	• The NYS HMP identifies avalanche as a hazard of concern. • Avalanches can occur in any situation where snow, slope, and weather conditions combine to create proper conditions. About 90 percent of all avalanches start on slopes of 30 to 45 degrees, and about 98 percent of all avalanches occur on slopes of 25 to 50 degrees. The topography of Livingston County does not support the occurrence of an avalanche. • New York State, in general, has a very low occurrence of avalanche events based on statistics provided by the National Avalanche Center – American Avalanche Association (NAC-AAA) between 1998 and 2021. • There have been no avalanche occurrences in Livingston County. The Steering Committee and Planning Partnership do not consider the hazard to be a significant concern.	• NYS DHSES • NAC-AAA
Coastal Erosion	No	No	• The NYS HMP identifies coastal erosion as a hazard of concern for New York State. Erosion can impact all of the state's coastal counties along: Lake Erie and the Niagara River, Lake Ontario and the St. Lawrence River, Atlantic Ocean and Long Island Sound, Hudson River south of the federal dam in Troy, the East River, the Harlem River, the Kill van Kull and Arthur Kill, and all connecting waterbodies, bays, harbors, shallows, and wetlands. • As stated above, Coastal Erosion is limited to the state's coastal counties. Livingston County is not a coastal county; therefore, the Steering Committee and Planning Partnership do not consider the hazard to be a significant concern.	• NYS DHSES • Input from Steering Committee and Planning Partnership
Dam Failure	Yes	Yes	• The 2019 NYS HMP does not identify dam failure as a hazard of concern for New York State, though it is included in the Flood hazard profile. • According to the NYS DEC, there are 77 dams within Livingston County, as shown in Section 4. Of these, two are high hazard (NYS DEC 2021). • Dam failure is included within the flood profile.	• NYS DHSES • Input from Steering Committee and Planning Partnership • NYS DEC • NYS GIS
Drought	Yes	Yes	• The NYS HMP identifies drought as a hazard of concern for the state. Livingston County has been impacted by several drought events that have occurred. • Drought conditions can cause shortages in water for human consumption, impact agricultural production, and lead to reduced local firefighting capabilities. A majority of Livingston County relies on groundwater for their potable water, and droughts can impact groundwater resources significantly, limiting the availability of drinking water to county residents. • New York State was included in one FEMA drought-related disaster declaration, which did not include Livingston County.	• NYS DHSES • FEMA • USDA • Input from Steering Committee and Planning Partnership

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)

			• Livingston County was included in four recent drought-related USDA disaster declarations:
			  ○ S3427 – Drought, excessive heat - 2012
			  ○ S3441 – Drought - 2012
			  ○ S4023 - Drought – 2016
			  ○ S4031 - Drought - 2016
			• According to the NRCC, Livingston County is in the Central Lakes Climate Division. This division has been impacted by periods of severe and extreme drought.
			• The Steering Committee and Planning Partnership identified drought as a hazard of concern for Livingston County.
				• NOAA-NCEI
				• NRCC

Earthquake	Yes	Yes	• The NYS HMP identified earthquake as a hazard of concern for the state. • The 500-year MRP earthquake corresponds to a % PGA value between 1.4 and 9.2 throughout the county. According to the FEMA document "Understanding Your Risks: Identifying Hazards and Estimating Losses," areas with 3% PGA should conduct a risk assessment for earthquakes. • New York State was included in one FEMA earthquake-related disaster declaration (DR-1415); Livingston County was not included in this declaration. • Four earthquakes have had an epicenter in Livingston County since 1950. • Based on input from the Steering Committee and Planning Partnership, earthquake is identified as a hazard of concern for Livingston County due to the Clarendon-Linden fault system that runs through the southwest corner of the county.	• NYS DHSES • Input from Steering Committee and Planning Partnership • USGS – Earthquake Hazards Program, Review of USGS Seismic Maps
Expansive Soils	No	No	• The NYS HMP identified expansive soils as a hazard of concern for New York State. However, a majority of Livingston County is underlain by soils with little to no swelling potential and less than 50% of the area is underlain by soils with abundant clays of slight to moderate swelling potential. • The Steering Committee and Planning Partnership did not identify expansive soils as a hazard of concern for Livingston County.	• NYS DHSES • Input from Steering Committee and Planning Partnership • Review of USGS 1989 Swelling Clays Map of the Conterminous United States
Extreme Temperature	Yes	No	• The NYS HMP identified extreme temperatures as a hazard of concern for New York State. • Livingston County was included in nine recent USDA disaster declarations related to extreme temperature events:	• NYS DHSES • Input from Steering

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)
			○ S4031 – July 2016 – Heat, Excessive Heat (also included Drought) ○ S4023 – August 2016 – Heat, Excessive Heat • The Steering Committee and Planning Partnership did not identify extreme temperature as a hazard of concern for Livingston County.	Committee and Planning Partnership • NOAA-NCEI • USDA
Flood (riverine, ice jam, dam failure, and flash)	Yes	Yes	• The NYS HMP identified flooding as a hazard of concern for New York State. • Between 1956 and 2020, Livingston County was included in two FEMA flood-related declarations. ○ FEMA-DR-1993 – June 2011 ○ FEMA-DR-4180 – July 2014 • Between 1950 and 2021, there have been no ice jams in the county. However, the possibility exists, and ice jams could cause significant impacts in the county. • Based on the history of flooding and its impacts on Livingston County and input from the Steering Committee and Planning Partnership, flooding has been identified as a hazard of concern for the county.	• NYS DHSES • Input from Steering Committee and Planning Partnership • FEMA • NOAA-NCEI • USACE CRREL Ice Jam Database
Hailstorm	Yes	Yes	Please see Severe Storm.	
Hazardous Materials	Yes	Yes	• Livingston County has many roadways, railways, and pipelines that may carry hazardous materials through the county. • The county has experienced many small releases of hazardous materials.	• Input from Steering Committee and Planning Partnership
Hurricane	Yes	Yes	Please see Severe Storm.	
Ice Jams	Yes	Yes	Please see Flood.	
Ice Storm	Yes	Yes	Please see Severe Winter Storm.	
Infestation	Yes	Yes	Please see Invasive Species.	
Invasive Species	Yes	Yes	• The 2019 NYS HMP does not identify invasive species as a hazard of concern for New York State. • New York State has been affected by many different types of invasive insects and plants. • The NYS DEC identified Livingston County to be located within the emerald ash borer quarantine zone and the emerald ash borer has been found within the county. The quarantine zone has since been eliminated as it is no longer effective.	• NYS DEC • Input from Steering Committee and Planning Partnership

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)
			• The Livingston County Steering Committee and Planning Partnership identified invasive species as a hazard of concern within Livingston County.	
Landslide	Yes	Yes	• Based on previous occurrences and input from the Steering Committee and Planning Partnership, the landslide hazard is identified as a hazard of concern for Livingston County.	• NYS DHSES • Input from Steering Committee and Planning Partnership • FEMA
Mine Subsidence	Yes	Yes	• NYS HMP indicates New York State is vulnerable to land subsidence; however, this hazard is "extremely localized" and poses a "very low risk to population and property," according to the 2019 NYS HMP. • Though this hazard was not included in the 2015 Livingston County HMP, the Steering Committee and Planning Partnership included it as a hazard of concern for the 2022 HMP due to the subsidence that has occurred over the Retsof Salt Mine.	• NYS DHSES • Input from Steering Committee and Planning Partnership • USGS
Nor'easters	Yes	Yes	Please see Severe Storm.	
Pandemic	Yes	Yes	• The 2019 NYS HMP does not identify disease outbreak as a hazard of concern for New York. • Diseases that impact Livingston County include foodborne illness, vaccine-preventable disease, and vector-borne diseases (tick-borne and mosquito-borne). For the disease outbreak/pandemic profile, the county identified influenza, the Ebola virus, and COVID-19 as the diseases that may lead to an epidemic. • The Steering Committee and Planning Partnership identified pandemic as a hazard of concern for Livingston County.	• NYS DHSES • NYS DEC • Input from Steering Committee and Planning Partnership
Severe Storm (windstorms, thunderstorms, hurricanes/tropical storms, Nor'easters, hail, and tornadoes)	Yes	Yes	• The NYS HMP identified severe storm as a hazard of concern for New York State; however, for the state HMP, the hazards were profiled in individual sections thunderstorms, lightning, hail, tornadoes, high winds, and hurricanes/tropical storms. For the Livingston County HMP, the hazards were combined into one profile. • Between 1954 and 2021, Livingston County was included in 12 FEMA severe storm-related declarations. ○ DR-338 - Flood - June 1972 ○ DR-494 - Severe Ice Storm - March 1976 ○ DR-898 - Snow - March 1991 ○ DR-1095 - Flood - January 1996	• NYS DHSES • FEMA • NOAA-NCEI • SPC • Input from Steering Committee and Planning Partnership

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)
			○ DR-1233 - Severe Storm(s) - July 1998 ○ DR-1335 - Severe Storm(s) - July 2000 ○ DR-1486 - Severe Storm(s) - August 2003 ○ DR-1534 - Severe Storm(s) - August 2004 ○ EM-3262 - Hurricane - September 2005 ○ DR-1993 - Flood - June 2011 ○ EM-3351 - Hurricane - October 2013 ○ DR-4180 - Severe Storm(s) - July 2014 • There have been two tornadoes in Livingston County from 1950 to 2021. • Based on previous occurrences and input from the Steering Committee and Planning Partnership, severe storms are identified as a hazard of concern for Livingston County.	
Severe Winter Storm (heavy snow, blizzards, ice storms)	Yes	Yes	• The NYS HMP identified severe winter storm as a hazard of concern for New York State. According to the 2019 NYS HMP, Livingston County's average annual snowstorm losses is $23,876. • FEMA included Livingston County in five winter storm-related disaster declarations: ○ DR-494-NY - Severe Ice Storm – March 1976 ○ DR-898-NY - Snow – March 1991 ○ EM-3107-NY - Snow – March 1993 ○ EM-3138-NY - Snow – March 1999 ○ DR-1467-NY - Severe Ice Storm – May 2003 • Based on previous occurrences and input from the Steering Committee and Planning Partnership, severe winter storms are identified as a hazard of concern for Livingston County.	• NYS DHSES • FEMA • NOAA-NCEI • Input from Steering Committee and Planning Partnership
Terrorism	Yes	Yes	• The Steering Committee and Planning Partnership consider terrorism to be a hazard of concern for Livingston County due to having numerous government facilities and the widespread threat of cyber attack and cyberterrorism that can affect all people, systems, and facilities in the county.	• Input from Steering Committee and Planning Partnership
Tornado	Yes	Yes	Please see Severe Storm.	
Tsunami	No	No	• Tsunami is not identified as a hazard of concern in the NYS HMP. • The Steering Committee and Planning Partnership do not consider tsunami to be a hazard of concern for Livingston County.	• NYS DHSES • Input from Steering Committee and

Table 5.2-1. Identification of Hazards of Concern for Livingston County

Hazard	Is this a hazard that may occur in Livingston County?	If yes, does this hazard pose a significant threat to Livingston County?	Why was this determination made?	Source(s)
				Planning Partnership
Utility Failure	Yes	Yes	• Livingston County experiences utility failures (generally power outages) several times each year. These failures are usually due to severe storms or severe winter storms that affect the county.	• Input from Steering Committee and Planning Partnership • NOAA-NCEI
Volcano	No	No	• The NYS HMP did not identify volcano as a hazard of concern for New York State and, therefore, the Steering Committee and Planning Partnership does not consider volcano to be a hazard of concern for Livingston County.	• NYS DHSES • Input from Steering Committee and Planning Partnership
Wildfire	Yes	Yes	• The NYS HMP identified wildfire as a hazard of concern for New York State. • Livingston County was not included in any FEMA wildfire-related disaster declarations. • The age of many residential structures within the region, combined with changes in building construction and materials, creates a threat of fire loss to any structure within the county. Livingston County is not among New York's most susceptible counties to wildfire damage. • Based on available data, the Steering Committee and Planning Partnership identified wildfire as a hazard of concern for Livingston County.	• NYS DHSES • Input from Steering Committee and Planning Partnership • FEMA
Windstorm	Yes	Yes	Please see Severe Storm.	

CRREL	*Cold Regions Research and Engineering Laboratory*
DR	*Presidential Disaster Declaration Number*
EM	*Presidential Disaster Emergency Number*
FEMA	*Federal Emergency Management Agency*
MRP	*Mean Return Period*
NAC-AAA	*National Avalanche Center – American Avalanche Association*
NOAA-NCEI	*National Oceanic and Atmospheric Administration-National Centers for Environmental Information*
NRCC	*Northeast Regional Climate Center*
NYS DEC	*New York State Department of Environmental Conservation*
NYS DHSES	*New York State Division of Homeland Security and Emergency Services*
NYS HMP	*New York State Hazard Mitigation Plan*
PGA	*Peak ground acceleration*
SPC	*Storm Prediction Center*
USACE	*U.S. Army Corps of Engineers*
USDA	*U.S. Department of Agriculture*
USGS	*United States Geological Survey*

5.2.3 Summary of Hazards of Concern

In summary, a total of 13 hazards of concern were identified as significant hazards affecting the entire county, to be addressed at the county level in this plan (shown here in alphabetical order):

- Drought
- Earthquake
- Flood
- Hazardous Materials
- Invasive Species
- Landslide
- Mine Subsidence
- Pandemic
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire

Other hazards of concern that might have occurred in Livingston County but have a low potential to occur or result in significant impacts can be considered in future updates to this plan.

5.3 HAZARD RANKING

As discussed in Section 5.2, Identification of Hazards of Concern, a comprehensive range of natural hazards that pose a significant risk to Livingston County were selected and considered during the development of this plan. However, each community in Livingston County has differing levels of exposure and vulnerability to each of these hazards. It is important for each community participating in this plan to recognize the hazards that pose the greatest risk to their community and direct their attention and resources accordingly to most effectively and efficiently manage risk and reduce losses. The hazard ranking for the county and each participating jurisdiction can be found in their jurisdictional annexes of this plan in Volume II, Section 9.

To this end, a hazard risk ranking process was conducted for Livingston County and its municipalities using the method described below. This method includes four risk assessment categories: probability of occurrence, impact (population, property and economy), adaptive capacity, and changing future conditions (i.e., climate change). Each was assigned a weighting factor to calculate an overall ranking value for each hazard of concern. Depending on the calculation, each hazard was assigned a high, medium, or low ranking. Details regarding each of these categories is described below.

5.3.1 Hazard Ranking Methodology

The methodology used to rank the hazards of concern for Livingston County is described below. Estimates of risk for the county were developed using methodologies promoted by the Federal Emergency Management Agency's (FEMA) hazard mitigation planning guidance and generated by FEMA's HAZUS-MH risk assessment tool, and input from Livingston County and participating jurisdictions. The ranking includes a factor to evaluate capacity of the participating jurisdiction to address the hazard through plans, policies, and mitigation strategies. For example, a community participating in CRS has a high capacity to address and mitigate flooding issues, which will be reflected in the ranking benchmark. In addition, a factor addressing the degree of climate change impact is included in the methodology to adjust rankings for hazards expected to be significantly impacted by climate change. Table 5.3-1 shows the values for the four risk assessment categories for each of Livingston County's hazards. Details for each category are further described below.

Table 5.3-1. Summary of Hazard Ranking Approach

Category		Level / Category	Degree of Risk / Benchmark Value	Numeric Value	Weighted Value
Probability of Occurrence		Unlikely	A hazard event is not likely to occur or is unlikely to occur with less than a 1-percent annual chance probability.	0	30%
		Rare	Between 1 and 10-percent annual probability of a hazard event occurring.	1	
		Occasional	Between 10 and 100-percent annual probability of a hazard event occurring.	2	
		Frequent	100-percent annual probability; a hazard event may occur multiple times per year.	3	
Impact (Sum of all 3)	Population (Numeric Value x 3)	Low	14-percent or less of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.	1	30%
		Medium	15 to 29 percent of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.	2	
		High	30 percent or more of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.	3	
	Property	Low	Property exposure is 14 percent or less of the total number of structures for the community.	1	

Category		Level / Category	Degree of Risk / Benchmark Value	Numeric Value	Weighted Value
	(Numeric Value x 2)	Medium	Property exposure is 15 to 29 percent of the total number of structures for the community.	2	
		High	Property exposure is 30 percent or more of the total number of structures for the community.	3	
	Economy (Numeric Value x 1)	Low	Loss estimate is 9 percent or less of the total replacement cost for the community.	1	
		Medium	Loss estimate is 10 to 19 percent of the total replacement cost for the community.	2	
		High	Loss estimate is 20 percent or more of the total replacement cost for the community.	3	
Capability		Low	Weak/outdated/inconsistent plans, policies, codes, and ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.	3	30%
		Medium	Plans, policies, codes, and ordinances in place and meet minimum requirements; mitigation strategies identified but not implemented on a widespread scale; county/jurisdiction can recover but needs outside resources; moderate county/jurisdiction capabilities.	2	
		High	Plans, policies, codes, and ordinances in place and exceed minimum requirements; mitigation and protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high.	1	
Climate Change		Low	No local data are available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence).	1	10%
		Medium	Studies and modeling projections indicate a potential for exacerbated conditions due to climate change; confidence level is medium to high (suggestive to moderate evidence).	2	
		High	Studies and modeling projections indicate exacerbated conditions/aincreased future risk due to climate change; very high confidence level (strong evidence, well documented and acceptable methods).	3	

Probability of Occurrence

The probability of occurrence is the likelihood of a hazard event occurring in any given year. A review of historic events assists with this determination. Each hazard of concern is rated in accordance with the numerical ratings and definitions described in Table 5.3-2. The probability of occurrence is given a weighted value of 30 percent.

Table 5.3-2. Probability of Occurrence Ranking Factors

Numeric Value	Probability Category	Definition
0	Unlikely	A hazard event is not likely to occur or is unlikely to occur with less than a 1-percent annual chance probability.
1	Rare	Between 1 and 10-percent annual probability of a hazard event occurring.
2	Occasional	Between 10 and 100-percent annual probability of a hazard event occurring.
3	Frequent	100-percent annual probability; a hazard event may occur multiple times per year.

Hazard Impacts

The impact of each hazard is considered in three categories: impact on population, impact on property (general building stock including critical facilities), and impact on the economy. Based on documented historic losses and individual assessments by each participating municipality, an impact rating of high, medium, or low is assigned with a corresponding numeric value for each hazard of concern. In addition, a weighting factor is assigned to each impact category: 3 for population, 2 for property, and 1 for economy. This gives the impact on

population the greatest weight in evaluating the impact of a hazard. The total of each category is assigned a weighted value of 30 percent. Table 5.3-3 presents the numerical rating, weighted factor and description for each impact category.

Table 5.3-3. Numerical Values and Definitions for Impacts on Population, Property, and Economy

Category	Weighted Value	Low Impact* (1)	Medium Impact (2)	High Impact (3)
Population	3	14 percent or less of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.	15 to 29 percent of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.	30 percent or more of the population is exposed to a hazard with potential for measurable life safety impact, due to its extent and location.
Property	2	Property exposure is 14 percent or less of the total number of structures for the community.	Property exposure is 15 to 29 percent of the total number of structures for the community.	Property exposure is 30 percent or more of the total number of structures for the community.
Economy	1	Loss estimate is 9 percent or less of the total replacement cost for the community.	Loss estimate is 10 to 19 percent of the total replacement cost for the community.	Loss estimate is 20 percent or more of the total replacement cost for the community.

Note: A numerical value of 0 is assigned if there is no impact.

**For the purposes of this exercise, "impacted" means exposed for population and property and loss for economy.*

Additional Impacts

Along with impacts on population, property, and economy, the overall risk ranking looks at two additional impacts that affect the county's vulnerability: Capability and Climate Change. Table 5.3-4 presents the numerical rating and description for each category.

Capability

Capability refers to a jurisdiction's ability to protect the community from or withstand a hazard event. Mitigation measures are already in place, including codes, ordinances, plans, and procedures to withstand hazards based on design or location, deployable resources, or plans and procedures in place to respond to an event. The capability category has a weighted factor of 30 percent.

Climate Change or Changing Future Conditions

Climate change refers to the impact that climate change projections have on increasing or decreasing the severity and frequency of a hazard. The climate change category has a weighted factor of 10 percent.

Table 5.3-4. Numerical Values and Definitions for Changing Future Conditions and Adaptive Capacity

Category	Low Impact (1)	Medium Impact (2)	High Impact (3)
Capability	Weak/outdated/inconsistent plans, policies, codes, and ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.	Plans, policies, codes, and ordinances in place and meet minimum requirements; mitigation strategies identified but not implemented on a widespread scale; county/jurisdiction can recover but needs outside resources; moderate county/jurisdiction capabilities.	Plans, policies, codes, and ordinances in place and exceed minimum requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high.

Category	Low Impact (1)	Medium Impact (2)	High Impact (3)
Climate Change	No local data are available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence).	Studies and modeling projections indicate a potential for exacerbated conditions due to climate change; confidence level is medium to high (suggestive to moderate evidence).	Studies and modeling projections indicate exacerbated conditions and increased future risk due to climate change; very high confidence level (strong evidence, well documented and acceptable methods).

Note: "Low impact" for adaptive capacity means the jurisdiction does not have the capability to effectively respond, which increases vulnerability; whereas "high impact" for adaptive capacity means the jurisdiction does have the capability to effectively respond, which decreases vulnerability.

Risk Ranking Value

Each impact was weighted, and the risk ranking for each hazard was then calculated using the following formula:

Example Risk Ranking Equation

Risk Ranking = [(Impact on Population x 3) + (Impact on Property x 2) + (Impact on Economy x 1) x .30] + [Capability x .30] + [Climate Impact x .10] + [Probability of Occurrence x .30]

Based on the total for each hazard, a priority ranking is assigned to each hazard of concern (high, medium, or low). The rankings were categorized as follows: low = values are less than or equal to 3.8; medium = values are between 3.9 and 4.9; and high = values are greater than or equal to 5.0.

5.3.2 Hazard Ranking Results

Using the process described above, the risk level for the identified hazards of concern were ranked for Livingston County. The hazard ranking for Livingston County is detailed in the subsequent tables that present the step-wise process for the ranking. The countywide risk ranking includes the entire planning area and may not reflect the highest risk indicated for any of the participating jurisdictions. The resulting ranks of each municipality indicate the differing degrees of risk exposure and vulnerability. The results support the appropriate selection and prioritization of initiatives to reduce the highest levels of risk for each municipality. Both the county and the participating jurisdictions have applied the same methodology to develop the countywide risk and local rankings to ensure consistency in the overall ranking of risk; jurisdictions had the ability to alter rankings based on local knowledge and experience in handling each hazard.

This hazard ranking exercise serves four purposes: (1) to describe the probability of occurrence for each hazard; (2) to describe the impact each would have on the people, property, and economy; (3) to evaluate the capabilities a community has with regards to natural hazards; and (4) to consider changing future conditions (i.e., climate change) in Livingston County. Estimates of risk for Livingston County were developed using methodologies promoted by FEMA's hazard mitigation planning guidance and generated by FEMA's HAZUS-MH risk assessment tool, and input from the county and participating municipalities.

Table 5.3-5 shows the probability ranking assigned for the likelihood of occurrence for each hazard.

Table 5.3-5. Probability of Occurrence Ranking for Hazards of Concern for Livingston County

Hazard of Concern	Probability	Numeric Value
Drought	Rare	1
Earthquake	Rare	1
Flood	Frequent	3

Hazard of Concern	Probability	Numeric Value
Hazardous Materials	Occasional	2
Invasive Species	Occasional	2
Landslide	Rare	1
Mine Subsidence	Unlikely	0
Pandemic	Occasional	2
Severe Storm	Frequent	3
Severe Winter Storm	Frequent	3
Terrorism	Rare	1
Utility Failure	Occasional	2
Wildfire	Occasional	2

Table 5.3-6 shows the impact evaluation results for each hazard of concern, including impact on property, structures, and the economy on the county level. The weighting factor results and a total impact for each hazard also are summarized. It is noted that several hazards that have a high impact on the local jurisdictional level can have a lower impact when analyzed countywide.

Table 5.3-6. Impact Ranking for Hazards of Concern for Livingston County

	Population			Property			Economy			Total Impact Rating (Population + Property + Economy)
Hazard of Concern	Impact	Numeric Value	Multiplied by Weighing Factor (3)	Impact	Numeric Value	Multiplied by Weighing Factor (2)	Impact	Numeric Value	Multiplied by Weighing Factor (1)	
Drought	Medium	2	6	Low	1	2	Medium	1	2	10
Earthquake	High	3	9	High	3	6	Low	1	1	16
Flood	Low	1	3	Low	1	2	Low	1	1	6
Hazardous Materials	Medium	2	6	High	3	6	High	3	3	15
Invasive Species	Medium	2	6	Low	1	2	Medium	2	2	10
Landslide	Low	1	3	Low	1	2	Low	1	1	6
Mine Subsidence	Low	1	3	Low	1	2	Low	1	1	6
Pandemic	High	3	9	Low	1	2	Low	2	2	13
Severe Storm	High	3	9	Medium	2	4	Low	1	1	14
Severe Winter Storm	High	3	9	Low	1	2	Low	1	1	12
Terrorism	Low	1	3	Low	1	2	Low	1	1	6
Utility Failure	Medium	2	6	High	3	6	Medium	2	2	14
Wildfire	Medium	2	6	Medium	2	4	High	1	3	13

Table 5.3-7 shows the additional impact rankings for the hazards of concern. These rankings consider the overall capabilities of the county and municipalities, and changing future conditions, such as climate change.

Table 5.3-7. Additional Impact Ranking for Hazards of Concern for Livingston County

Hazard of Concern	Capabilities	Numeric Value	Climate Change	Numeric Value
Drought	Medium	0	High	3

Hazard of Concern	Capabilities	Numeric Value	Climate Change	Numeric Value
Earthquake	Medium	0	Low	1
Flood	Medium	0	High	3
Hazardous Materials	Medium	0	Low	1
Invasive Species	Medium	0	High	3
Landslide	Medium	0	Medium	2
Mine Subsidence	Medium	0	Medium	2
Pandemic	Medium	0	Medium	2
Severe Storm	High	-1	High	3
Severe Winter Storm	High	-1	Medium	2
Cyber Terrorism	Medium	0	Low	1
Utility Failure	Medium	0	Medium	2
Wildfire	Medium	0	High	3

Table 5.3-8 presents the total calculations for each hazard ranking value for the hazards of concern. The rankings were categorized and assigned a color as follows: low = values are less than or equal to 3.8 (green); medium = values are between 3.9 and 4.9 (yellow); and high = values are greater than or equal to 5.0 (red).

Table 5.3-8. Total Hazard Ranking Values for the Hazards of Concern for Livingston County

Hazard of Concern	Probability x 30%	Total Impact x 30%	Adaptive Capacity x 30%	Changing Future Conditions x 10%	Total Risk Ranking Value
Drought	0.3	3.0	0.0	0.3	3.6
Earthquake	0.3	4.8	0.0	0.1	5.2
Flood	0.9	1.8	0.0	0.3	3.0
Hazardous Materials	0.6	4.5	0.0	0.1	5.2
Invasive Species	0.6	3.0	0.0	0.3	3.9
Landslide	0.3	1.8	0.0	0.2	2.3
Mine Subsidence	0.0	1.8	0.0	0.2	2.0
Pandemic	0.6	3.9	0.0	0.2	4.7
Severe Storm	0.9	4.2	-0.3	0.3	5.1
Severe Winter Storm	0.9	3.6	-0.3	0.2	4.4
Terrorism	0.3	1.8	0.0	0.1	2.2
Utility Failure	0.6	4.2	0.0	0.2	5.0
Wildfire	0.6	3.9	0.0	0.3	4.8

Notes: Low = Values less than or equal to 3.8; Medium = Values between 3.9 and 4.9; High = Values greater than or equal 5.0

These rankings have been used to identify the jurisdictional hazard mitigation strategies included in this plan in Section 9, Jurisdictional Annexes. The summary rankings for the county reflect the results of the vulnerability analysis for each hazard of concern and vary from the specific results of each jurisdiction. For example, the severe storm hazard may be ranked low in one jurisdiction but high in the county because of the exposure and impact countywide, and therefore is addressed in the county mitigation strategy accordingly. Jurisdictional ranking results are presented in each local annex of this plan in Section 9, Jurisdictional Annexes.

5.4.1 Drought

The following section provides the hazard profile and vulnerability assessment for the flood hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.1.1 Hazard Profile

This section provides profile information including description, location, extent, previous occurrences and losses, probability of future occurrences, and climate change impacts, as well as the vulnerability assessment for the drought hazard in Livingston County.

Description

Drought is a period characterized by long durations of below-normal precipitation. Drought is a temporary irregularity and differs from aridity since the latter is restricted to low rainfall regions and is a permanent feature of climate. Drought conditions occur in virtually all climatic zones yet its characteristics vary significantly from one region to another, since it is relative to the normal precipitation in that region. Drought can affect agriculture, water supply, aquatic ecology, wildlife, and plant life.

There are four different ways that drought can be defined or grouped:

- ***Meteorological*** drought is a measure of departure of precipitation from normal. It is defined solely on the relative degree of dryness. Due to climatic differences, what might be considered a drought in one location of the country may not be a drought in another location.
- ***Agricultural*** drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced ground water or reservoir levels, and other parameters. It occurs when there is not enough water available for a particular crop to grow at a particular time. Agricultural drought is defined in terms of soil moisture deficiencies relative to water demands of plant life, primarily crops.
- ***Hydrological*** drought is associated with the effects of periods of precipitation shortfalls (including snowfall) on surface or subsurface water supply. It occurs when these water supplies are below normal. It is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- ***Socioeconomic*** drought is associated with the supply and demand of an economic good with elements of meteorological, hydrological, and agricultural drought. This differs from the aforementioned types of drought because its occurrence depends on the time and space processes of supply and demand to identify or classify droughts. The supply of many economic goods depends on weather (for example, water, forage, food grains, fish, and hydroelectric power). Socioeconomic drought occurs when the demand for an economic good exceeds supply as a result of a weather-related shortfall in water supply (National Drought Mitigation Center 2014).

Location

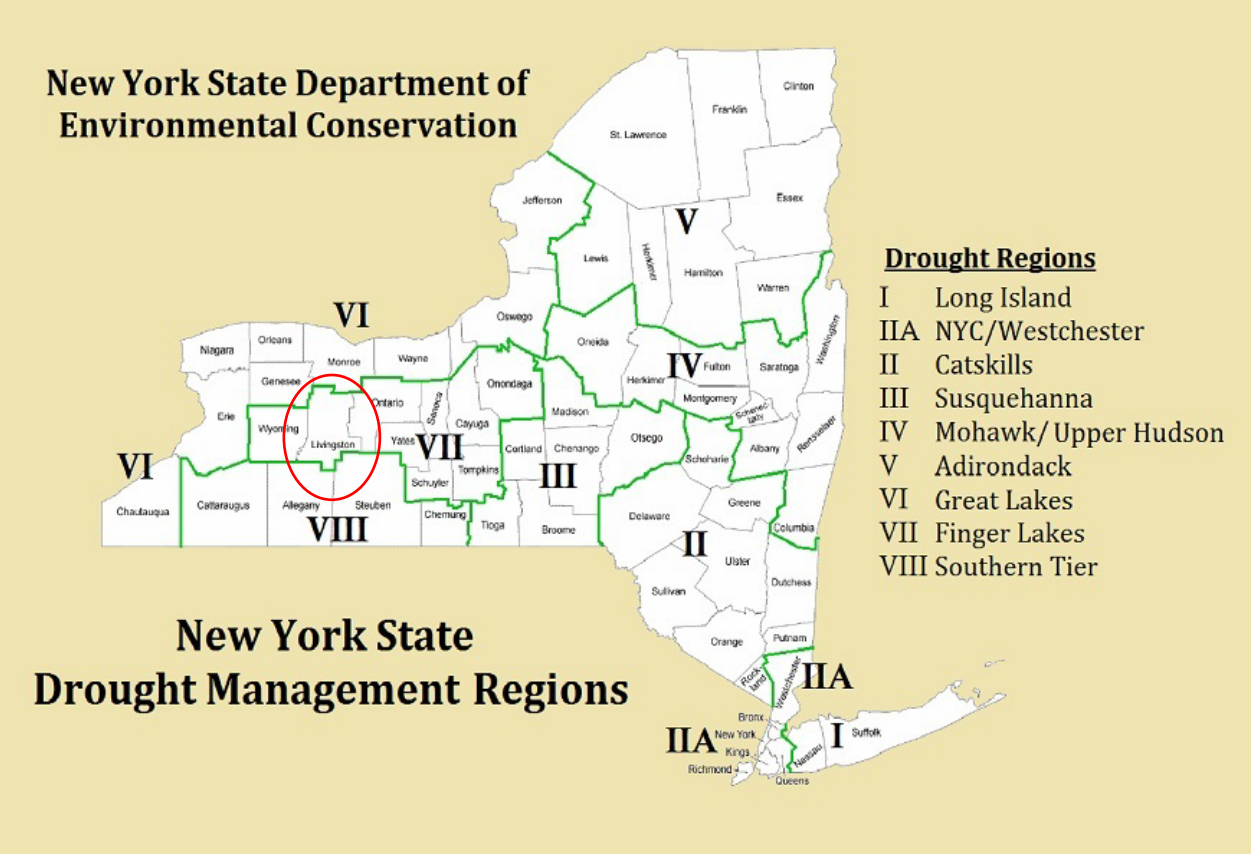
Droughts can occur in all parts of the United States and any time of the year. Drier regions are more susceptible to long term or extreme drought conditions, while other areas tend to be more susceptible to short term, less severe droughts. In New York State (NYS), there is an abundant supply of water found throughout the State with streams, lakes, and coastal areas that have an average precipitation ranging from 60 inches in the Catskills to 28 inches in the Lake Champlain Valley. Variations in the normal amounts can lead to periods of

dry weather and periods of drought (NYS Division of Homeland Security and Emergency Services [DHSES] 2014).

The National Oceanic and Atmospheric Administration (NOAA) has divided the United States into 344 climate divisions. According to NOAA, New York State is made up of 10 climate divisions: Western Plateau, Eastern Plateau, Northern Plateau, Coastal, Hudson Valley, Mohawk Valley, Champlain Valley, St. Lawrence Valley, Great Lakes, and Central Lakes (NOAA 2016). Livingston County is located in the Central Lakes Climate Division.

The New York State Department of Environmental Conservation (NYS DEC) has divided New York State into nine drought management regions based roughly on drainage basins and county lines. NYS DEC monitors precipitation, lake and reservoir levels, stream flow, and groundwater level at least monthly in each region and more frequently during periods of drought. NYS DEC uses this data to assess the condition of each region, which can range from "normal" to "drought disaster" (NYS DEC 2016). Figure 5.4.1-1 shows the drought regions of New York State with Livingston County indicated. Livingston County is located within the Finger Lakes drought region (Region VII).

Figure 5.4.1-1. NYS DEC Drought Management Regions of New York State



Source: NYS DEC 2016
Note: The red oval indicates the location of Livingston County.

Extent

The severity of a drought depends on the degree of moisture deficiency, the duration, and the size and location of the affected area. The longer the duration of the drought and the larger the area impacted, the more severe

the potential impacts (NOAA 2000). The NYS DEC and the New York State Drought Management Task Force identifies droughts in the following four stages:

- ***Normal*** is considered the standard moisture soil level found throughout New York State
- ***Drought Watch*** is the first stage of drought. This stage is declared by the NYS DEC and is intended to give advance notice of a developing drought. As this stage, the general public is urged to conserve water. Public water purveyors and industries are urged to update and begin to implement individual drought contingency plans.
- ***Drought Warning*** is the second stage of drought. This stage is also declared by the NYS DEC and is a notice of impending and imminent severe drought conditions. A warning declaration includes stepping up public awareness and increasing voluntary conservation. Public water supply purveyors and industries are urged to continue to implement local drought contingency plans. Federal, state, and local water resources agencies are notified to prepare for emergency response measures.
- ***Drought Emergency*** is the third stage of drought. This stage is declared by the NYS DHSES, based upon recommendation of the Task Force. It is a notice of existing severe and persistent drought conditions. An emergency declaration is a notice for local water resources agencies to mandate conservation and implement other emergency response measures. A continuing and worsening drought emergency may result in the New York State governor declaring a drought disaster. It is a notice of the most severe and persistent drought conditions. At this stage, a significant proportion of communities in the impacted area likely are unable to respond adequately (NYS DHSES 2014).

New York State uses two methodologies to determine the various drought stages. The Palmer Drought Index (PDI) is a commonly used drought indicator and is primarily based on soil conditions. These are typically the first indicators that a moisture deficit is present. These values range from -5 to +5 with positive values indicating wetter conditions and negative values representing drier conditions (NYS DHSES 2014).

The second methodology used by New York State was developed by the NYS DEC and is referred to as the State Drought Index (SDI). The SDI evaluates drought conditions on a more comprehensive basis by measuring whether numerous indicators reach dire thresholds. The data collected are compared against critical threshold values to show a normal or changeable drought condition. The indicators are weighted on a regional basis to reflect the unique circumstances of each drought management region (NYS DHSES 2014).

In Livingston County, the greatest agricultural impact of drought would be insufficient water for consumption by and cooling of farm animals. Table 5.4.1-1 shows the typical water consumption for a number of animals common to Livingston County farms.

Table 5.4.1-1. Typical Water Consumption of Animals

Animal	Water Consumption, Typical	
	(gallons per day)	(liter per day)
Chickens/100	6	23
Cow, Dry	15	57
Milking Cows	35	130
Dairy Calves (1 - 4 months)	2.4	9
Dairy Heifers (5 - 24 months)	6.6	25
Dry Cows	9.3	41
Hog	4	15
Horse, Steer	12	45
Pig, feeder	1.1 - 2	5-9

Animal	Water Consumption, Typical (gallons per day)	(liter per day)
Sheep	2	7.5
Turkeys/100	20	75

Source: King 2015

Previous Occurrences and Losses

Many sources provide historical information regarding previous occurrences and losses associated with drought events throughout New York State and Livingston County. Information about loss and impact resulting from each of many events can vary depending on the source. Notably, monetary amounts cited in this section on drought derive solely from information obtained during research for this Hazard Mitigation Plan (HMP) update.

Between 1954 and 2021, New York State experienced one Federal Emergency Management Agency (FEMA)-declared drought-related major declaration (DR) classified as a water shortage. Livingston County was not included in this declaration (FEMA 2021).

In addition to FEMA and State disaster declarations, Livingston County has been included in agriculture-related drought disasters. According to the U.S. Department of Agriculture (USDA), these types of disasters are quite common; between one-half and two-thirds of the counties in the United States have been designated as disaster areas in each of the past several years. The USDA Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans (EM) to producers suffering losses in those counties and in counties that are contiguous to a designated county. In addition to EM eligibility, other emergency assistance programs, such as Farm Service Agency (FSA) disaster assistance programs, have historically used disaster designations as an eligibility requirement trigger. Table 5.4.1-2 provide the USDA Secretarial disaster declarations from January 1, 2012 through October 26, 2021. During this time, Livingston County was included in four drought-related USDA declarations.

Table 5.4.1-2. Drought-Related USDA Declarations in Livingston County, 2012 to 2021

Year	Approval Date	Designation Number	Description of Disaster
2012	October 24, 2012	S3427	Drought, excessive heat
2012	November 26, 2012	S3441	Drought
2016	August 24, 2016	S4023	Drought
2016	September 7, 2016	S4031	Drought

Source: USDA 2019

Crop losses can have a significant impact on the economy by reducing produce sales and purchases. Such impacts may have long-term consequences, particularly if crop yields are low the years following a drought as well. The USDA Risk Management Agency (RMA)-insured crop losses through Livingston County because of drought conditions are shown in Table 5.4.1-3. Table 5.4.1-3 shows the highest year of crop losses was in 2016 valued at $3.3 million. Please note that these data only apply to insured crops.

Table 5.4.1-3. USDA Crop Losses from Drought in Livingston County, 2000-2021

Year	Crop Type	Losses
2015	Corn	$11,000
2016	Corn, green peas, oats, potatoes, processing beans, soybeans, sweet corn, wheat	$3.3 million
2017	Wheat	$2,300

Year	Crop Type	Losses
2018	Processing beans, potatoes	$260,000

Source: USDA 2021

For this 2022 HMP update, known drought events (including FEMA and USDA disasters) that have impacted Livingston County between 2000 and 2021 are identified in Table 5.4.1-4. Please note that not all events that have occurred in the County are included due to the extent of documentation and the fact that not all sources may have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP update.

Table 5.4.1-4. Drought Events in Livingston County between 2015 and 2021

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts*
July through November 2016	Drought	N/A	N/A	$0 in recorded losses

Sources: U.S. Drought Monitor 2021; USDA 2021
** Losses reported only applies to insured crops.*
N/A Not applicable
USDA U.S. Department of Agriculture
RMA Risk Management Agency

Probability of Future Events

Sporadic occurrences of drought are common within the United States. Streams, lakes, and coastal regions in the State of New York are supplied by an annual average precipitation ranging from 28 to 60 inches per year. Although the State manages mild moist climates, typical variations in weather patterns can lead to dry periods. Overall, based on historical occurrences, New York State's overall annual future probability for drought is 3 percent (NYS DHSES 2014). However, as the climate changes and temperatures rise, the probability of future droughts will likely increase. Therefore, it is likely that droughts will occur in the State and County of varied severity in the future.

For the 2022 HMP update, the most up-to-date data were collected to calculate the probability of future occurrence of drought events (of all magnitudes) for Livingston County. Information from NOAA National Centers for Environmental Information (NCEI) storm events database, the Northeast Regional Climate Center (NRCC) drought periods, and the Drought Impact Reporter were used to identify the number of drought events that occurred between 1950 and 2021. Using these sources ensures the most accurate probability estimates possible. Table 5.4.1-5 below show these statistics, as well as the annual average number of events and the estimated percent chance of an incident occurring in any given year.

Table 5.4.1-5. Probability of Future Occurrences of Drought Events

Hazard Type	Number of Occurrences Between 1950 and 2017	Recurrence Interval (in years) (# Years/Number of Events)	Percent Chance of Occurrence in Any Given Year
Drought	5	14	7%

Source: NOAA-NCEI 2021; NRCC 2021; DIR 2021

Livingston County is estimated to continue to experience direct and indirect impacts of drought on occasion, with the secondary effects causing potential disruption or damage to agricultural activities and creating shortages in water supply within communities.

In Section 5.3, the identified hazards of concern for Livingston County were ranked. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Partnership, the probability of occurrence for drought in the County is considered "rare" (between 1 and 10-percent annual probability of a hazard event occurring, as presented in Table 5.3-2).

Climate Change Impacts

Each region in New York State, as defined by the Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State (ClimAID), has attributes that will be affected by climate change. Livingston County is part of geographical Region 1, Western New York, Great Lakes Plain. Some of the characteristics of this region that are affected by climate change include relatively low rainfall that may increase summer drought risk, high-value crops that may need irrigation, and projected improved conditions for grapes (New York State Energy Research and Development [NYSERDA] 2014).

Within Region 1, temperatures are anticipated to increase between 3 and 5.5 ºF by the 2050s, and between 4.5 and 8.5 ºF by the 2080s (baseline of 48ºF). Precipitation totals will increase between 0 and 10% by the 2050s, and between 0 and 15 percent by the 2080s (baseline of 37 inches). Table 5.4.1-6 lists projected seasonal precipitation changes within the Southern Tier ClimAID Region (NYSERDA 2014).

Table 5.4.1-6. Projected Seasonal Precipitation Change in Region 3, 2050s (percent change)

Winter	Spring	Summer	Fall
5 to +15	0 to +15	-10 to +10	-5 to +10

Source: NYSERDA 2014

Snowfall rates in Livingston County may increase due to reduced freezing of the Great Lakes as temperatures warm. However, as the climate continues to warm, temperatures may rise enough to the point where winter precipitation may fall as rain instead of snow (NYSERDA 2014). These fluctuations in snowfall could result in an increase or decrease in the County's winter snowpack. Reductions in snowpack would increase the possibility of drought.

Extreme heat events are likely to increase throughout New York State, and short-duration warm season droughts will become more common. With the increase in temperatures, heat waves (defined as 3 or more consecutive days with maximum temperatures at or above 90 ˚F) will become more frequent and intense. Summer droughts are projected to increase under these conditions (NYSERDA 2014).

By the end of the 21st century, the number of droughts is likely to increase, as the effect of higher temperatures on evaporation is likely to outweigh the increase in precipitation. Droughts in the northeast United States have been associated with local and remote modes of multi-year, ocean-atmosphere variability that are unpredictable and may change with climate change. Changes in distribution of precipitation throughout the year and in timing of snowmelt could increase frequency of droughts (NYSERDA 2011).

5.4.1.2 Vulnerability Assessment

To understand risk, a community must evaluate exposed and vulnerable assets within the identified hazard area. Regarding the drought hazard, all of Livingston County has been identified as exposed to the hazard. Therefore, all assets within the County (population, structures, critical facilities, and lifelines), as described in the County Profile (Section 4), are potentially vulnerable to drought. This section evaluates and estimates potential impacts of the drought hazard on the County, including:

- Overview of vulnerability
- Data and methodology used for the evaluation

- Impact on (1) life, health, and safety of residents; (2) general building stock; (3) critical facilities; (4) economy; and (5) future growth and development
- Effect of climate change on vulnerability
- Change in vulnerability from that presented in the 2008 Livingston County HMP
- Further data acquisitions that will improve understanding of this hazard over time

Overview of Vulnerability

Drought is a concern to Livingston County, mainly due to its impact on public health, natural resources, and agriculture. Assets at particular risk would include any open land or structures located along the wildland/urban interface (WUI) that could become vulnerable to the wildfire hazard due to the extended periods of low rain and high heat usually associated with a drought. In addition, water supply resources could be impacted by extended periods of low rain. Many residents are served by private wells, which can be significantly affected by periods of diminished groundwater resources. Lastly, vulnerable populations could be particularly susceptible to the drought hazard and cascading impacts due to age, health conditions, and limited ability to mobilize to shelter, cooling, and medical resources. Overall, Livingston County's vulnerability has not changed since the 2015 HMP and the entire County continues to be exposed and vulnerable to the drought hazard.

Data and Methodology

Data were acquired from the following sources: HAZUS-MH, USDA, NOAA-NCEI, Livingston County, and the Planning Partnership. Not enough data were available to model the long-term potential impacts of a drought on the County. Over time, additional data will be obtained to allow better analysis of this hazard. Available information and a preliminary assessment are included below.

Impacts on Life, Health, and Safety

The entire population of Livingston County is vulnerable to drought events (population of 63,591 people, according to U.S. Census 2019 population estimates) (U.S. Census Bureau 2020). Drought conditions can affect health and safety, including health problems related to low water flows and poor water quality, and health problems related to dust. If droughts are severe enough, these health problems can lead to loss of human life.

Health implications of drought are numerous. Other possible impacts on health from drought include increased recreational risks; effects on air quality; diminished living conditions related to energy, air quality, and sanitation and hygiene; compromised food and nutrition; and increased incidence of illness and disease. Particularly susceptible to the drought hazard and cascading impacts are populations vulnerable because of age, health conditions, limited ability to mobilize to shelter, and limited accessibility to cooling and medical resources. Some drought-related health effects are short term, while others can be long term (Center for Disease Control and Prevention [CDC] 2012).

During dry periods, soil water can deplete quickly. If precipitation deficiencies continue, people who depend on other sources of water will begin to feel impacts of the shortage. Those who rely on surface water (for example, reservoirs and lakes) and subsurface water (for example, groundwater) are usually the last to be affected. A short-term drought that persists for 3 to 6 months may have little impact on these sectors, depending on characteristics of the hydrologic system and intensity of water use (NYS DHSES 2014).

Social impacts primarily involve public safety, health, conflicts among water users, reduced quality of life, and inequities in distribution of impacts and disaster relief. Many economic and environmental effects induce social impacts as well (NYS DHSES 2014).

As previously stated, drought conditions can cause shortages of water for human consumption. Droughts can also lead to reduced local firefighting capabilities. The drought hazard is a concern for Livingston County because rural populations within the County rely upon private water supply from local groundwater resources.

Impact on General Building Stock

No structures are anticipated to be directly affected by a drought event. However, droughts contribute to conditions conducive to wildfires and droughts reduce fire-fighting capabilities. Risk to life and property is greatest in those areas where forested areas adjoin urbanized areas (high-density residential, commercial, and industrial) also known as the wildland urban interface (WUI). Therefore, all assets in and adjacent to the WUI zone—including population, structures, critical facilities, lifelines, and businesses—are considered vulnerable to wildfire. Section 5.4.13 of this HMP presents the wildfire risk assessment.

Impact on Critical Facilities

Water supply facilities may be affected by short supplies of water. The County's public water supply system is a mix of public and privately-owned water systems, but much of the rural populations are served by private wells and are significantly affected by periods of diminished groundwater resources. A short-term drought that persists for 3 to 6 months may have little impact on surface water and subsurface water, depending on characteristics of the hydrologic system and intensity of water use (NYS DHSES 2014).

As mentioned, drought events generally do not impact buildings; however, droughts can impact agriculture-related facilities and critical facilities associated with potable water supplies. Also, those critical facilities in and adjacent to the WUI zone are considered vulnerable to wildfire.

Impact on the Economy

Drought causes many economic impacts on agriculture and related sectors (forestry, fisheries, and waterborne activities). In addition to losses in yields for crop and livestock production, drought is associated with increased insect infestations, plant diseases, and wind erosion. Drought can lead to other losses because so many sectors are affected, such as losses associated with reduced income for farmers, and reduced business for retailers and others who provide goods and services to farmers. These business losses lead to unemployment, increased credit risk for financial institutions, capital shortfalls, and loss of tax revenue. Prices for food, energy, and other products may also increase as supplies decrease (NYS DHSES 2014).

When a drought occurs, the agricultural industry is most at risk for economic impact and damage. During droughts, crops do not mature, which results in smaller crop yields, undernourishment of wildlife and livestock, decreases in land values, and ultimately financial loss to the farmer (FEMA 2021). The agricultural sector in New York State encompasses more than 34,000 farms that occupy approximately one-quarter of the State's land area and contribute $4.5 billion annually to the State's economy. A large majority of the State's agriculture is rain-fed without irrigation. However, summer precipitation is not sufficient to fully meet crop water needs during most years (NYSERDA 2014).

Table 5.4.1-7 summarizes direct and indirect losses to agricultural producers, livestock producers, timber producers, fishery producers, and tourism (NYS DHSES 2014).

Table 5.4.1-7. Impacts on the Economy

Losses to Agricultural Producers	Losses to Livestock Producers	Losses to Timber Producers
Annual and perennial crop losses	Reduced productivity of rangeland	Losses from wildland fires
Damage to crop quality	Reduced milk production	Losses from tree disease

Losses to Agricultural Producers	Losses to Livestock Producers	Losses to Timber Producers
Income loss for farmers due to reduced crop yields	Forced reduction of foundation stock	Losses from insect infestation
Reduced productivity of cropland (wind erosion, long-term loss of organic matter, etc.)	High cost/unavailability of water for livestock	Impaired productivity of forest land
Insect infestation	Cost of new or supplemental water resource development (wells, dams, pipelines)	Direct loss of trees, especially saplings
Plant disease	High cost/unavailability of feed for livestock	Transportation Industry
Wildlife damage to crops	Increased feed transportation costs	Loss from impaired navigability of streams, rivers, and canals
Increased irrigation costs	High livestock mortality rates	Decline in food production/disrupted food supply
Cost of new or supplemental water resource development (wells, dams, pipelines)	Disruption of reproduction cycles (delayed breeding, more miscarriages)	Increase in food prices
Loss from Fishery Production	Decreased stock weights	Increased importation of food (higher costs)
Damage to fish habitat	Increased predation	
Loss of fish and other aquatic organisms due to decreased flows	Increased risk of grass fires	
Loss to Recreation and Tourism Industry	**Energy-related Effects**	**Water Suppliers**
Loss to manufacturers and sellers of recreational equipment	Increased energy demand and reduced supply because of drought-related power curtailments	Revenue shortfalls and/or windfall profits
Losses related to curtailed activities (such as hunting and fishing, bird watching, boating, etc.)	Costs to energy industry and consumers associated with substituting more expensive fuels (oil) for hydroelectric power	

Source: New York State Disaster Preparedness Commission (NYSDPC) 2011

When a drought occurs, the agricultural industry is most at risk for economic impact and damage. Crops do not mature during droughts, which results in smaller crop yield, undernourishment of wildlife and livestock, decreases in land values, and ultimately financial loss to the farmer (FEMA 1997). A large majority of the State's agriculture is rain-fed without irrigation; however, summer precipitation is currently not sufficient to fully meet crop water needs during most years (NYSERDA 2011). Based on information from the 2017 Census of Agriculture, 661 farms were present in Livingston County, encompassing 189,488 acres of total farmland. The average farm size was 287 acres. Products sold from Livingston County farms had a total market value of $183.7 million ($55.2 million in crop sales; and $128.5 million in livestock, poultry, and related products), averaging $277,904 per farm. The Census indicated that 540 farm operators reported farming as their primary occupation (USDA 2017). Table 5.4.1-8 lists the acreage of agricultural land exposed to the drought hazard.

Table 5.4.1-8. Agricultural Land in Livingston County in 2017

Number of Farms	Land in Farms (acres)	Total Cropland (acres)	Harvested Cropland (acres)	Total Cropland Used Only For Pasture/Grazing (acres)
661	189,488	145,878	131,567	14,311

Source: USDA 2012

In 2017, the top three agricultural products sold in Livingston County were grains, oilseeds, dry beans, and dry peas ($41.5 million); corn ($25.2 million); and other crops and hay ($8.3 million) (USDA 2017).

If the average production (dollar value) per crop type could be identified on a per-acre basis, loss estimates could be developed based on assumed percent damage that could result from a drought. If a drought impacted 40 percent of the agricultural products sold from Livingston County farms, losses would be estimated at $73.5 million based on 2017 market values.

A prolonged drought can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages and higher costs for these resources. Industries that rely on water for business may be impacted the most (for example, landscaping businesses). Although most businesses will still be operational, they may be impacted aesthetically. These aesthetic impacts are most significant within the recreation and tourism industry. Moreover, droughts within another area could impact the food supply and price of food for residents within the County.

Future Growth and Development

As discussed in Section 4, areas targeted for future growth and development have been identified across Livingston County. Future growth could affect the amount of potable water available due to a drain on available water resources. Other areas that could be impacted include agriculture and recreational facilities such as golf courses, farms, and nurseries. Areas targeted for potential future growth and development within the next 5 years have been identified across the County at the municipal level. The jurisdictional annexes in Volume II of this HMP include municipal-specific information.

Future Changes that May Impact Vulnerability

Understanding future changes that impact vulnerability in the County can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change.

Projected Development

As discussed in Section 4, areas targeted for future growth and development have been identified across the County. Any areas of growth could be potentially impacted by the drought hazard because the entire County is exposed and vulnerable to droughts. Future growth could impact the amount of potable water available due to a drain on the available water resources. Other areas that could be impacted include agriculture and recreational facilities such as golf courses, farms, and nurseries.

Projected Changes in Population

Refer to Section 4.4.2 - Population Trends in the County Profile for a discussion on trends for the County. According to population projects from the Cornell Program on Applied Demographics, Livingston County will experience an overall population decrease through 2040 (approximately 560 people in total by 2040). This decrease will reduce the overall vulnerability of the County's population over time. While fewer people will reside in the County, populations may move into more densely populated areas of the County, increasing the stress on the water supplies in those locations.

Climate Change

As discussed earlier, summer droughts are projected to increase which may affect water supply, agriculture and ecosystems (NYSERDA 2014). An increased incidence of drought may impact availability of water supplies, primarily placing an increased stress on the population. It is unlikely that structure exposure and vulnerability would increase as a direct result of drought, although secondary impacts of drought, such as wildfire, may increase and threaten structures. If a wildfire were to occur during a drought, emergency services may face complications from a water shortage depending on their water source. Critical water-related service sectors may need to adjust management practices and actively manage resources. Increased incidence of drought may also increase the potential for impacts on the local economy including the production of agricultural products.

Change of Vulnerability

An examination of change in the County's vulnerability to drought events from the 2015 HMP to this update must scrutinize each exposed and vulnerable entity. Total population across the County has decreased, as indicated by a comparison of the 2010 U.S. Census (65,393 people) with the 2019 U.S. Census Estimates (63,591 people).

Regarding the agricultural industry within Livingston County, from 2012 to 2017, the number of farms remained exactly the same at 661 farms. The amount of land in farms decreased by 2% to 183,695 acres. The County also saw a slight decrease in the size of farms – from 295 acres to 287 acres. The Market Value of Products sold fell slightly to a total of $183,695,000. When droughts occur they almost always impact the market value of crops. (USDA Census of Agriculture 2017).

5.4.2 Earthquake

This section provides profile information, including description, location, extent, previous occurrences and losses, probability of future occurrences, and climate change impacts, as well as the vulnerability assessment for the earthquake hazard in Livingston County.

5.4.2.1 Hazard Profile

Description

An earthquake is the sudden movement of the earth's surface caused by the release of stress accumulated within or along the edge of the earth's tectonic plates, a volcanic eruption, or a manmade explosion (Federal Emergency Management Agency [FEMA] 2013; Shedlock and Pakiser 1995). Most earthquakes occur at the boundaries where the earth's tectonic plates meet (faults); however, less than 10 percent of earthquakes occur within plate interiors. New York State is in an area where plate interior-related earthquakes occur. As plates continue to move and plate boundaries change over geologic time, weakened boundary regions become part of the interiors of the plates. These zones of weakness within the continents can cause earthquakes from stresses that originate at the edges of the plate or in the deeper crust (Shedlock and Pakiser 1995).

According to the U.S. Geological Society (USGS) Earthquake Hazards Program, an earthquake hazard is anything associated with an earthquake that may affect a resident's normal activities. This includes surface faulting, ground shaking, landslides, liquefaction, tectonic deformation, tsunamis, and seiches. A description of each earthquake-related activity is provided below:

- *Surface faulting*: Displacement that reaches the earth's surface during slip along a fault. This commonly occurs with shallow earthquakes, which are those with an epicenter less than 20 kilometers.
- *Ground motion (shaking):* The movement of the earth's surface from earthquakes or explosions. Ground motion or shaking is produced by waves generated by sudden slip on a fault or sudden pressure at the explosive source; waves then travel through the earth and along its surface.
- *Landslide*: A movement of surface material down a slope.
- *Liquefaction*: A process by which water-saturated sediment temporarily loses strength and acts as a fluid (like wiggling your toes in the wet sand near the water at the beach). This effect can be caused by earthquake shaking.
- *Tectonic Deformation*: A change in the original shape of a material due to stress and strain.
- *Tsunami*: A sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands.
- *Seiche*: The sloshing of a closed body of water from earthquake shaking (USGS n.d.).

Extent

An earthquake's magnitude and intensity are used to describe the size and severity of the event. Magnitude describes the size at the focal point of an earthquake, and intensity describes the overall severity of shaking felt during the event. The earthquake's magnitude is a measure of the energy released at the source of the earthquake. Magnitude was formerly expressed by ratings on the Richter scale but is now most commonly expressed using the moment magnitude (Mw) scale. This scale is based on the total moment release of the earthquake (the product of the distance a fault moved and the force required to move it). The scale is as follows:

- Great Mw > 8
- Major Mw = 7.0 – 7.9
- Strong Mw = 6.0 – 6.9

- Moderate Mw = 5.0 – 5.9
- Light Mw = 4.0 – 4.9
- Minor Mw = 3.0 – 3.9
- Micro Mw = 3.0 – 3.9

The most commonly used intensity scale is the modified Mercalli intensity scale. Ratings of the scale, as well as the perceived shaking and damage potential for structures, are shown in Table 5.4.2-1. The modified Mercalli intensity scale is generally represented visually using shake maps, which show the expected ground shaking at any given location produced by an earthquake with a specified magnitude and epicenter. An earthquake has only one magnitude and one epicenter, but it produces a range of ground shaking at sites throughout the region, depending on the distance from the earthquake, the rock and soil conditions at sites, and variations in the propagation of seismic waves from the earthquake because of complexities in the structure of the earth's crust. Table 5.4.2-2 displays the Modified Mercalli Intensity (MMI) scale and its relationship to the areas peak ground acceleration.

Table 5.4.2-1. Modified Mercalli Intensity Scale

Mercalli Intensity	Shaking	Description
I	Not Felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations are similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation is similar to a heavy truck striking a building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate damage in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source(s): USGS 2020

Table 5.4.2-2. Modified Mercalli Intensity (MMI) and PGA Equivalents

Modified Mercalli Intensity	Acceleration (%g) (PGA)	Perceived Shaking	Potential Damage
I	< .17	Not Felt	None
II	.17 – 1.4	Weak	None
III	.17 – 1.4	Weak	None
IV	1.4 – 3.9	Light	None
V	3.9 – 9.2	Moderate	Very Light
VI	9.2 – 18	Strong	Light
VII	18 – 34	Very Strong	Moderate
VIII	34 – 65	Severe	Moderate to Heavy
IX	65-124	Violent	Heavy

Modified Mercalli Intensity	Acceleration (%g) (PGA)	Perceived Shaking	Potential Damage
X	>124	Extreme	Very Heavy

Source: Freeman et al. (Purdue University) 2004
Note: PGA Peak ground acceleration

The ground experiences acceleration as it shakes during an earthquake. Peak ground acceleration (PGA) expresses the severity of an earthquake and is a measure of how hard the earth shakes, or accelerates, in each geographic area. PGA is expressed as a percent acceleration force of gravity (%g). For example, 1.0%g PGA in an earthquake (an extremely strong ground motion) means that objects accelerate sideways at the same rate as if they had been dropped from the ceiling. An earthquake with a 10%g PGA means that the ground acceleration is 10 percent that of gravity (Freeman, et al. 2004). Damage levels experienced in an earthquake vary with the intensity of ground shaking and with the seismic capacity of structures, as noted in Table 5.4.2-3.

Table 5.4.2-3. Damage Levels Experienced in Earthquakes

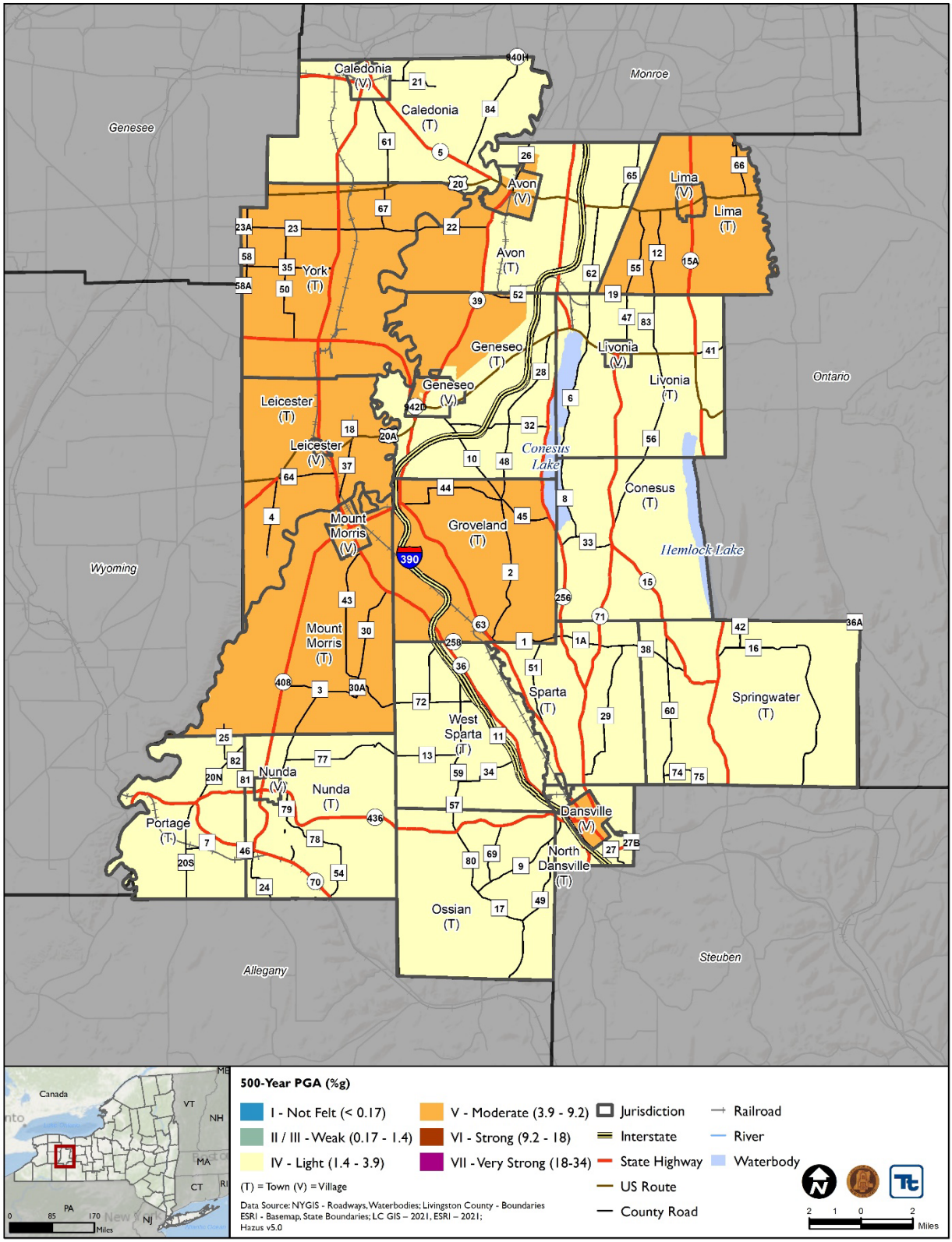
Ground Motion Percentage	Explanation of Damage
1-2%g	Motions are widely felt by people; hanging plants and lamps swing strongly, but damage levels, if any, are usually very low.
Below 10%g	Usually causes only slight damage, except in unusually vulnerable facilities.
10 - 20%g	May cause minor-to-moderate damage in well-designed buildings, with higher levels of damage in poorly designed buildings. At this level of ground shaking, only unusually poorly constructed buildings would be subject to potential collapse.
20 - 50%g	May cause significant damage in some modern buildings and very high levels of damage (including collapse) in poorly designed buildings.
≥50%g	May causes higher levels of damage in many buildings, even those designed to resist seismic forces.

Source: Freeman et al. (Purdue University) 2004
Note: %g Percent acceleration force of gravity

National maps of earthquake shaking hazards have been produced since 1948. They provide information essential to creating and updating the seismic design requirements for building codes, insurance rate structures, earthquake loss studies, retrofit priorities, and land use planning used in the United States. Scientists frequently revise these maps to reflect new information and knowledge. Buildings, bridges, highways, and utilities built to meet modern seismic design requirements are typically able to withstand earthquakes better, with less damage and disruption. After thorough review of the studies, professional organizations of engineers update the seismic-risk maps and seismic design requirements contained in building codes (USGS 2016).

A probabilistic assessment was conducted for the 500-year mean return period (MRP) in Hazards U.S.—Multi-Hazard (HAZUS-MH) v4.2 to analyze the earthquake hazard for Livingston County. The HAZUS analysis evaluates the statistical likelihood that a specific event will occur and what consequences will occur. The USGS updated the National Seismic Hazard Maps in 2018, which superseded the 2014 maps. New seismic, geologic, and geodetic information on earthquake rates and associated ground shaking were incorporated into these revised maps. The 2018 map represents the best available data as determined by the USGS. According to the data, Livingston County has a PGA between 6%g and 10%g (USGS 2018).

Figure 5.4.2-1. Peak Ground Acceleration Modified Mercalli Scale for a 500-Year MRP Earthquake Event



The New York State Geological Survey conducted seismic shear-wave tests of the state's surficial geology. Based on these test results, the surficial geologic materials of New York State were categorized according to the National Earthquake Hazard Reduction Program's (NEHRP) Soil Site Classifications (Table 5.4.2-4). The NEHRP developed five soil classifications defined by their shear-wave velocity that impact the severity of an earthquake. The soil classification system ranges from A to E (as noted in Table 5.4.2-4), where A represents hard rock that reduces ground motions from an earthquake and E represents soft soils that amplify and magnify ground shaking and increase building damage and losses. Class E soils include water-saturated mud and artificial fill. The strongest amplification of shaking is expected for this soil type. Seismic waves travel faster through hard rock than through softer rock and sediments. As the waves pass from harder to softer rocks, the waves slow down and their amplitude increases. Shaking tends to be stronger at locations with softer surface layers where seismic waves move more slowly. Ground motion above an unconsolidated landfill or soft soils can be more than 10 times stronger than at neighboring locations on rock for small ground motions (NYS DHSES 2019).

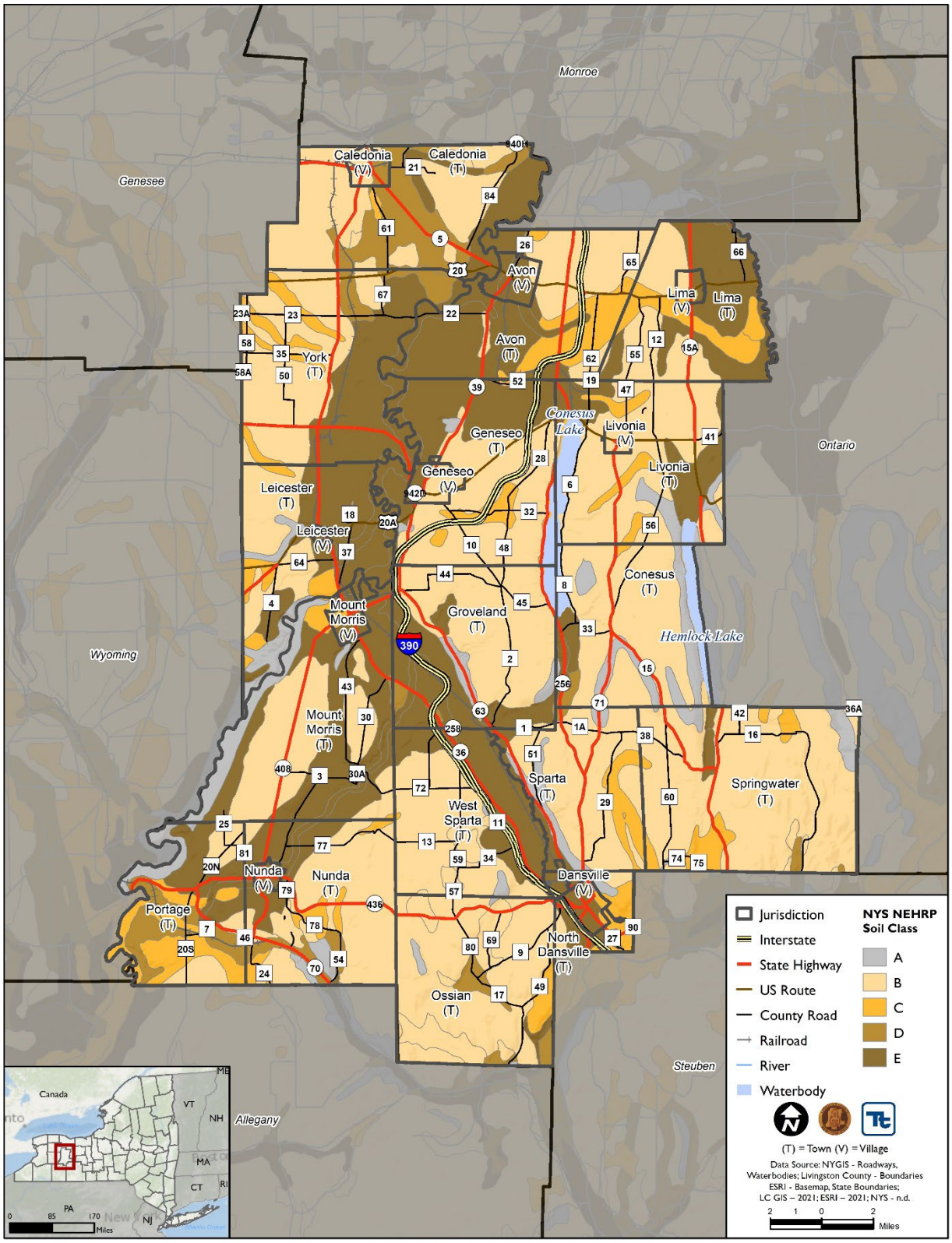
Table 5.4.2-4. NEHRP Soil Classifications

Soil Classification	Description
A	Very hard rock (e.g., granite, gneisses; and most of the Adirondack Mountains)
B	Rock (sedimentary) or firm ground
C	Stiff clay
D	Soft to medium clays or sands
E	Soft soil, including fill, loose sand, waterfront, lakebed clays

Source: NYS DHSES 2019

Figure 5.4.2-2 illustrates the NEHRP soils located throughout Livingston County, according to NYS DHSES data. The available NEHRP soils information is incorporated into the HAZUS-MH v4.2 earthquake model for the risk assessment (discussed in further detail later in this section). According to this figure, Livingston County is predominately underlain by Type B soils. The NEHRP soils of interest, Types D and E, are found throughout the Genesee Valley, Canaseraga Valley, and smaller valleys in the county. A concentration of Type E soils is located on the county's southwest border and along the Genesee River.

Figure 5.4.2-2. NEHRP Soils in Livingston County



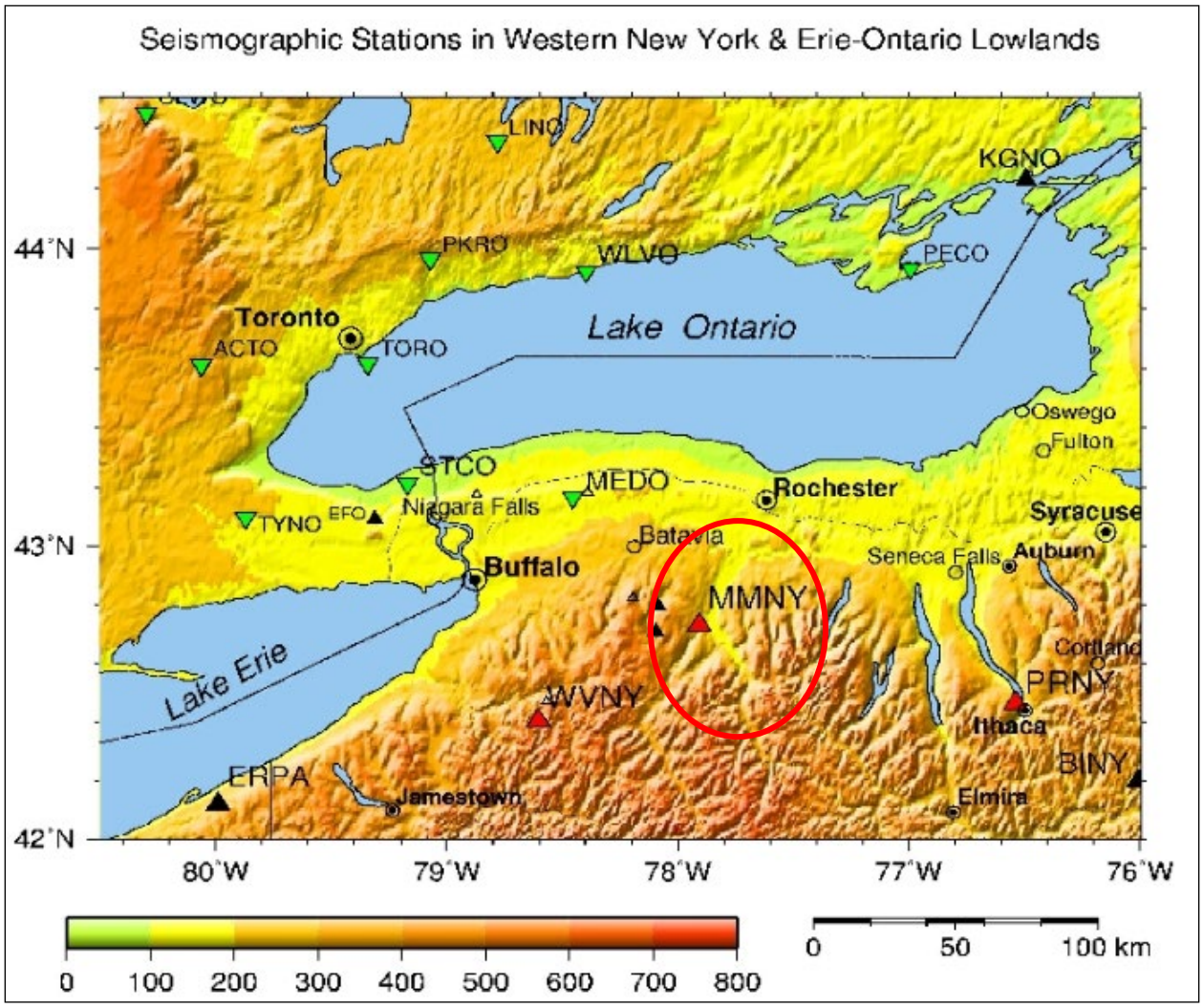
Location

The potential for earthquakes exists across all of New York State and four general regions would experience an amplification of ground motion during seismic activity. These regions are (1) Northwest NY – Northern Erie County, North Central; (2) Northeast NY – Jefferson, St. Laurence, and Northern Franklin Counties; (3) Upper Hudson River area of Eastern NY – Northern Saratoga, Washington, and Southern Warren Counties; and (4) Southeastern NY – Western Nassau County and New York City. Overall, these four regions are the most seismically active areas of the state. Livingston County is location in Region 1 (NYS DHSES 2021).

National maps of earthquake shaking hazards provide information for creating and updating seismic design requirements for building codes, insurance rate structures, earthquake loss studies, retrofit priorities, and land use planning. After thorough review of the studies, professional organizations of engineers update the seismic-risk maps and seismic design requirements contained in building codes (USGS 2016). The USGS updated the National Seismic Hazard Maps in 2018. New seismic, geologic, and geodetic information on earthquake rates and associated ground shaking were incorporated into these revised maps.

The Lamont-Doherty Cooperative Seismographic Network (LCSN) monitors earthquakes that occur primarily in the northeastern United States. The goals of the monitoring project are to compile a complete earthquake catalog for this region, to assess the earthquake hazards, and to study the causes of the earthquakes in the region. The LCSN operates 40 seismographic stations in the following seven states: Connecticut, Delaware, Maryland, New Jersey, New York, Pennsylvania, and Vermont. No seismographic stations are present in Livingston County; however, there are several within the vicinity of the county. Figure 5.4.2-3 shows the location of these stations in the western New York State area (LCSN 2014).

Figure 5.4.2-3. Lamont-Doherty Seismic Station Locations in the Western New York State Area



Source: *LCSN 2014*
Note: *The red oval indicates the approximate location of Livingston County.*
The red triangles indicate secondary school, college, and university facility stations.
The green triangles indicate public places or state geological survey centers.
The black triangles indicate environmental research and education centers.

In addition to the Lamont-Doherty seismic stations, USGS operates a global network of seismic stations to monitor seismic activity. While no seismic stations are located in New York State, nearby stations are positioned in State College, Pennsylvania, and Oak Ridge, Massachusetts. Figure 5.4.2-4 shows locations of USGS seismic stations near New York State.

Figure 5.4.2-4. USGS Seismic Stations Near New York State



Source: *USGS 2020*
Note: *The red circle indicates the approximate location of Livingston County.*

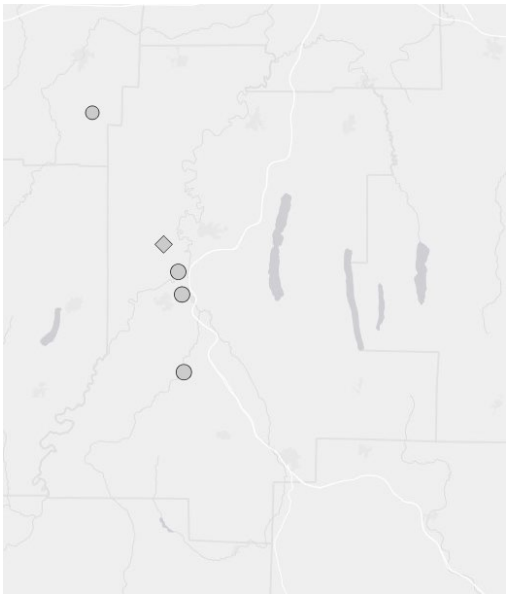
Previous Occurrences and Losses

Many sources provided historical information on previous occurrences and losses associated with earthquakes throughout New York State. Therefore, with so many sources reviewed for the purpose of this HMP update, loss and impact information for many events could vary depending on the source. According to the NYS Geological Survey and the New York State 2019 HMP update, approximately 551 significant earthquakes affected New York State between 1737 and 2016 (NESEC 2020). (NYS DHSES 2019).

Between 1954 and 2019, New York State was included in one earthquake-related major disaster (DR) or emergency (EM) declaration; DR-1415: Earthquake. Generally, these disasters cover a wide region of the state; therefore, they may have impacted many counties. However, not all counties were included in the disaster declaration. Livingston County was not included in any earthquake-related DRs or EMs (FEMA 2020).

Figure 5.4.2-5 illustrates historic earthquake epicenters in Livingston County between 1950 and 2020. According to this figure one earthquake with an epicenter in Livingston County occurred during that time. In addition to these earthquakes in Livingston County, numerous events have originated outside of the county that have been felt within the county. Table 5.4.2-5 includes details regarding these events.

Figure 5.4.2-5. Earthquake Epicenters in Livingston County and the Surrounding Area, 1950 – 2019



Source: USGS 2021

For this 2022 HMP update, known earthquake events that have impacted areas in and around Livingston County between 2015 and 2021 are identified in Table 5.4.2-5. It should be noted that many sources were researched for historical information regarding earthquake events in Livingston County; therefore, Table 5.4.2-5 may not include all earthquake events that have impacted the county. Additionally, not all sources have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP update.

Table 5.4.2-5. Earthquake Events in Livingston County, 2015 and 2021

Dates of Event	Magnitude (Modified Mercalli Scale)	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
May 28, 2021	2.4	Ossian	-	-	Information not provided

Note: All magnitudes listed refer to the Modified Mercalli Scale, unless otherwise specified.
N/A Not Applicable
USGS U.S. Geological Survey

Probability of Future Events

Earthquake hazard maps illustrate the distribution of earthquake shaking levels that have a certain probability of occurring over a given time period. According to the USGS, in 2017 (the date of the most recent analysis), Livingston County had a PGA of 0.17%g to 3.9%g for earthquakes with a 2-percent probability of an occurrence within 50 years.

The New York State Disaster Preparedness Commission (NYS DPC) indicates that the earthquake hazard in New York State is often understated because other natural hazards occur more frequently (e.g., hurricanes, tornadoes, and flooding) and are much more visible. However, the potential for earthquakes does exist across the entire northeastern United States, and New York State is no exception.

In Section 5.3, the identified hazards of concern for Livingston County were ranked. NYS DHSES conducts a similar ranking process for hazards that affect the state. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records and input from the Planning Partnership, the probability of occurrence for earthquakes of any magnitude in the county is considered "rare" (between 1 and 10% annual probability of occurring in any given year). With very few incidents having occurred within or affecting Livingston County, it is anticipated that the county will experience few direct and indirect impacts from earthquakes in the future.

Climate Change

The potential impacts of global climate change on earthquake probability are unknown. Some scientists feel that melting glaciers could induce tectonic activity. As ice melts and water runs off, tremendous amounts of weight are shifted on the earth's crust. As newly freed crust returns to its original, pre-glacier shape, it could cause seismic plates to slip and stimulate volcanic activity according to research into prehistoric earthquakes and volcanic activity. National Aeronautics and Space Administration (NASA) and USGS scientists found that retreating glaciers in southern Alaska might be opening the way for future earthquakes (NASA 2007).

Secondary impacts of earthquakes could be magnified by future climate change. Soils saturated by repetitive storms could experience liquefaction during seismic activity because of the increased saturation. Dams storing increased volumes of water according to a revised hydrograph could fail during seismic events. During the 1989 Loma Prieta, California, earthquake, liquefaction of the soils and debris used to fill a lagoon caused major subsidence, fracturing, and horizontal sliding of the ground surface (USGS n.d.). There are currently no models available to estimate these impacts.

5.4.2.2 Vulnerability Assessment

A probabilistic assessment was conducted for the 500-year Mean Return Period (MRP) earthquake event through a Level 2 analysis in Hazus v5.0 to analyze the earthquake hazard and provide a range of loss estimates. Figure 5.4.2-2 shows the geographic distribution of the NEHRP soil types in the County. Section 5.1 (Methodology and Tools) provides additional details on the methodology used to assess earthquake risk.

Impacts on Life, Health, and Safety

The entire County may experience an earthquake. However, the degree of impact is dependent on many factors including the age and type of construction people live in, the soil types their homes are located on, and the intensity of the earthquake. Whether directly or indirectly impacted, residents could be faced with business closures, road closures that could isolate populations, and loss of function of critical facilities and utilities.

According to the 2015-2019 ACS 5-year population estimate, Livingston County had a population of 63,591 people. Overall, risk to public safety and loss of life from an earthquake in the County is minimal for low magnitude events. However, there is a higher risk to public safety for those inside buildings due to structural damage or people walking below building ornamentations and chimneys that may be shaken loose and fall because of an earthquake.

Populations considered most vulnerable are those located in/near the built environment, particularly those near unreinforced masonry construction. Of these most vulnerable populations, socially vulnerable populations, including the elderly (persons over age 65) and individuals living below the poverty threshold, are most susceptible. Factors leadings to this higher susceptibility include decreased mobility and financial ability to react or respond during a hazard, and the location and construction quality of their housing. According to the 2015 – 2019 5-year ACS estimates, there are approximately 7,572 total persons living below the poverty level and 10,929 persons over the age of 65 years in Livingston County.

As noted earlier, NEHRP Soil Classes D and E can amplify ground shaking to damaging levels even during a moderate earthquake, and thus increase risk to the population. Populations within municipalities located on NEHRP Class D and E soils were estimated and are listed in Table 5.4.2-6. Approximately 25,751 residents (40.5-percent of the County's population) are located on NEHRP Class D and E soils. The Villages of Leicester and Nunda have the greatest proportion of its population residing on NEHRP Class D and E soils (i.e., 100-percent).

Table 5.4.2-6. Total Population Located on NEHRP Class D or E Soils

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located in the Class D and E NEHRP Soil Hazard Area	
		Number of People	Percent of Total
Avon (T)	3,637	984	27.1%
Avon (V)	3,260	3,257	99.9%
Caledonia (T)	2,060	971	47.2%
Caledonia (V)	2,078	1,298	62.5%
Conesus (T)	2,325	298	12.8%
Dansville (V)	4,586	4,152	90.5%
Geneseo (T)	2,540	553	21.8%
Geneseo (V)	8,095	1,040	12.8%
Groveland (T)	3,241	598	18.5%
Leicester (T)	1,798	1,274	70.9%
Leicester (V)	518	518	100.0%
Lima (T)	1,833	921	50.3%
Lima (V)	2,278	954	41.9%
Livonia (T)	6,231	1,356	21.8%
Livonia (V)	1,353	0	0.0%
Mount Morris (T)	1,340	597	44.6%
Mount Morris (V)	2,931	1,795	61.3%
North Dansville (T)	696	411	59.1%
Nunda (T)	1,716	743	43.3%
Nunda (V)	1,211	1,211	100.0%
Ossian (T)	701	63	9.0%
Portage (T)	837	419	50.1%
Sparta (T)	1,591	117	7.3%
Springwater (T)	2,233	150	6.7%
West Sparta (T)	1,229	399	32.4%
York (T)	3,273	1,670	51.0%
Livingston County (Total)	**63,591**	**25,751**	**40.5%**

Sources: NYS GIS n.d.; American Community Survey 2019
Notes: T – Town; V – Village; % - Percent; NEHRP - National Earthquake Hazard Reduction Program

As a result of a significant earthquake event, residents may be displaced or require temporary to long-term sheltering. The number of people requiring shelter is generally less than the number displaced as some displaced persons use hotels or stay with family or friends following a disaster event. Hazus estimates that there will be zero displaced households and zero persons seeking short-term sheltering caused by the 500-year MRP event.

According to the 1999-2003 NYCEM Summary Report (*Earthquake Risks and Mitigation in the New York / New Jersey / Connecticut Region*), a strong correlation exists between structural building damage and number of injuries and casualties from an earthquake event. Further, the time of day also exposes different sectors of the community to the hazard. For example, Hazus considers the residential occupancy at its maximum at 2:00 a.m., where the educational, commercial, and industrial sectors are at their maximum at 2:00 p.m., with peak commute time at 5:00 p.m. Whether directly impacted or indirectly impact, the entire population will have to deal with the consequences of earthquakes to some degree. Business interruption could prevent people from working, road closures could isolate populations, and loss of functions of utilities could impact populations that suffered no direct damage from an event itself. Table 5.4.2-7 summarizes the estimated number of injuries or casualties caused by the 500-year MRP event.

Table 5.4.2-7. Estimated Number of Injuries and Casualties from the 500-Year MRP Earthquake Event

Level of Severity	Time of Day		
	2:00 AM	2:00 PM	5:00 PM
Injuries	1	2	1
Hospitalization	0	0	0
Casualties	0	0	0

Sources: Hazus v5.0
Notes: MRP = Mean Return Period

Impacts on General Building Stock

The entire County's general building stock is considered at risk and exposed to this hazard. As stated earlier, soft soils (NEHRP Soil Classes D and E) can amplify ground shaking to damaging levels even during a moderate earthquake (NYCEM 2003). Therefore, buildings located on NEHRP Classes D and E soils are at increased risk of damage from an earthquake. Table 5.4.2-8 summarizes the number and replacement cost value of buildings in Livingston County located on NEHRP Class D and E soils. Overall, approximately 40.9-percent of Livingston County's buildings are built on NEHRP Class D and E soils.

Table 5.4.2-8. Number and Replacement Cost Value of Buildings Located on NEHRP Class D or E Soils

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Es Building Stock Located in the Class D or Class E NEHRP Soil Hazard Area			
			Number of Buildings	Percent of Total	Replacement Cost Value (RCV)	Percent of Total
Avon (T)	2,149	$1,324,846,766	601	28.0%	$385,464,344	29.1%
Avon (V)	1,245	$1,365,771,007	1,235	99.2%	$1,331,626,745	97.5%
Caledonia (T)	1,362	$792,755,652	643	47.2%	$336,138,873	42.4%
Caledonia (V)	979	$735,609,120	606	61.9%	$420,769,508	57.2%
Conesus (T)	1,774	$625,005,723	214	12.1%	$64,638,178	10.3%
Dansville (V)	1,950	$1,341,807,175	1,777	91.1%	$1,256,204,418	93.6%
Geneseo (T)	1,753	$1,161,720,041	446	25.4%	$319,898,184	27.5%
Geneseo (V)	1,329	$1,570,704,963	229	17.2%	$767,823,600	48.9%
Groveland (T)	1,330	$1,203,662,583	360	27.1%	$533,416,455	44.3%
Leicester (T)	1,214	$715,987,145	797	65.7%	$447,070,653	62.4%
Leicester (V)	240	$142,879,953	240	100.0%	$142,879,953	100.0%
Lima (T)	1,436	$859,636,929	730	50.8%	$490,528,533	57.1%
Lima (V)	777	$452,768,112	317	40.8%	$165,601,268	36.6%
Livonia (T)	3,888	$1,866,897,181	943	24.3%	$574,180,177	30.8%

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Es Building Stock Located in the Class D or Class E NEHRP Soil Hazard Area			
			Number of Buildings	Percent of Total	Replacement Cost Value (RCV)	Percent of Total
Livonia (V)	569	$371,319,429	0	0.0%	$0	0.0%
Mount Morris (T)	1,115	$646,574,328	503	45.1%	$306,661,046	47.4%
Mount Morris (V)	1,337	$785,505,655	837	62.6%	$577,984,450	73.6%
North Dansville (T)	607	$497,159,183	397	65.4%	$419,189,366	84.3%
Nunda (T)	1,354	$544,934,442	605	44.7%	$292,321,594	53.6%
Nunda (V)	641	$392,488,596	641	100.0%	$392,488,596	100.0%
Ossian (T)	817	$488,703,931	86	10.5%	$85,538,348	17.5%
Portage (T)	620	$338,465,763	311	50.2%	$191,121,571	56.5%
Sparta (T)	1,151	$449,674,840	86	7.5%	$33,394,574	7.4%
Springwater (T)	1,822	$702,256,303	118	6.5%	$38,850,065	5.5%
West Sparta (T)	1,010	$423,213,015	352	34.9%	$181,269,890	42.8%
York (T)	2,183	$1,677,949,006	1,101	50.4%	$803,953,703	47.9%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**14,175**	**40.9%**	**$10,559,014,091**	**49.2%**

Source: NYS GIS n.d.; Livingston County 2021; RS Means 2021
Notes: T – Town; V – Village; % - Percent; NEHRP - National Earthquake Hazard Reduction Program

There is a strong correlation between PGA and damage a building might undergo (NYCEM 2019). The Hazus model is based on best available earthquake science and aligns with these statements. The Hazus probabilistic earthquake model was applied to analyze effects from the earthquake hazard on general building stock in Livingston County. See Figure 5.4.2-1 earlier in this profile which illustrates the geographic distribution of PGA (g) across the County for the 500-year MRP event at the Census-tract level.

A building's construction determines how well it can withstand the force of an earthquake. The NYCEM Hazard Mitigation Plan indicates that unreinforced masonry buildings are most at risk during an earthquake because the walls are prone to collapse outward, whereas steel and wood buildings absorb more of the earthquake's energy. Additional attributes that affect a building's capability to withstand an earthquake's force include its age, number of stories, and quality of construction. Hazus considers building construction and age of building as part of the analysis. Because a custom general building stock was used for this Hazus analysis, the building ages and building types from the inventory were incorporated into the Hazus model.

Potential building damage was evaluated by Hazus across the following damage categories: none, slight, moderate, extensive, and complete. Table 5.4.2-9 provides definitions of these five categories of damage for a light wood-framed building. Definitions for other building types are included in the Hazus technical manual documentation. The results of potential damage states for buildings in Livingston County categorized by general occupancy classes (i.e., residential, commercial, industrial, etc.) from Hazus are summarized in Table 5.4.2-10 for the 500-year MRP events.

Table 5.4.2-9. Example of Structural Damage State Definitions for a Light Wood-Framed Building

Damage Category	Description
Slight	Small plaster or gypsum-board cracks at corners of door and window openings and wall-ceiling intersections; small cracks in masonry chimneys and masonry veneer.

Damage Category	Description
Moderate	Large plaster or gypsum-board cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by small cracks in stucco and gypsum wall panels; large cracks in brick chimneys; toppling of tall masonry chimneys.
Extensive	Large diagonal cracks across shear wall panels or large cracks at plywood joints; permanent lateral movement of floors and roof; toppling of most brick chimneys; cracks in foundations; splitting of wood sill plates and/or slippage of structure over foundations; partial collapse of room-over-garage or other soft-story configurations.
Complete	Structure may have large permanent lateral displacement, may collapse, or be in imminent danger of collapse due to cripple wall failure or the failure of the lateral load-resisting system; some structures may slip and fall off the foundations; large foundation cracks occur.

Source: Hazus Technical Manual

Table 5.4.2-10. Estimated Buildings Damaged by General Occupancy for 500-year MRP Earthquake Events

Occupancy Class	Total Number of Buildings in Occupancy	Severity of Expected Damage	Earthquake 500-Year	
			Building Count	Percent Buildings in Occupancy Class
Residential Exposure (Single and Multi-Family Dwellings)	28,577	None	28,242	98.8%
		Slight	281	1.0%
		Moderate	53	0.2%
		Extensive	1	<0.1%
		Complete Destruction	0	0.0%
Commercial Buildings	2,323	None	2,291	98.6%
		Slight	27	1.2%
		Moderate	4	0.2%
		Extensive	0	0.0%
		Complete Destruction	0	0.0%
Industrial Buildings	224	None	221	98.8%
		Slight	2	0.9%
		Moderate	1	0.3%
		Extensive	0	0.0%
		Complete Destruction	0	0.0%
Government, Religion, Agricultural, and Education Buildings	3,528	None	3,467	98.3%
		Slight	55	1.6%
		Moderate	6	0.2%
		Extensive	0	0.0%
		Complete Destruction	0	0.0%

Source: Hazus v5.0; Livingston County 2021; RS Means 2021
Notes: MRP – Mean Return Period; % - Percent

Building damage as a result of the 500-year MRP earthquake was estimated for each municipality using Hazus. Table 5.4.2-11 summarizes estimated total building and content losses caused by the 500-year MRP event by jurisdiction. This table also summarize losses for structures categorized as residential, commercial, and all other occupancy classes. Less than 0.1-percent of the County's structures are impacted by the 500-year MRP event (i.e., approximately $7.8 million in replacement cost value). Majority of the losses are estimated to occur in the Village of Avon.

Table 5.4.2-11. Estimated Replacement Cost Value (Building and Contents) Damaged by the 500-Year MRP Earthquake Event

Jurisdiction	Replacement Cost Value (RCV)	500-Year MRP				
		Estimated Total Damage	Percent of Total Building and Contents Replacement Cost Value	Estimated Residential Damage	Estimated Commercial Damage	Estimated Damages for All Other Occupancies
Avon (T)	$1,324,846,766	$318,676	<0.1%	$122,120	$78,198	$118,357
Avon (V)	$1,365,771,007	$1,225,818	0.1%	$296,627	$331,855	$597,336
Caledonia (T)	$792,755,652	$186,313	<0.1%	$61,734	$33,053	$91,527
Caledonia (V)	$735,609,120	$133,921	<0.1%	$44,374	$23,758	$65,789
Conesus (T)	$625,005,723	$31,978	<0.1%	$24,232	$2,109	$5,637
Dansville (V)	$1,341,807,175	$1,088,843	0.1%	$309,716	$427,844	$351,283
Geneseo (T)	$1,161,720,041	$286,786	<0.1%	$106,108	$61,939	$118,738
Geneseo (V)	$1,570,704,963	$671,202	<0.1%	$28,307	$9,513	$633,382
Groveland (T)	$1,203,662,583	$625,644	0.1%	$66,561	$36,813	$522,269
Leicester (T)	$715,987,145	$172,776	<0.1%	$67,976	$37,615	$67,185
Leicester (V)	$142,879,953	$34,157	<0.1%	$13,438	$7,436	$13,282
Lima (T)	$859,636,929	$316,761	<0.1%	$146,755	$53,317	$116,689
Lima (V)	$452,768,112	$171,545	<0.1%	$79,481	$28,878	$63,187
Livonia (T)	$1,866,897,181	$318,155	<0.1%	$134,189	$41,463	$142,502
Livonia (V)	$371,319,429	$46,561	<0.1%	$19,638	$6,068	$20,855
Mount Morris (T)	$646,574,328	$158,686	<0.1%	$62,432	$34,548	$61,706
Mount Morris (V)	$785,505,655	$731,869	0.1%	$227,222	$252,945	$251,701
North Dansville (T)	$497,159,183	$31,699	<0.1%	$16,629	$4,924	$10,145
Nunda (T)	$544,934,442	$135,629	<0.1%	$63,412	$17,539	$54,678
Nunda (V)	$392,488,596	$64,209	<0.1%	$30,020	$8,303	$25,885
Ossian (T)	$488,703,931	$41,980	<0.1%	$22,205	$6,342	$13,434
Portage (T)	$338,465,763	$62,105	<0.1%	$29,037	$8,031	$25,037
Sparta (T)	$449,674,840	$59,233	<0.1%	$31,311	$8,957	$18,964
Springwater (T)	$702,256,303	$32,843	<0.1%	$24,887	$2,166	$5,789
West Sparta (T)	$423,213,015	$51,897	<0.1%	$27,450	$7,840	$16,607
York (T)	$1,677,949,006	$753,241	<0.1%	$232,111	$87,445	$433,686
Livingston County (Total)	**$21,478,296,842**	**$7,752,525**	**<0.1%**	**$2,287,974**	**$1,618,900**	**$3,845,651**

Source: Hazus v5.0; Livingston County - 2021; RS Means 2021
Notes: T – Town; V – Village; % - Percent; < - Less Than; MRP – Mean Return Period

Historically, Building Officials Code Administration (BOCA) regulations in the northeast states were developed to address local concerns, including heavy snow loads and wind. Seismic requirements for design criteria are not as stringent as those of the west coast of the United States, which rely on the more seismically focused Uniform Building Code. As such, a smaller earthquake in the northeast can cause more structural damage than if it would occur in the west.

Impact on Critical Facilities and Lifelines

All critical facilities and lifelines in Livingston County are considered exposed to the earthquake hazard. Refer to subsection "Critical Facilities and Lifelines" in Section 4 (County Profile) of this HMP for a complete inventory of critical facilities in Livingston County.

The number of critical facilities and lifelines built on NEHRP Class D and Class E soil types was assessed. Overall, there are 459 critical facilities located on soils prone to ground shaking during an earthquake event. Of these critical facilities, 413 are considered lifelines for the County. Refer to Table 5.4.2-12 and Table 5.4.2-13 which summarize the number of facilities by jurisdiction and the number of lifelines categorized by FEMA

lifeline categories located on NEHRP Class D and Class E soil types, respectively. Appendix E provides a table summarizing the distribution of critical facilities by critical facility type within each jurisdiction located on these soil types. More than 54-percent of the critical facilities and lifelines in Livingston County are at risk to ground shaking during an earthquake event. The Village of Dansville has the greatest number of critical facilities at risk.

Table 5.4.2-12. Number of Critical Facilities and Lifelines Located on NEHRP Class D or E Soils

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within the NEHRP Class D or Class E Earthquake Soil Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	22	43.1%	21	45.7%
Avon (V)	36	27	36	100.0%	27	100.0%
Caledonia (T)	19	16	12	63.2%	10	62.5%
Caledonia (V)	28	25	15	53.6%	12	48.0%
Conesus (T)	26	26	6	23.1%	6	23.1%
Dansville (V)	46	37	44	95.7%	35	94.6%
Geneseo (T)	48	45	12	25.0%	12	26.7%
Geneseo (V)	46	39	22	47.8%	19	48.7%
Groveland (T)	63	59	31	49.2%	30	50.8%
Leicester (T)	26	26	19	73.1%	19	73.1%
Leicester (V)	13	13	13	100.0%	13	100.0%
Lima (T)	16	14	9	56.3%	7	50.0%
Lima (V)	21	19	6	28.6%	6	31.6%
Livonia (T)	70	65	40	57.1%	36	55.4%
Livonia (V)	16	12	0	0.0%	0	0.0%
Mount Morris (T)	30	29	20	66.7%	20	69.0%
Mount Morris (V)	28	24	22	78.6%	19	79.2%
North Dansville (T)	35	31	29	82.9%	25	80.6%
Nunda (T)	25	25	14	56.0%	14	56.0%
Nunda (V)	23	20	23	100.0%	20	100.0%
Ossian (T)	20	20	6	30.0%	6	30.0%
Portage (T)	23	22	10	43.5%	10	45.5%
Sparta (T)	18	18	3	16.7%	3	16.7%
Springwater (T)	27	26	4	14.8%	3	11.5%
West Sparta (T)	25	25	14	56.0%	14	56.0%
York (T)	58	54	27	46.6%	26	48.1%
Livingston County (Total)	**837**	**763**	**459**	**54.8%**	**413**	**54.1%**

Source: NYS GIS timated; Livingston County Planning Partners 2021; HIFLD 2020
Notes: T – Town; V – Village; % - Percent; NEHRP - National Earthquake Hazard Reduction Program

Table 5.4.2-13. Number of Lifelines Categorized by FEMA Lifeline Category Located on NEHRP Class D or E Soils

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the Class D or Class E NEHRP Soil Hazard Area
Communications	72	17
Energy	18	13
Food, Water, Shelter	100	44
Hazardous Materials	50	31
Health and Medical	36	16
Safety and Security	269	143

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the Class D or Class E NEHRP Soil Hazard Area
Transportation	218	149
Livingston County (Total)	**763**	**413**

Source: NYS GIS n.d.; Livingston County Planning Partners 2021; HIFLD 2020; FEMA 2020
Notes: NEHRP - National Earthquake Hazard Reduction Program

The Hazus earthquake model was used to assign the range or average probability of each damage state category to the critical facilities in Livingston County for the 500-year MRP event. In addition, Hazus estimates the time to restore critical facilities to fully functional use. Results are presented as a probability of being functional at specified time increments (days after the event). For example, Hazus might estimate that a facility has 5-percent chance of being fully functional at Day 3, and a 95-percent chance of being fully functional at Day 90. For percent probability of sustaining damage, the minimum and maximum damage estimated value for that facility type is presented.

As a result of a 500-Year MRP event, Hazus estimates that the functionality of critical facilities and lifelines in Livingston County can decrease as low as nine percent. Table 5.4.2-14 summarizes the damage state probabilities for critical facilities and lifelines during the 500-year MRP event.

Table 5.4.2-14. Estimated Damage for Critical Facilities for the 500-Year MRP Earthquake Event

Name	Percent Probability of Sustaining Damage					Percent Functionality			
	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7	Day 30	Day 90
Essential Facilities									
EOC	99.9%	<0.1%	<0.1%	0.0%	0.0%	99.9%	99.9%	99.9%	99.9%
Medical Facilities	97.7% - 99.9%	0.1% - 2.2%	0.0% - <0.1%	0.0%	0.0%	97.7% - 99.8%	99.8% - 99.9%	99.9%	99.9%
Police Stations	94.5% - 99.7%	0.2% - 3.1%	0.1% - 2.0%	<0.1% - 0.4%	0.0%	94.5% - 99.6%	97.5% - 99.8%	99.6% - 99.9%	99.7% - 99.9%
Fire Stations/EMS	94.5% - 99.6%	0.3% - 3.1%	0.1% - 2.0%	<0.1% - 0.4%	0.0%	94.5% - 99.5%	97.5% - 99.8%	99.6% - 99.9%	99.7% - 99.9%
Schools	96.5% - 99.6%	0.3% - 2.3%	<0.1% - 1.1%	0.0% - 0.1%	0.0%	96.5% - 99.6%	98.7% - 99.9%	99.8% - 99.9%	99.9%
High Loss Facilities									
Military	99.7%	0.3%	<0.1%	0.0%	0.0%	99.7%	99.9%	99.9%	99.9%
Utilities									
Communication	91.0% - 99.9%	0.1% - 5.6%	0.0% - 3.1%	0.0% - 0.4%	0.0%	98.1% - 99.9%	99.7% - 99.9%	99.9%	99.9%
Electric Power	94.5% - 99.5%	0.3% - 3.1%	0.1% - 2.0%	<0.1% - 0.4%	0.0%	96.2% - 99.6%	99.7% - 99.9%	99.9%	99.9%
Potable Water	91.1% - 99.9%	0.1% - 5.5%	0.0% - 3.0%	0.0% - 0.4%	0.0%	93.5% - 99.9%	99.4% - 99.9%	99.7% - 99.9%	99.8% - 99.9%
Wastewater	94.5% - 99.5%	0.3% - 3.1%	0.1% - 2.0%	<0.1% - 0.4%	0.0%	95.7% - 99.6%	99.4% - 99.9%	99.6% - 99.9%	99.9%
Transportation									
Airports	97.8% - 99.9%	<0.1% - 2.1%	0.0% - <0.1%	0.0%	0.0%	99.9%	99.9%	99.9%	99.9%
Bus Facilities	97.7% - 99.9%	0.1% - 2.2%	0.0% - <0.1%	0.0%	0.0%	99.9%	99.9%	99.9%	99.9%
Highway Bridges	99.9% - 100.0%	0.0% - <0.1%	0.0%	0.0%	0.0%	99.9% - 100.0%	99.9% - 100.0%	99.9% - 100.0%	99.9% - 100.0%

Source: Hazus v5.0; Livingston County Planning Partners 2021; HIFLD 2020; FEMA 2020
Notes: % - Percent; < - Less Than; MRP – Mean Return Period; EOC – Emergency Operations Center; EMS – Emergency Medical Services

Impact on the Economy

Earthquakes also have impacts on the economy, including loss of business function, damage to inventory, relocation costs, wage loss, and rental loss due to the repair/replacement of buildings. Hazus estimates building-related economic losses, including income losses (wage, rental, relocation, and capital-related losses) and capital stock losses (structural, non-structural, content, and inventory losses). Economic losses estimated by Hazus are summarized in Table 5.4.2-15.

Table 5.4.2-15. Building-Related Economic Losses from 500-Year MRP Earthquake Events

Mean Return Period (MRP)	Inventory Loss	Relocation Loss	Building and Content Losses	Wages Losses	Rental Losses	Capital-Related Loss
500-year MRP	$92,400	$882,200	$7,751,800	$358,700	$237,700	$147,600

Source: Hazus v5.0
Notes: MRP – Mean Return Period

Although the Hazus analysis did not compute damage estimates for individual roadway segments and railroad tracks, assumedly these features would undergo damage due to ground failure, resulting in interruptions of regional transportation and of distribution of materials. Losses to the community that would result from damage to lifelines could exceed costs of repair (FEMA 2012).

Earthquake events can also significantly affect road bridges, many of which provide the only access to certain neighborhoods. Because softer soils generally follow floodplain boundaries, bridges that cross watercourses should be considered vulnerable. Another key factor in degree of vulnerability is age of facilities and infrastructure, which correlates with standards in place at times of construction.

Hazus also estimates the volume of debris that may be generated as a result of an earthquake event to enable the study region to prepare and rapidly and efficiently manage debris removal and disposal. Debris estimates are divided into two categories: (1) reinforced concrete and steel that require special equipment to break it up before it can be transported, and (2) brick, wood, and other debris that can be loaded directly onto trucks with bulldozers (FEMA 2020).

For the 500-year MRP event, Hazus estimates a total of 2,124 tons of debris will be generated county-wide. Table 5.4.2-16 summarizes the estimated debris generated by the 500-year MRP event for each jurisdiction in Livingston County. The Village of Geneseo would experience the greatest amount of debris during the 500-year MRP earthquake event (i.e., 353 tons).

Table 5.4.2-16. Estimated Debris Generated by the 500-year MRP Earthquake Event

Jurisdiction	500-Year	
	Brick/Wood (tons)	Concrete/Steel (tons)
Avon (T)	54	12
Avon (V)	221	93
Caledonia (T)	44	8
Caledonia (V)	31	6
Conesus (T)	7	1
Dansville (V)	251	67
Geneseo (T)	49	11
Geneseo (V)	303	50
Groveland (T)	30	34
Leicester (T)	22	4
Leicester (V)	4	1
Lima (T)	44	10

Jurisdiction	500-Year	
	Brick/Wood (tons)	Concrete/Steel (tons)
Lima (V)	24	6
Livonia (T)	120	21
Livonia (V)	18	3
Mount Morris (T)	20	4
Mount Morris (V)	188	51
North Dansville (T)	5	1
Nunda (T)	46	9
Nunda (V)	22	4
Ossian (T)	7	2
Portage (T)	21	4
Sparta (T)	9	3
Springwater (T)	7	1
West Sparta (T)	8	2
York (T)	133	25
Livingston County (Total)	**1,689**	**435**

Source: Hazus v5.0
Notes: T – Town; V – Village; MRP – Mean Return Period

Impact on the Environment

According to USGS, earthquakes can cause damage to the surface of the earth in various forms depending on the magnitude and distribution of the event (USGS n.d.). Surface faulting is one of the major seismic components to earthquakes that can create wide ruptures in the ground. Ruptures can have a direct impact on the landscape and natural environment because they can disconnect habitats for miles isolating animal species or tear apart plant roots.

Furthermore, ground failure, as a result of soil liquefaction, can have an impact on soil pores and retention of water resources (USGS 2020). The greater the seismic activity and liquefaction properties of the soil, the more likely drainage of groundwater can occur which depletes groundwater resources. In areas with higher pressure of groundwater retention, the pores can build up more pressure and make soil behave more like a fluid rather than a solid, increasing risk of localized flooding and deposition or accumulation of silt (USGS 2021).

Cascading Impacts to Other Hazards

The Global Geoengineering Research Group in USGS has been investigating the relationship earthquakes have with ground deformation, ground failure, and coastal erosion (USGS 2020). As mentioned in earlier sections, soft and loose soils are more susceptible to earthquake events. Ground failure can become exacerbated due to earthquake events, causing land sliding and coastal erosion. Areas of steep slopes are at greater risk of ground failure and potential erosion during earthquakes (USGS 2020).

Further, residual impacts from earthquakes could alter the floodplain extent for the county if ground failure and erosion occur. Damage could occur at coastal levees or canals may become breached as a result of an earthquake event, which could create flooding in the impacted areas.

Future Changes that May Impact Vulnerability

Understanding future changes that impact vulnerability in the County can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development

- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

As discussed and illustrated in Section 4 (County Profile), areas targeted for future growth and development have been identified across the County. Development built in areas with softer NEHRP soil classes, liquefaction, and landslide-susceptible areas may experience shifting or cracking in the foundation during earthquakes because of the loose soil characteristics of these soil classes. However, current building codes require seismic provisions that should render new construction less vulnerable to seismic impacts than older, existing construction that may have been built to lower construction standards. Refer to Section 4, and Volume II Section 9 for more information about the potential new development in Livingston County.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. Although the population of Livingston County has decreased, persons that move into older buildings may increase their overall vulnerability to earthquakes. As noted earlier, if moving into new construction, current building codes require seismic provisions that should render new construction less vulnerable to seismic impacts.

Climate Change

Because the impacts of climate change on earthquakes are not well understood, a change in the County's vulnerability as the climate continues to change is difficult to determine. However, climate change has the potential to magnify secondary impacts of earthquakes. As a result of the climate change projections discussed above, the County's assets located on areas of saturated soils and on or at the base of steep slopes, are at a higher risk of landslides/mudslides because of seismic activity.

Change of Vulnerability since the 2015 HMP

Since the 2015 HMP, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates. The general building stock was also updated using 2021 building footprint and tax assessor data from Livingston County. Furthermore, the replacement cost values of the building inventory were updated using 2021 RS Means values. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to ground shaking and the 500-year MRP earthquake event. The building stock and critical facility inventories created for this HMP were assessed in Hazus v5.0 to determine the effects of a 500-year MRP event.

Overall, this vulnerability assessment uses a more precise and thorough approach, which provides increased accuracy for estimated exposure and potential losses for Livingston County.

5.4.3 Flood

The following section provides the hazard profile and vulnerability assessment for the flood hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.3.1 Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, climate change projections and the probability of future occurrences for the flood hazard.

Hazard Description

Floods are one of the most common natural hazards in the United States. They can develop slowly over a period of days or develop quickly, with disastrous effects that can be local (impacting a neighborhood or community) or regional (affecting entire river basins, coastlines and multiple counties or states) (Federal Emergency Management Agency [FEMA] 2007). As defined in the New York State (NYS) HMP (NYS Division of Homeland Security and Emergency Services [DHSES] 2019), flooding is a general and temporary condition of partial or complete inundation of water on normally dry land caused by the following:

- Riverine overbank flooding
- Flash floods
- Alluvial fan floods
- Mudflows or debris floods
- Dam-break floods
- Local draining or high groundwater levels
- Fluctuating lake levels
- Ice-jams
- Coastal flooding
- Urban flooding

Many floods fall into three categories: riverine, coastal, and shallow (FEMA n.d.). Other types of floods may include ice-jam floods, alluvial fan floods, dam failure floods, and floods associated with local drainage or high groundwater. For the purpose of this HMP and as deemed appropriate by the Livingston County Steering Committee, riverine (inland), shallow, flash, ice jam, and dam and levee failure flooding are the main flood types of concern for the county. These types of floods are further discussed below.

Riverine Flooding

Riverine floods is the most common flood type. They occur when rivers overflow their banks in response to excessive precipitation levels and water runoff volumes within the watershed. Riverine floodplains may be broad, as when a river crosses an extensive flat landscape, or narrow, as when a river is confined in a canyon. Riverine flooding can occur seasonally or with heavy rains associated with storms (National Weather Service [NWS] n.d.).

Shallow Flooding

Shallow flooding described below is caused by local drainage issues and high groundwater levels. Locally, heavy precipitation may produce flooding in areas other than delineated floodplains or along recognizable channels. If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems. During winter and spring, frozen ground

and snow accumulations may contribute to inadequate drainage and localized ponding. Flooding issues of this nature generally occur in areas with flat gradients and increase with urbanization, which speeds the accumulation of floodwaters because of impervious areas. Shallow street flooding can occur unless channels have been improved to account for increased flows (FEMA 2005).

High groundwater levels can be a concern and cause problems even where there is no surface flooding. Basements are susceptible to high groundwater levels. Seasonally high groundwater is common in many areas, while elsewhere high groundwater occurs only after long periods of above-average precipitation (FEMA 2005).

Urban drainage flooding that is caused by heavy rainfall that overwhelms a developed area's stormwater infrastructure causing flooding is commonly referred to as urban flooding. Urban flooding can be worsened by aging and inadequate infrastructure, and over-development of land. The growing number of extreme rainfall events that produce intense precipitation are resulting in increased urban flooding (Center for Disaster Resilience 2016). While riverine and coastal flooding is mapped and studied by FEMA, urban flooding is not.

Flash Flooding

Flash floods are defined by NWS as, "a flood caused by heavy or excessive rainfall in a short period of time, generally less than 6 hours. Flash floods are usually characterized by raging torrents after heavy rains that rip through riverbeds, urban streets, or mountain canyons sweeping everything before them. They can occur within minutes or a few hours of excessive rainfall. They can also occur even if no rain has fallen, for instance after a levee or dam has failed, or after a sudden release of water by a debris or ice jam." (NWS n.d.).

Ice Jam Flooding

An ice jam occurs when pieces of floating ice are carried with a stream's current and accumulate behind any obstruction to the stream flow. Obstructions may include river bends, mouths of tributaries, points where the river slope decreases, as well as dams and bridges. The water held back by this obstruction can cause flooding upstream, and if the obstruction suddenly breaks, flash flooding can occur as well (National Oceanic and Atmospheric Administration [NOAA] n.d.). The formation of ice jams depends on the weather and physical condition of the river and stream channels. They are most likely to occur where the channel slope naturally decreases, in culverts, and along shallows where channels may freeze solid. Ice jams and resulting floods can occur during at different times of the year: fall freeze-up from the formation of frazil ice; mid-winter periods when stream channels freeze solid, forming anchor ice; and spring breakup when rising water levels from snowmelt or rainfall break existing ice cover into pieces that accumulate at bridges or other types of obstructions (NWS n.d.).

There are two main types of ice jams: freeze-up and breakup. Freeze-up jams occur when floating ice may slow or stop because of a change in water slope as it reaches an obstruction to movement. Breakup jams occur during periods of thaw, generally in late winter and early spring. The ice cover breakup is usually when the ice jam acts as a dam on the river that results in flooding behind the dam until the ice melts or the jam weakens to the point that the ice releases and moves downstream (NWS n.d.).

Dam Failure Flooding

According to the U.S. Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC), there are no levees in Livingston County; therefore, levee failure flooding will not be profiled.

Dam failure is defined in hydrologic terms, characterized by the sudden and uncontrolled release of impounded water (NWS n.d.) Dams are man-made structures built across a stream or river that impound water and reduce

the flow downstream. They are built for the purpose of agriculture, water supply, recreation, and flood protection. Dam failure is any malfunction or abnormality outside of the design that adversely affects a dam's primary function of impounding water (FEMA 2014). Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam (inadequate spillway capacity)
- Prolonged periods of rainfall and flooding
- Deliberate acts of sabotage (terrorism)
- Structural failure of materials used in dam construction
- Movement and/or failure of the foundation supporting the dam
- Settlement and cracking of concrete or embankment dams
- Piping and internal erosion of soil in embankment dams
- Inadequate or negligent operation, maintenance and upkeep
- Failure of upstream dams on the same waterway
- Earthquake (liquefaction or landslides) (FEMA 2019)

Flood Control Measures

There are 77 dams located in Livingston County. The dams are used for fire protection, flood control, hydroelectricity, recreation, and water supply. The following provides descriptions of several dams in the County. Table 5.4.3-1 provides a description of the dams and flood control measures in the County as described in the Flood Insurance Study for the County.

Table 5.4.3-1. Dams in Livingston County

Jurisdiction	Description
Village of Town of Avon	Mount Morris Dam – flood threats significantly reduced in the Village and Town; capacity of the reservoir, 337,400 acre-feet is ample to protect the basin below from all but very infrequent floods (FEMA 1978 and FEMA 1980).
Village of Caledonia	The village does not have any structures constructed specifically for flood control purposes but there is a concrete overflow dam built on Spring Creek. This dam has some regulatory effect on flooding in the village (FEMA 1980).
Town of Conesus	The elevation of Hemlock Lake is controlled by a gate valve structure and the elevation of Conesus Lake is controlled by an outlet control structure. Other flood control measures include cross culverts a various roadway locations, wing wall construction at roadways near Conesus Lake, and stone fill for bank protection at isolated locations (FEMA 1991).
Village of Danville	The Village of Dansville's flood protection measures include stone fill for bank protection has been placed at several isolated stream crossings. Also, a segment of Bradner Creek has been channelized with concrete side walls (FEMA 2010).
Town of Geneseo	The town has benefited from the construction of the Mount Morris Dam as it significantly reduced the threat of flood disaster (FEMA 1996).
Village of Geneseo	The construction of the Mount Morris Dam significantly reduced the village's threat of floods. A small portion of Jaycox Creek has been channelized (FEMA 1996).
Town of Groveland	The Town of Groveland's flood protection measures include the Mount Morris Dam holding back the water on the Genesee River, allowing Canaseraga Creek to drain faster than normal, affording a limited amount of flood relief into the Canaseraga Valley. New York State constructed a canal (State Canal) in the area to the west of Bradner Creek to improve local drainage. Another flood protection measure included a system of lateral ditches has been constructed throughout the village by local property owners in order to improve the drainage from their farmlands (FEMA 1991).
Town of Leicester	Mount Morris Dam reduced the threat of flood disaster (FEMA 1981).
Town of Livonia	Flood protection measures include the elevation of Hemlock Lake the is controlled by a gate valve structure. Other flood protection measures include cross culverts at various roadway locations, wing wall construction, stone fill for bank protection at isolated locations, and retention walls along various segments of the stream lengths (FEMA 1992).
Town of Mount Morris	The Town has greatly benefited from the construction of the Mount Morris Dam on the Genesee River. The dam has significantly reduced the threat of flood disaster. Other flood protection measures include cross

Jurisdiction	Description
	culverts a various roadway locations, wing wall construction, and stone fille for bank protection at isolated locations (FEMA 1978).
Village of Mount Morris	The Village of Mount Morris has benefited from the construction of the Mount Morris Dam as it reduced the threat of flood disaster. Other flood protection measures include the presence of a check dam that reduces the velocity of the flow approaching the Route 36 Bridge. A stone wall rising seven feet above the check dam extends about 200 feet upstream from the bridge along the east side of the river affording protection from flooding (FEMA 1978).
Town of North Dansville	Flood protection measures include lining the banks of Canaseraga Creek with stones and in some places, covered with cement. The bridge along Poags Hole Road over Canaseraga Creek was rebuilt with a sheet-pile wall that was constructed along the eastern bank for a distance of approximately 100 feet on each side of the bridge (FEMA 2010).
Town of Portage	The Town's flood protection measures are limited to clearing and dredging troublesome portions of the Genesee River and Keshequa Creek as needed (FEMA 1984).
Town of Sparta	The Town of Sparta's flood protection measures include the channelization of the Canaseraga Creek, which has helped somewhat confine the flow. However, modern day flood protection measures have been limited to ditching and clearing sections of the creek (FEMA 2010).
Town of West Sparta	Flood protection measures include ditching and clearing sections of Canaseraga Creek as necessary (FEMA 2010).
Town of York	The Town has benefitted from the construction of Mount Morris Dam. The dam significantly reduced the threat of flood disaster and flooding in the lower basin was not as severe in the upper basin (FEMA 1981).

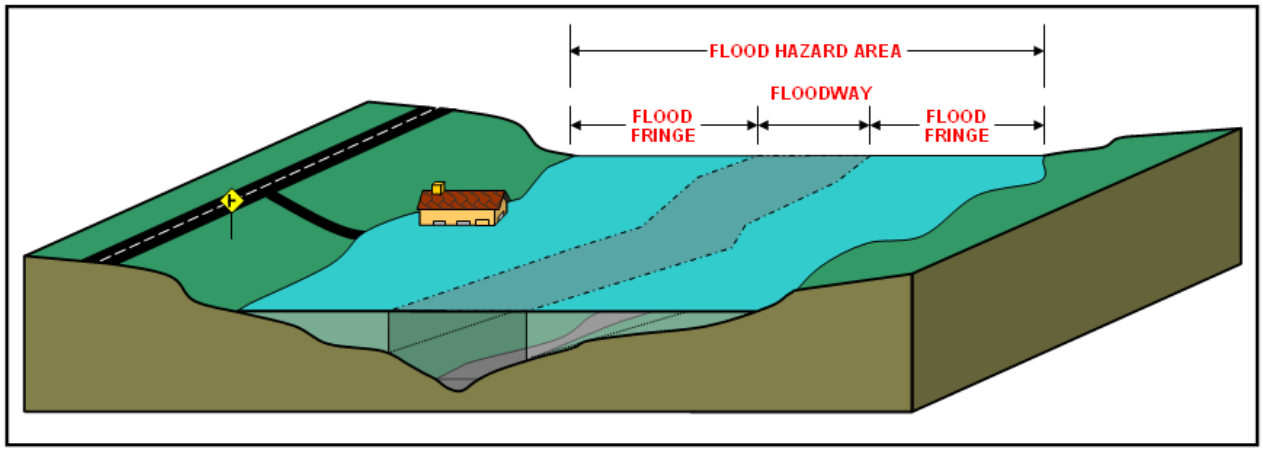
Location

Nearly all areas in the Livingston County could experience a flash flooding event. This depends on the intensity and duration of rainfall, the steepness of the watershed, the amount of impervious surfaces within the watershed, and vegetation. Flooding potential is influenced by climatology, meteorology, and topography (i.e., elevations, latitude, and water bodies and waterways). Flooding potential for each type of flooding that affects Livingston County is described in the subsections below.

Riverine, Shallow, and Flash Flooding

A floodplain is defined as the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that becomes inundated with water during a flood. In Livingston County, floodplains line the rivers and streams of the county. The boundaries of the floodplains are altered as a result of changes in land use, the amount of impervious surface, placement of obstructing structures in floodways, changes in precipitation and runoff patterns, improvements in technology for measuring topographic features, and utilization of different hydrologic modeling techniques. Figure 5.4.3-1 depicts the flood hazard area, the flood fringe, and the floodway areas of a floodplain.

Figure 5.4.3-1. Floodplain



Source: New Jersey Department of Environmental Protection (NJDEP) n.d.

Most often floodplains are referred to as 100-year floodplains. A 100-year floodplain is not a flood that will occur once every 100 years; the designation indicates a flood that has a 1-percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur more than once in a relatively short period of time. Because of this misleading term, FEMA has properly defined it as the 1-percent annual chance flood. Similarly, the 500-year floodplain will not occur every 500 years but is an event with a 0.2-percent chance of being equaled or exceeded each year. The "1-percent annual chance flood" is now the standard term used by most federal and state agencies and by the National Flood Insurance Program (NFIP) (FEMA 2018). The 1-percent annual chance floodplain establishes the area that has flood insurance and floodplain management requirements, and is also referenced as the regulatory floodplain.

Locations of flood zones in Livingston County as depicted in the FEMA Q3 data are illustrated in Figure 5.4.3-2 and the total land area in the floodplain, inclusive of waterbodies, is summarized in Table 5.4.3-2. Section 9, Jurisdictional Annexes, includes a map of each jurisdiction depicting the floodplains. As depicted in Figure 5.4.3-2, flood hazard zones occur to limited extents in smaller creeks within most Livingston municipalities. The Genesee and Canaseraga valleys that run through the county's central spine are comprised almost completely of lands in the 1 percent annual chance flood area.

The Livingston County Q3 Data from FEMA show the following flood hazard areas:

- 1-Percent Annual Chance Flood Hazard: Areas subject to inundation by the 1-percent annual chance flood event. This flood boundary includes Zone AE and Zone A. Mandatory flood insurance requirements and floodplain management standards apply. The A Zones did not have determined flood depths provided in the Q3 data. As a result, the Q3 data boundaries were interpolated in ArcGIS to create a 3D water surface elevation and flood depth grid for the 1-percent annual chance flood event boundary.
- 0.2-Percent Annual Chance Flood Hazard: Area of minimal flood hazard, usually depicted on FEMA Flood Insurance Rate Maps (FIRM) as the 500-year flood level or Shaded X Zone.

The total land area located in the 1-percent annual chance flood zones was calculated using Q3 flood hazard data generated in the 1970s and 1980s for the county, as presented in Table 5.4.3-2. Section 9, Jurisdictional Annexes, contains information regarding specific areas of flooding for each participating municipality in Livingston County.

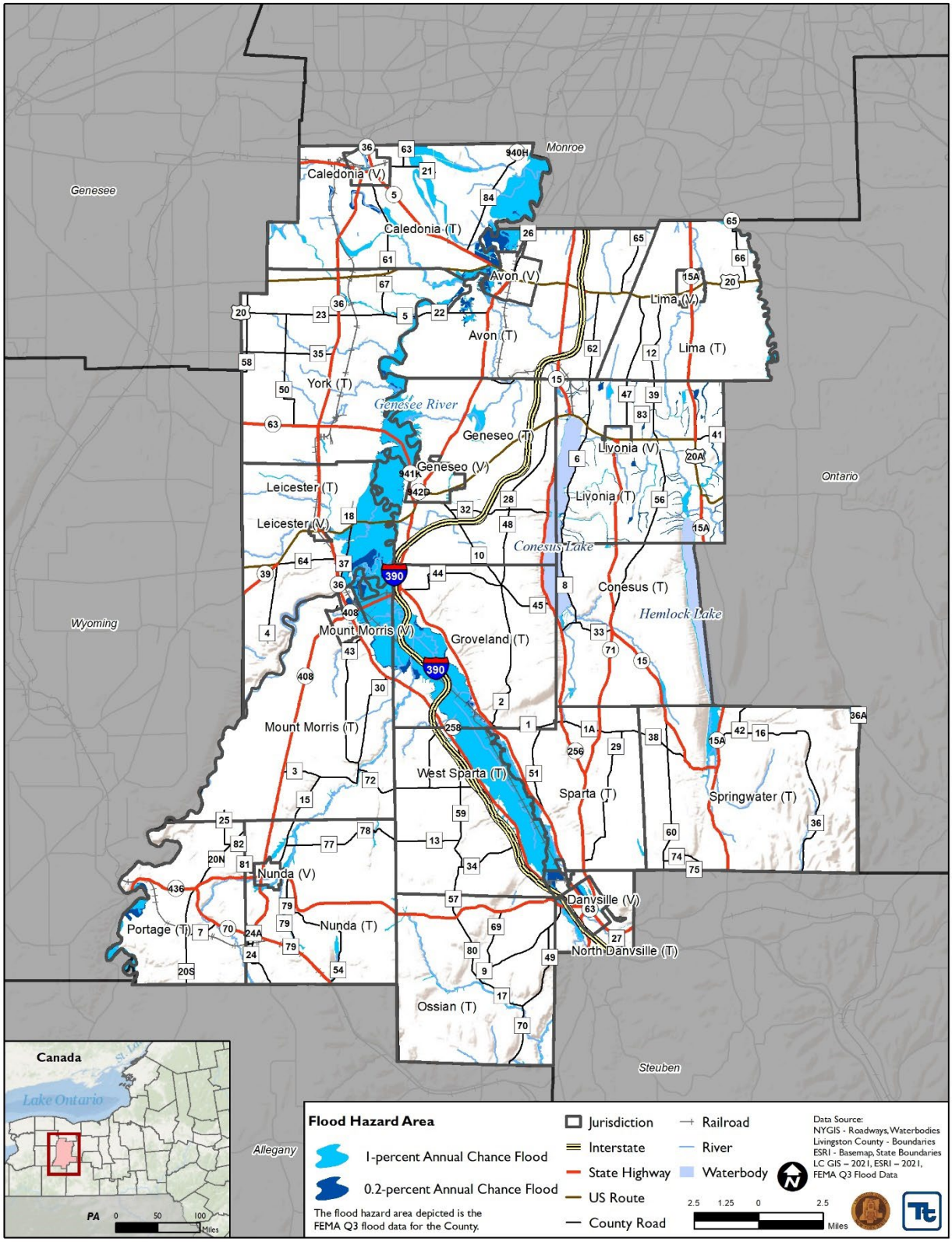
Table 5.4.3-2 Total Land Area in the 1-Percent and 0.2-Percent Annual Chance Flood Zones (Acres)

Jurisdiction	Total Acres	Acres Located in 1-Percent Annual Chance Flood Event	Percent of Total	Acres Located in 0.2-Percent Annual Chance Flood Event	Percent of Total
Avon (T)	24,401	846	3.5%	1,391	5.7%
Avon (V)	2,010	107	5.3%	186	9.3%
Caledonia (T)	26,919	4,295	16.0%	4,945	18.4%
Caledonia (V)	1,338	57	4.3%	121	9.0%
Conesus (T)	22,965	2,173	9.5%	2,180	9.5%
Dansville (V)	1,669	161	9.6%	294	17.6%
Geneseo (T)	27,056	3,328	12.3%	3,384	12.5%
Geneseo (V)	1,825	45	2.5%	49	2.7%
Groveland (T)	25,514	4,880	19.1%	5,320	20.9%
Leicester (T)	21,590	3,698	17.1%	4,105	19.0%
Leicester (V)	232	12	5.2%	12	5.2%
Lima (T)	19,592	354	1.8%	354	1.8%
Lima (V)	865	22	2.5%	22	2.5%

Jurisdiction	Total Acres	Acres Located in 1-Percent Annual Chance Flood Event	Percent of Total	Acres Located in 0.2-Percent Annual Chance Flood Event	Percent of Total
Livonia (T)	25,623	2,590	10.1%	3,648	14.2%
Livonia (V)	649	35	5.4%	35	5.4%
Mount Morris (T)	30,746	2,125	6.9%	2,270	7.4%
Mount Morris (V)	1,311	162	12.4%	273	20.8%
North Dansville (T)	4,709	360	7.6%	558	11.8%
Nunda (T)	23,138	716	3.1%	716	3.1%
Nunda (V)	624	101	16.2%	101	16.2%
Ossian (T)	25,438	436	1.7%	436	1.7%
Portage (T)	16,992	544	3.2%	695	4.1%
Sparta (T)	17,699	934	5.3%	938	5.3%
Springwater (T)	34,038	556	1.6%	556	1.6%
West Sparta (T)	21,393	4,284	20.0%	4,326	20.2%
York (T)	31,383	2,480	7.9%	2,655	8.5%
Livingston County (Total)	**409,718**	**35,300**	**8.6%**	**39,568**	**9.7%**

Source: Livingston County GIS 2021; Livingston County Q3 Data from FEMA 1970/1980s; NLCD/USGS 2016
Notes: The area presented includes the area of inland waterways. % - Percent; T - Town; V - Village

Figure 5.4.3-2. FEMA Flood Hazard Areas in Livingston County



Livingston County is covered by several watershed. The largest feed into the Genesee River watershed which encompasses the large Canaseraga Creek drainage. The Genesee River Watershed (New York State Drainage Basin Number 1) is composed of the Genesee River and its tributary creeks including Oatka Creek, Black Creek, Honeoye Creek, Conesus Creek, and Canaseraga Creek. (NYSDEC 2012).

Other notable watersheds include Beard's Creek, Conesus Lake and Honeoye Creek (NYSDEC n.d.). A complete countywide watershed map is posted within the County Profile (Section 4) in Figure 4-3.

Flooding Issues

Damaging floods in the Genesee River Basin have occurred in all months of the year except August. Summer floods are, in general, localized in a portion of the watershed and are usually the result of convectively unstable air conditions. Winter and spring floods are usually the result of frontal precipitation on saturated or frozen ground or on melting snow cover, although floods have occurred from melting snow cover alone. Large magnitude floods have occurred in the basin eight times during the 50-year period from 1917 to 1967, causing extensive damage to businesses, utilities, transportation, and homes. These floods occurred in 1927, 1935, 1942, 1950 (two floods), 1956, 1960, and 1961

A severe flood, resulting from Tropical Storm Agnes during June 1972, subjected the Genesee River Basin to approximately $50 million worth of damages. The magnitude of this flood in the lower basin ranged from a 10-year storm at Rochester to a 60-year storm at the Jones Bridge gage; in the upper basin, the flood's magnitude ranged from a 35-year storm at Shongo to a 285-year storm at Portageville. Although the amount of rainfall was not officially recorded in the Town of Geneseo, it can be approximated via the inspection of the isohyetal map for the storm and the comparison of recorded data at official rainfall stations in the basin. The total rainfall is estimated to have ranged from 4.5 to 5.7 inches within the town, with a maximum daily amount of 2.4 to 3.0 inches (Reference 8).

Tropical Storm Agnes produced the flood of record in the area. At the Jones Bridge gage, the maximum recorded discharge of the Genesee River was 17,500 cubic feet per second (cfs). Within the boundary limits of the Town of Geneseo, the water-surface elevation of the river rose from 26 to 32 feet above its channel bottom. The agricultural sector suffered the heaviest damages. Damages in the vicinity of Conesus Lake, estimated at $285,000, were spread among several communities, and involved mainly residential properties. The June 1972 flood resulted in record high lake stages on Conesus Lake of 822.5 feet (Reference 8). The calculated 100-year flood elevation without the Conesus Lake Flood Control Project was 822.9 feet. The 100-year water-surface elevation with the project is 821 feet.

Ice Jam Flooding

According to the USACE Ice Jam Database, 39 ice jams have occurred in Livingston County. A majority of them occurring along the Genesee River with several along Canaseraga Creek.

Dam Failure

There are 77 dams in Livingston County. Of the 77 dams, only two are classified as high hazard dams. Section 4, County Profile, includes a map of dam locations by hazard classification in Livingston County.

Stream Gages

The National Weather Service (NWS) Advanced Hydrologic Prediction Service (AHPS) operates and/or monitors over 9,800 river and stream gages across the country, 677 of them in New York State, and seven within Livingston County (shown in Table 5.4.3-3 and Figure 5.4.3-3). The data is collected by automatic recorders and manual field measurements at the gage locations. The flood stage is identified at each gage. Livingston

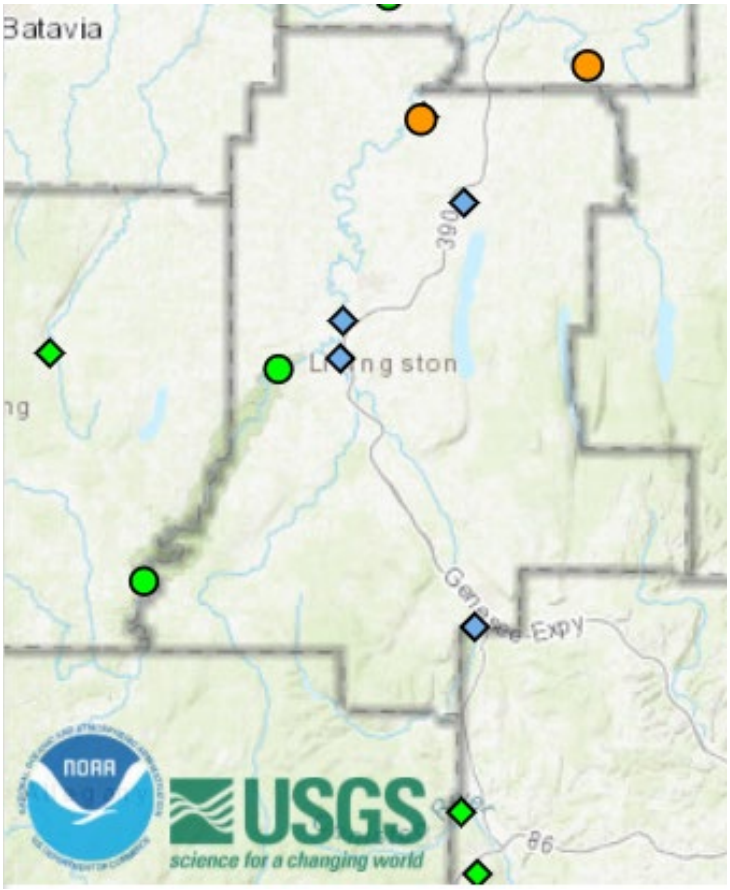
County and its municipalities rely on these gages to determine the height of the rivers during heavy rain events and to determine whether or not residents need to evacuate.

Table 5.4.3-3. USGS Gages Located in Livingston County

Gage Site Number	Site Name	Action Stage (feet)	Minor Flood Stage (feet)	Moderate Flood Stage (feet)	Major Flood Stage (feet)	Record Flood
AVON6	Genesee River at Avon	30	33	37	40	40.67 feet on June 25, 1972
DSVN6	Canaseraga Creek at Dansville	Not Available	Not Available	Not Available	Not Available	Not Available
JONN6	Genesee River at Jones Bridge	Not Available	Not Available	Not Available	Not Available	Not Available
LLLN6	Conesus Creek near Lakeville	Not Available	Not Available	Not Available	Not Available	Not Available
MMDN6	Genesee River at Mount Morris Dam	720	760	760	760	755.00 feet on June 23, 1972
PRTN6	Genesee River at Portageville	17	19	25	29	35.25 feet on June 23, 1972
SHKN6	Canaseraga Creek at Shakers Crossing	Not Available	Not Available	Not Available	Not Available	Not Available

Source: NWS 2021

Figure 5.4.3-3. USGS Gage Locations in Livingston County



Source: NWS 2021

Extent

Riverine Flooding

In the case of riverine flood hazard, once a river reaches flood stage, the flood extent or severity categories used by the NWS include minor flooding, moderate flooding, and major flooding. Each category has a definition based on property damage and public threat:

- *Minor Flooding* - minimal or no property damage, but possibly some public threat or inconvenience.
- *Moderate Flooding* - some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary.
- *Major Flooding* - extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations. (NWS 2011)

The severity of a flood depends not only on the amount of water that accumulates in a period of time, but also on the land's ability to manage this water. The size of rivers and streams in an area and infiltration rates are significant factors. When it rains, soil acts as a sponge. When the land is saturated or frozen, infiltration rates decrease and any more water that accumulates must flow as runoff (Harris 2008).

Dam Failure Flooding

According to the NYSDEC Division of Water Bureau of Flood Protection and Dam Safety, the hazard classification of a dam is assigned according to the potential impacts of a dam failure pursuant to 6 NYCRR Part 673.3 (NYSDEC n.d.). Dams are classified in terms of potential for downstream damage if the dam were to fail. These hazard classifications are identified and defined below:

- *Low Hazard (Class A)* is a dam located in an area where failure will damage nothing more than isolated buildings, undeveloped lands, or township or county roads and/or will cause no significant economic loss or serious environmental damage. Failure or mis-operation would result in no probable loss of human life. Losses are principally limited to the owner's property.
- *Intermediate Hazard (Class B)* is a dam located in an area where failure may damage isolated homes, main highways, minor railroads, interrupt the use of relatively important public utilities, and/or will cause significant economic loss or serious environmental damage. Failure or mis-operation would result in no probable loss of human life, but can cause economic loss, environment damage, disruption of lifeline facilities, or impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.
- *High Hazard (Class C)* is a dam located in an area where failure may cause loss of human life, serious damage to homes, industrial or commercial buildings, important public utilities, main highways or railroads and/or will cause extensive economic loss. This is a downstream hazard classification for dams in which excessive economic loss (urban area including extensive community, industry, agriculture, or outstanding natural resources) would occur as a direct result of dam failure.
- *Negligible or No Hazard (Class D)* is a dam that has been breached or removed, or has failed or otherwise no longer materially impounds waters, or a dam that was planned but never constructed. Class "D" dams are considered to be defunct dams posing negligible or no hazard. The department may retain pertinent records regarding such dams.

Previous Occurrences and Losses

Table 5.4.3-4 documents historical flood events from 1950 to December 2020 in Livingston County based on data collected from the NCEI, National Performance of Dams Program (NPDP), and Cold Regions Research and Engineering Laboratory (CRREL) databases.

Table 5.4.3-4. Flood Events 1950-2021

Hazard Type	Number of Occurrences Between 1950 and 2021	Total Fatalities	Total Injuries	Total Property Damage ($)	Total Crop Damage ($)
Flash Flood	32	0	0	$11.7 million	$100,000
Flood	12	0	0	$834, 000	$0
Dam Failure	0	-	-	-	-
Ice Jam	39	-	-	-	-
Total	**83**	**0**	**0**	**$12.6 million**	**$100,000**

Source: NOAA-NCEI 2021; CRREL 2021
Note: Ice jam data from CRREL and Dam Failure data from National Performance of Dams Program (NPDP) do include information regarding fatalities, injuries, property damage, or crop damage.

According to the New York State Hazard Mitigation Plan, between 1954 and 2021, FEMA included New York State in 51 flood-related major disaster (DR) or emergency (EM) declarations (FEMA 2021). Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. Livingston County was included in two of these flood-related declarations, as listed on Table 5.4.3-5.

Table 5.4.3-5. FEMA DR and EM Declarations for Flood Events in Livingston County, 1954 to 2021

Date(s) of Event	FEMA Declaration Number	Declaration Date	Event Type
April 26 – May 8, 2011	DR-1993	June 10, 2011	Showers and thunderstorms accompanied the passage of a cold front across the region. The thunderstorms winds downed trees and power lines. Several hundred customers were without power. In Dansville, the thunderstorm winds blew off a portion of the roof of Dansville High School.
May 15-16, 2014	DR-4180	July 8, 2014	The storms brought heavy rains and flooding to much of the area. In Livingston County, a barn was blown down on Dutch Street in Mount Morris. Utility poles were down in Leicester, and the grandstands at Edinburgh Community High School were bent in two and dragged. In Geneseo, trees were down. Heavy rains left some rural roads covered in mud and washouts on others. Bridges were threatened by rising water and debris. Docks were underwater at Conesus Lake. Overall, the storms caused over $28 million in damage within the impacted counties of New York State.

Source: FEMA 2021

The Secretary of Agriculture from the U.S. Department of Agriculture (USDA) is authorized to designate counties as disaster areas to make emergency loans available to producers suffering losses in those counties and in counties that are contiguous to a designated county. Two USDA agricultural disasters attributed to flooding occurred in Livingston County from 2015 through 2020, as listed below:

- S4265 – 2017 Excessing rain
- S4274 – 2017 Flooding

For this update, flood events were summarized from 2015 to 2021. Known flood events, including FEMA disaster declarations, which have impacted Livingston County between 2015 and 2021 are identified in Table 5.4.3-6. Events prior to 2015 are listed in Appendix E. Not all events that have occurred in Livingston County are included because of the extent of documentation and the fact that not all sources may have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP Update. Section 9 provides detailed information regarding flood impacts to each municipality.

Table 5.4.3-6. Flood Events in Livingston County, 2015 to 2021

Dates of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
May 10, 2015	Flash Flood	N/A	N/A	Thunderstorms dropped four inches of rain across northern Livingston County in an hour. The heavy rain resulted in flash flooding in the Towns of Avon and Ashantee. Numerous roads were inundated and/or closed including, for example, Pole Bridge Road, Lake Road and Boyd Road. Several roads and bridges sustained damage including Spring Street, North Littleville, Huston, Ashantee, Hogmire, Boyd and Reservoir Roads. Emergency responders were called upon to rescue several people trapped in stalled cars in the flooded area. Flood waters slowly receded through the evening hours. Preliminary damage estimates were around $200,000.
May 18, 2015	Flash Flood	N/A	N/A	Thunderstorms moved across the Finger Lakes region producing heavy rains. Three inches of rain were received. Flash flooding occurred near Reed Corners on Route 63 at Parker Hill Road, near PreEmption on County Road near Route 6, and in Geneva on Route 14.
June 14, 2015	Flash Flood	N/A	N/A	Slow-moving thunderstorms dropped 2 to 3 inches of rain across the area; however, rainfall amounts of 1 to 1.5 inches in less than 0.5 hour were received. Rainfall intensity proved to be a bigger factor than total rainfall; flash flooding and damage included washouts of culverts, roads, and driveways.
May 29, 2016	Flash Flood	N/A	N/A	Scattered showers and thunderstorms were reported across the region. Some storms produced damaging wind gusts that downed trees and power lines. Hail up to ½ inch was reported near Lakeville in Livingston County. Heavy rain washed out a culvert on North Lima Road.
April 20-21, 2017	Flood	N/A	N/A	Several rounds of thunderstorms brought one to three inches of rain to the area in just a couple of hours. This resulted in ponding of water on area roadways. Several roads were closed by flood waters. Several basements were reported flooded.
June 15, 2017	Flood	N/A	N/A	Thunderstorms reached sever limits with trees and wires reported down in parts of Livingston County. Several roads were inundated and closed.
July 13, 2017	Flash Flood	N/A	N/A	Two to four inches quickly fell across the region. The flash flooding resulted in numerous road closures. The heavy rain also resulted in river and creek flooding which is relatively rare for July.
November 6, 2017	Flood	N/A	N/A	The heavy precipitation fell on already saturated ground resulting in both area and river flooding. Rainfall amounts of three to four inches were reported and some roads were closed.
June 20, 2019	Flood	N/A	N/A	Multiple locations saw rainfall totals over 3 inches in less than 12 hours. Numerous road closures occurred during the event. The flooding was so extensive that a State of Emergency was

Dates of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
				declared for the entire county on Thursday afternoon. Many flash flood and areal flood warnings were issued during this event and some of these persisted well into Friday morning.
June 20, 2020	Flash Flood	N/A	N/A	3.7-5 inches of rain fell across the region. Route 408, Ridge Road, Creed Road, River Road, Dutch Road, and Cleveland Road were all closed due to high water.
July 11, 2020	Flash Flood	N/A	N/A	1.65-2 inches of rain were reported. Route 36 in West Sparta was closed due to flash flooding.

Sources: FEMA 2021; NOAA-NCEI 2021 NYS DHSES 2019
Note: Many sources were consulted to provide an update of previous occurrences and losses; event details and loss/impact information may vary and has been summarized in the above table.

Probability of Future Occurrences

Based on the historic and more recent flood events in Livingston County, it is clear that the county has a high probability of flooding for the future. The fact that the elements required for flooding exist and that major flooding has occurred throughout the county in the past suggests that many people and properties are at risk from the flood hazard in the future. It is estimated that Livingston County will continue to experience direct and indirect impacts of flooding events annually that may induce secondary hazards such as infrastructure deterioration or failure, utility failures, power outages, water quality and supply concerns, and transportation delays, accidents and inconveniences.

As defined by FEMA, geographic areas within the 1-percent annual chance flood area in Livingston County are estimated to have a 1-percent chance of flooding in any given year. A structure located within a 1-percent annual chance flood area has a 26-percent chance of suffering flood damage during the term of a 30-year mortgage. Geographic areas in Livingston County located within the 0.2-percent annual chance flood area boundary are estimated to have a 0.2-percent chance of being flooded in any given year (FEMA 2007).

According to the 2019 New York State HMP (NYS DHSES 2019), between 1996 and 2017, Livingston County flooding events resulted in $13.0 million in property damage. According to the NOAA NCEI and the CRREL database, Livingston County experienced 83 flood events between 1950 and 2021, including 12 floods, 32 flash floods, 39 ice jams, and no dam failures. Table 5.4.3-7 shows these statistics, as well as the annual average number of events and the percent chance of these individual flood hazards occurring in Livingston County in future years based on the historic record (NOAA-NCEI 2020).

Table 5.4.3-7. Probability of Future Occurrence of Flooding Events

Hazard Type	Number of Occurrences Between 1950 and 2021	Recurrence Interval (in years) (# years/number of events)	Percent chance of occurrence in any given year
Flash Flood	32	2.25	44.4%
Flood	12	6	16.7%
Dam Failure	0	0	0.0%
Ice Jam	39	1.846153846	54.2%
Total	**83**	0.86746988	115.3%

Source: NOAA-NCDC 2021; CRREL 2021; NPDP 2021

Climate change is expected to increase the severity and frequency of heavy rain events in Livingston County. This is likely to lead to an increase in flooding events and dam failure events.

The identified hazards of concern for Livingston County were ranked in Section 5.3 of this HMP. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Committee, the probability of occurrence for flood in the county is considered *frequent*, having a 100 percent annual probability of the hazard occurring, as presented in Table 5.3-2 in Section 5.3, Hazard Ranking.

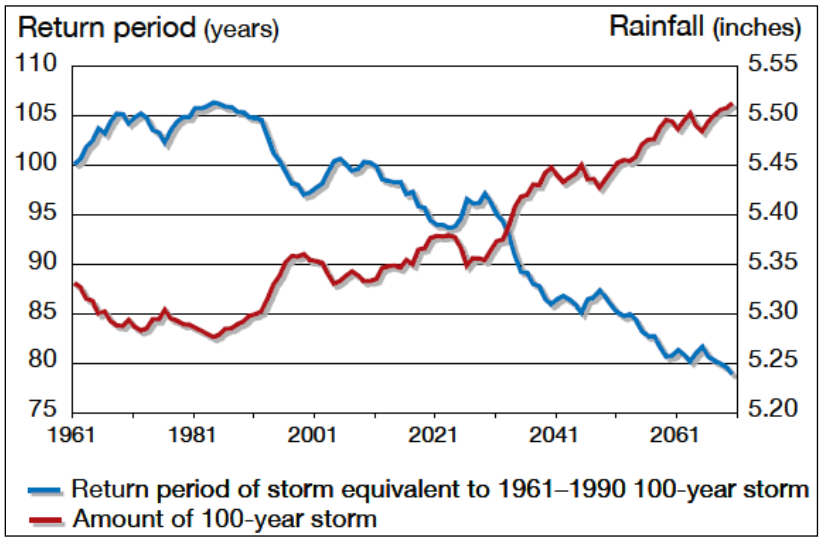
Climate Change Projections

Climate change is beginning to affect both people and resources of Livingston County and the impacts of climate change will continue. Impacts related to increasing temperatures are already being felt in the county. ClimAID: the Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the state's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA] 2011). Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of Region 1, Western New York and the Great Lakes Plain. In Region 1, temperatures are estimated to increase by 4.3 to 6.3 ºF by the 2050s, and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection).

The projected increase in precipitation is expected to fall in heavy downpours and less in light rains. The increase in heavy downpours has the potential to affect drinking water; heighten the risk of riverine flooding; flood key rail lines, roadways, and transportation hubs; and increase delays and hazards related to extreme weather events (NYSERDA 2014).

Increasing air temperatures intensify the water cycle by increasing evaporation and precipitation. This can cause an increase in rain totals during events with longer dry periods in between those events. These changes can have a variety of effects on the State's water resources (NYSERDA 2014). Figure 5.4.3-4 displays the project rainfall and frequency of extreme storms in New York State. The amount of rain fall in a 100-year event is projected to increase, while the number of years between such storms (return period) is projected to decrease. Rainstorms will become more severe and more frequent (NYSERDA 2011).

Figure 5.4.3-4. Projected Rainfall and Frequency of Extreme Storms



Source: NYSERDA 2011

Dams are designed partly based on assumptions about a river's flow behavior, expressed as hydrographs. Changes in weather patterns can significantly affect the hydrograph used for the design of a dam. If the hygrograph changes, the dam conceivably could lose some or all of its designed margin of safety, also known as freeboard. Loss of designed margin of safety increases the possibility that floodwaters would overtop the dam or create unintended loads, which could lead to a dam failure.

5.4.3.2 Vulnerability Assessment

To assess Livingston County's risk to the flood hazard, a spatial analysis was conducted using the FEMA Q3 flood risk data. The 1- and 0.2-percent annual chance flood events were examined to determine the assets located in the hazard areas and to estimate potential loss using the FEMA Hazus model. These results are summarized below. Refer to Section 5.1 (Methodology and Tools) for additional details on the methodology used to assess flood risk.

Impact on Life, Health, and Safety

The impact of flooding on life, health, and safety is dependent upon several factors including the severity of the event and whether or not adequate warning time is provided to residents. Exposure represents the population living in or near floodplain areas that could be impacted should a flood event occur. Additionally, exposure should not be limited to only those who reside in a defined hazard zone, but everyone who may be affected by the effects of a hazard event (e.g., people are at risk while traveling in flooded areas, or their access to emergency services is compromised during an event). The degree of that impact will vary and is not strictly measurable.

To estimate population exposure to the 1-percent- and 0.2-percent annual chance flood events, the Q3 flood boundaries were used. Based on the spatial analysis, there are an estimated 2,922 residents living in the SFHA (or 1-percent annual chance floodplain), or 4.6-percent of the County's total population. There are an estimated 4,259 residents living in the 0.2-percent annual chance floodplain, or 6.7-percent of the County's total population. The Town of Geneseo has the greatest number of residents living in the 1-percent annual chance event flood area with approximately (i.e., 616 persons) and the Village of Dansville has the greatest number of residents living in the 0.2-percent annual chance flood hazard area (i.e., 1,393 persons). Table 5.4.3-8 summarizes the population exposed to the flood hazard by jurisdiction.

Table 5.4.3-8. Estimated Population Located in the FEMA Flood Hazard Zones

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located in the Flood Hazard Areas			
		Number of Persons Located in the 1-percent Annual Chance Flood Event Hazard Area	Percent of Total	Number of Persons Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total
Avon (T)	3,637	2	0.1%	2	0.1%
Avon (V)	3,260	0	0.0%	18	0.5%
Caledonia (T)	2,060	25	1.2%	43	2.1%
Caledonia (V)	2,078	65	3.1%	161	7.8%
Conesus (T)	2,325	75	3.2%	101	4.3%
Dansville (V)	4,586	596	13.0%	1,393	30.4%
Geneseo (T)	2,540	616	24.2%	618	24.3%
Geneseo (V)	8,095	64	0.8%	64	0.8%

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located in the Flood Hazard Areas			
		Number of Persons Located in the 1-percent Annual Chance Flood Event Hazard Area	Percent of Total	Number of Persons Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total
Groveland (T)	3,241	486	15.0%	486	15.0%
Leicester (T)	1,798	121	6.7%	121	6.7%
Leicester (V)	518	0	0.0%	0	0.0%
Lima (T)	1,833	48	2.6%	48	2.6%
Lima (V)	2,278	0	0.0%	0	0.0%
Livonia (T)	6,231	216	3.5%	426	6.8%
Livonia (V)	1,353	24	1.8%	24	1.8%
Mount Morris (T)	1,340	16	1.2%	16	1.2%
Mount Morris (V)	2,931	237	8.1%	360	12.3%
North Dansville (T)	696	67	9.6%	103	14.8%
Nunda (T)	1,716	59	3.4%	59	3.4%
Nunda (V)	1,211	65	5.3%	65	5.3%
Ossian (T)	701	10	1.4%	10	1.4%
Portage (T)	837	12	1.4%	18	2.2%
Sparta (T)	1,591	6	0.4%	6	0.4%
Springwater (T)	2,233	37	1.7%	37	1.7%
West Sparta (T)	1,229	23	1.9%	23	1.9%
York (T)	3,273	54	1.6%	58	1.8%
Livingston County (Total)	**63,591**	**2,922**	**4.6%**	**4,259**	**6.7%**

Source: ACS 2019; Livingston County Q3 Data from FEMA 1970/1980; Livingston County 2014
Note: T – Town; V – Village; % - Percent

Research has shown that some populations, while they may not have more hazard exposure, may experience exacerbated impacts and prolonged recovery if/when impacted. Of the population exposed, the most vulnerable include the economically disadvantaged and the population over age 65. Economically disadvantaged populations may be more vulnerable because they are likely to evaluate their risk and make decisions to evacuate based on net economic impacts on their families. The population over age 65 is also more vulnerable because they may have difficulty evacuating. They also may need to seek or need medical attention that may not be available because of isolation during a flood event. Within Livingston County, there are approximately 10,929 people over the age of 65 and 7,572 people below the poverty level. The Village of Dansville, which has the highest percentage of people in the floodplain, has one of the higher percentages of low-income population compared to other jurisdictions within the County at 20-percent.

The Centers for Disease Control and Prevention (CDC) 2018 Social Vulnerability Index (SVI) ranks U.S. Census tracts on socioeconomic status, household composition and disability, minority status and language, and housing and transportation. Livingston County's overall score is 0.3424, indicating that its communities have low vulnerability (CDC 2018).

Using 2010 U.S. Census data, Hazus estimates the potential sheltering needs as a result of a 1-percent annual chance flood event. For the 1-percent flood event, Hazus estimates 2,844 households will be displaced, and 643

people will seek short-term sheltering. The Village of Dansville has the greatest displaced population (586 people) and the greatest number of persons seeking short-term shelter (128 people). These statistics, by jurisdiction, are presented in Table 5.4.3-9. The estimated displaced population and number of persons seeking short-term sheltering differs from the number of persons exposed to the 1-percent annual chance flood, because the displaced population numbers take into consideration that not all residents will be significantly impacted enough to be displaced or to require short-term sheltering during a flood event.

Table 5.4.3-9. Estimated Population Displaced or Seeking Short-Term Shelter from the 1-Percent Annual Chance Flood Event

Jurisdiction	Total Population (American Community Survey 2015-2019)	1-Percent Annual Chance Flood Event	
		Displaced Population	Persons Seeking Short-Term Sheltering
Avon (T)	3,637	4	1
Avon (V)	3,260	28	5
Caledonia (T)	2,060	25	7
Caledonia (V)	2,078	55	21
Conesus (T)	2,325	27	23
Dansville (V)	4,586	586	128
Geneseo (T)	2,540	279	34
Geneseo (V)	8,095	111	82
Groveland (T)	3,241	461	42
Leicester (T)	1,798	199	20
Leicester (V)	518	7	2
Lima (T)	1,833	38	10
Lima (V)	2,278	16	12
Livonia (T)	6,231	207	91
Livonia (V)	1,353	32	17
Mount Morris (T)	1,340	23	3
Mount Morris (V)	2,931	233	70
North Dansville (T)	696	102	4
Nunda (T)	1,716	58	7
Nunda (V)	1,211	117	34
Ossian (T)	701	13	0
Portage (T)	837	19	2
Sparta (T)	1,591	30	4
Springwater (T)	2,233	64	7
West Sparta (T)	1,229	33	3
York (T)	3,273	77	14
Livingston County (Total)	**63,591**	**2,844**	**643**

Source: Hazus v5.0; American Community Survey 2019 5-year estimates; Livingston County Q3 Data from FEMA 1970/1980; Livingston County 2014
Note: T = Town; V = Village

The total number of injuries and casualties resulting from flooding is generally limited based on advance weather forecasting, blockades, and warnings. Therefore, injuries and deaths generally are not anticipated if proper warning and precautions are in place. Ongoing mitigation efforts should help to avoid the most likely cause of injury, which results from persons trying to cross flooded roadways or channels during a flood.

Cascading impacts may also include exposure to pathogens such as mold. After flood events, excess moisture and standing water contribute to the growth of mold in buildings. Mold may present a health risk to building occupants, especially those with already compromised immune systems such as infants, children, the elderly and

pregnant women. The degree of impact will vary and is not strictly measurable. Mold spores can grow in as short a period as 24-48 hours in wet and damaged areas of buildings that have not been properly cleaned. Very small mold spores can easily be inhaled, creating the potential for allergic reactions, asthma episodes, and other respiratory problems. Buildings should be properly cleaned and dried out to safely prevent mold growth (CDC 2020).

Molds and mildews are not the only public health risk associated with flooding. Floodwaters can be contaminated by pollutants such as sewage, human and animal feces, pesticides, fertilizers, oil, asbestos, and rusting building materials. Common public health risks associated with flood events also include:

- Unsafe food
- Contaminated drinking and washing water and poor sanitation
- Mosquitos and animals
- Carbon monoxide poisoning
- Secondary hazards associated with re-entering/cleaning flooded structures
- Mental stress and fatigue

Current loss estimation models such as Hazus are not equipped to measure public health impacts. The best level of mitigation for these impacts is to be aware that they can occur, educate the public on prevention, and be prepared to deal with these vulnerabilities in responding to flood events.

Impact on General Building Stock

Exposure to the flood hazard includes those buildings located in the flood zone. Potential damage is the modeled loss that could occur to the exposed building stock measured by the structural and content replacement cost value. Table 5.4.3-10 and Table 5.4.3-11 summarize these results countywide.

In summary, there are 1,552 buildings located in the 1-percent annual chance flood event area with an estimated $972 million of building and contents at risk. In total, this represents approximately 4.5-percent of the County's total general building stock inventory (approximately $21.4 billion). The Town of Geneseo has the greatest number of buildings and proportion of buildings located in the 1-percent annual chance flood event area (i.e., 319 buildings, or 18.2-percent).

In addition, there are 2,231 buildings located in the 0.2-percent annual chance flood boundary with an estimated $1.5 billion of building and contents at risk. In total, this represents approximately 6.4-percent of the County's total general building stock inventory. Based on this analysis, the Town of Dansville has the greatest number and percentage of buildings located in the 0.2-percent annual chance flood event area.

The Hazus flood model estimated potential damages to the buildings in Livingston County at the structure level using the custom structure inventory developed for this HMP and the depth grid generated using the Q3 FEMA flood data. The potential damage estimated by Hazus to the general building stock inventory associated with the 1-percent annual chance flood is approximately $223 million or 1-percent of the total building stock replacement cost value. The Town of Geneseo has the greatest amount of estimated building loss—approximately $54.8 million (i.e., 4.7-percent of the total replacement cost value). Refer to Table 5.4.3-12 for the estimated losses by jurisdiction, which also shows the estimated losses for residential, commercial, and other occupancy structures, respectively.

Table 5.4.3-10. Estimated General Building Stock Located in the 1-Percent Annual Chance Flood Boundary

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located in the Flood Hazard Area			
			Number of Buildings Located in the 1-percent Annual Chance Flood Event Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located in the 1-percent Annual Chance Flood Event Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	3	0.1%	$816,328	0.1%
Avon (V)	1,245	$1,365,771,007	3	0.2%	$879,133	0.1%
Caledonia (T)	1,362	$792,755,652	15	1.1%	$5,116,244	0.6%
Caledonia (V)	979	$735,609,120	35	3.6%	$13,444,296	1.8%
Conesus (T)	1,774	$625,005,723	53	3.0%	$15,144,785	2.4%
Dansville (V)	1,950	$1,341,807,175	235	12.1%	$74,142,602	5.5%
Geneseo (T)	1,753	$1,161,720,041	319	18.2%	$128,033,590	11.0%
Geneseo (V)	1,329	$1,570,704,963	10	0.8%	$16,907,981	1.1%
Groveland (T)	1,330	$1,203,662,583	123	9.2%	$46,459,350	3.9%
Leicester (T)	1,214	$715,987,145	89	7.3%	$45,897,960	6.4%
Leicester (V)	240	$142,879,953	1	0.4%	$1,107,443	0.8%
Lima (T)	1,436	$859,636,929	32	2.2%	$11,337,804	1.3%
Lima (V)	777	$452,768,112	0	0.0%	$0	0.0%
Livonia (T)	3,888	$1,866,897,181	126	3.2%	$40,337,077	2.2%
Livonia (V)	569	$371,319,429	13	2.3%	$9,442,773	2.5%
Mount Morris (T)	1,115	$646,574,328	38	3.4%	$75,752,372	11.7%
Mount Morris (V)	1,337	$785,505,655	127	9.5%	$106,387,292	13.5%
North Dansville (T)	607	$497,159,183	73	12.0%	$197,612,641	39.7%
Nunda (T)	1,354	$544,934,442	45	3.3%	$19,697,007	3.6%
Nunda (V)	641	$392,488,596	35	5.5%	$16,576,985	4.2%
Ossian (T)	817	$488,703,931	21	2.6%	$18,388,756	3.8%
Portage (T)	620	$338,465,763	8	1.3%	$2,146,153	0.6%
Sparta (T)	1,151	$449,674,840	8	0.7%	$4,289,969	1.0%
Springwater (T)	1,822	$702,256,303	27	1.5%	$7,793,484	1.1%
West Sparta (T)	1,010	$423,213,015	46	4.6%	$50,245,056	11.9%
York (T)	2,183	$1,677,949,006	67	3.1%	$64,058,517	3.8%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**1,552**	**4.5%**	**$972,015,597**	**4.5%**

Source: Livingston County Q3 Data from FEMA 1970/1980; Livingston County 2015/2021; RS Means 2021
Note: % - Percent; T - Town; V - Village

Table 5.4.3-11. Estimated General Building Stock Exposure to the 0.2-Percent Annual Chance Flood Event

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located in the Flood Hazard Area			
			Number of Buildings Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	3	0.1%	$816,328	0.1%
Avon (V)	1,245	$1,365,771,007	16	1.3%	$8,073,750	0.6%
Caledonia (T)	1,362	$792,755,652	25	1.8%	$8,637,814	1.1%

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located in the Flood Hazard Area			
			Number of Buildings Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total
Caledonia (V)	979	$735,609,120	87	8.9%	$45,314,174	6.2%
Conesus (T)	1,774	$625,005,723	71	4.0%	$19,254,955	3.1%
Dansville (V)	1,950	$1,341,807,175	570	29.2%	$345,944,319	25.8%
Geneseo (T)	1,753	$1,161,720,041	320	18.3%	$128,403,939	11.1%
Geneseo (V)	1,329	$1,570,704,963	12	0.9%	$23,493,979	1.5%
Groveland (T)	1,330	$1,203,662,583	126	9.5%	$72,784,188	6.0%
Leicester (T)	1,214	$715,987,145	93	7.7%	$49,066,640	6.9%
Leicester (V)	240	$142,879,953	1	0.4%	$1,107,443	0.8%
Lima (T)	1,436	$859,636,929	32	2.2%	$11,337,804	1.3%
Lima (V)	777	$452,768,112	0	0.0%	$0	0.0%
Livonia (T)	3,888	$1,866,897,181	247	6.4%	$79,147,561	4.2%
Livonia (V)	569	$371,319,429	13	2.3%	$9,442,773	2.5%
Mount Morris (T)	1,115	$646,574,328	39	3.5%	$76,042,469	11.8%
Mount Morris (V)	1,337	$785,505,655	196	14.7%	$195,887,760	24.9%
North Dansville (T)	607	$497,159,183	111	18.3%	$217,251,928	43.7%
Nunda (T)	1,354	$544,934,442	45	3.3%	$19,697,007	3.6%
Nunda (V)	641	$392,488,596	35	5.5%	$16,576,985	4.2%
Ossian (T)	817	$488,703,931	21	2.6%	$18,388,756	3.8%
Portage (T)	620	$338,465,763	12	1.9%	$3,425,877	1.0%
Sparta (T)	1,151	$449,674,840	8	0.7%	$4,289,969	1.0%
Springwater (T)	1,822	$702,256,303	27	1.5%	$7,793,484	1.1%
West Sparta (T)	1,010	$423,213,015	46	4.6%	$50,245,056	11.9%
York (T)	2,183	$1,677,949,006	75	3.4%	$68,942,891	4.1%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**2,231**	**6.4%**	**$1,481,367,850**	**6.9%**

Source: Livingston County Q3 Data from FEMA 1970/1980; Livingston County 2015/2021; RS Means 2021
Note: % - Percent; T - Town; V - Village

Table 5.4.3-12. Estimated General Building Stock Potential Loss to the 1-Percent Annual Chance Flood Event

Jurisdiction	Total Replacement Cost Value (RCV)	All Occupancies		Residential		Commercial		Agricultural, Industrial, Religious, Education and Government	
		Estimated Loss	Percent of Total Replacement Cost Value	Estimated Loss	Percent of Total Replacement Cost Value	Estimated Loss	Percent of Total Replacement Cost Value	Estimated Loss	Percent of Total Replacement Cost Value
Avon (T)	$1,324,846,766	$101,291	<0.1%	$70,312	<0.1%	$0	0.0%	$30,979	<0.1%
Avon (V)	$1,365,771,007	$137,265	<0.1%	$0	0.0%	$137,265	<0.1%	$0	0.0%
Caledonia (T)	$792,755,652	$1,647,828	0.2%	$1,635,056	0.2%	$0	0.0%	$12,772	<0.1%
Caledonia (V)	$735,609,120	$3,976,904	0.5%	$2,634,544	0.4%	$562,204	0.1%	$780,156	0.1%
Conesus (T)	$625,005,723	$2,561,556	0.4%	$2,561,556	0.4%	$0	0.0%	$0	0.0%
Dansville (V)	$1,341,807,175	$21,320,381	1.6%	$20,141,471	1.5%	$976,297	0.1%	$202,613	<0.1%
Geneseo (T)	$1,161,720,041	$54,831,741	4.7%	$50,825,389	4.4%	$1,160,117	0.1%	$2,846,235	0.2%
Geneseo (V)	$1,570,704,963	$3,162,503	0.2%	$1,954,573	0.1%	$1,207,929	0.1%	$0	0.0%
Groveland (T)	$1,203,662,583	$19,711,202	1.6%	$15,113,692	1.3%	$1,752,934	0.1%	$2,844,576	0.2%
Leicester (T)	$715,987,145	$8,871,766	1.2%	$5,915,682	0.8%	$2,044,853	0.3%	$911,231	0.1%
Leicester (V)	$142,879,953	$687,337	0.5%	$0	0.0%	$687,337	0.5%	$0	0.0%
Lima (T)	$859,636,929	$4,604,336	0.5%	$4,206,765	0.5%	$0	0.0%	$397,572	<0.1%
Lima (V)	$452,768,112	$0	0.0%	$0	0.0%	$0	0.0%	$0	0.0%
Livonia (T)	$1,866,897,181	$10,188,721	0.5%	$9,636,199	0.5%	$482,936	<0.1%	$69,586	<0.1%
Livonia (V)	$371,319,429	$5,708,654	1.5%	$2,320,183	0.6%	$3,388,471	0.9%	$0	0.0%
Mount Morris (T)	$646,574,328	$1,569,662	0.2%	$620,182	0.1%	$180,873	<0.1%	$768,607	0.1%
Mount Morris (V)	$785,505,655	$16,233,486	2.1%	$925,106	0.1%	$15,308,379	1.9%	$0	0.0%
North Dansville (T)	$497,159,183	$11,141,213	2.2%	$2,589,576	0.5%	$2,605,342	0.5%	$5,946,295	1.2%
Nunda (T)	$544,934,442	$6,225,881	1.1%	$6,062,299	1.1%	$163,583	<0.1%	$0	0.0%
Nunda (V)	$392,488,596	$4,742,047	1.2%	$2,494,993	0.6%	$1,062,746	0.3%	$1,184,308	0.3%
Ossian (T)	$488,703,931	$7,927,017	1.6%	$1,454,810	0.3%	$0	0.0%	$6,472,207	1.3%
Portage (T)	$338,465,763	$644,362	0.2%	$520,920	0.2%	$0	0.0%	$123,442	0.0%
Sparta (T)	$449,674,840	$647,545	0.1%	$379,073	0.1%	$0	0.0%	$268,472	0.1%
Springwater (T)	$702,256,303	$3,605,201	0.5%	$3,580,976	0.5%	$24,224	<0.1%	$0	0.0%
West Sparta (T)	$423,213,015	$21,347,661	5.0%	$1,327,851	0.3%	$18,132,900	4.3%	$1,886,909	0.4%
York (T)	$1,677,949,006	$11,841,265	0.7%	$3,239,853	0.2%	$36,688	<0.1%	$8,564,724	0.5%
Livingston County (Total)	**$21,478,296,842**	**$223,436,826**	**1.0%**	**$140,211,063**	**0.7%**	**$49,915,079**	**0.2%**	**$33,310,685**	**0.2%**

Source: Hazus v5.0; Livingston County Q3 Data from FEMA 1970/1980; Livingston County 2014
Notes: % - Percent; T - Town; V – Village; < - Less Than

NFIP Statistics

The State of New York Office of Emergency Management provided a list of existing NFIP policies, the number of past claims recorded since 1978, and the total amount of claims paid in Livingston County since 1978. The number of claims submitted by individual properties can inform the County how many repetitive loss (RL) properties are within each jurisdiction. According to FEMA, a RL property is a NFIP-insured structure that has had at least two paid flood losses of more than $1,000 in any 10-year period since 1978. A severe repetitive loss (SRL) property is a NFIP-insured structure that has had four or more separate claim payments made under a standard flood insurance policy, with the amount of each claim exceeding $5,000 and with the cumulative amount of such claims payments exceeding $20,000; or at least two separate claims payments made under a standard flood insurance policy with the cumulative amount of such claim payments exceed the fair market value of the insured building on the day before each loss (FEMA 2018). Table 5.4.3-13 summarizes the NFIP policies and claims for Livingston County. At this time, there is not enough data available to summarize the number of RL or SRL properties in Livingston County. In total, there are 258 policy holders and there have been 134 claims totaling $625,847 since 1978.

Table 5.4.3-13. NFIP Data for Livingston County

Jurisdiction	Number of Policies	Number of Claims Since 1978	Total Losses Claimed Since 1978
Avon (T)	1	2	$58,964
Avon (V)	3	5	$48,639
Caledonia (T)	1	6	$26,014
Caledonia (V)	9	1	$ 0
Conesus (T)	22	21	$57,065
Dansville (V)	62	19	$50,796
Geneseo (T)	29	12	$51,889
Geneseo (V)	4	0	$ 0
Groveland (T)	5	5	$4,905
Leicester (T)	13	5	$31,667
Leicester (V)	1	0	$ 0
Lima (T)	3	2	$ 0
Lima (V)	0	0	$0
Livonia (T)	36	30	$120,079
Livonia (V)	1	0	$ 0
Mount Morris (T)	7	2	$3,547
Mount Morris (V)	9	1	$ 0
North Dansville (T)	16	1	$ 977
Nunda (T)	9	4	$60,410
Nunda (V)	4	4	$5,713
Ossian (T)	1	0	$ 0
Portage (T)	2	0	$ 0
Sparta (T)	4	1	$10,233
Springwater (T)	6	4	$39,376
West Sparta (T)	2	7	$53,436

Jurisdiction	Number of Policies	Number of Claims Since 1978	Total Losses Claimed Since 1978
York (T)	8	2	$2,137
Livingston County (Total)	**258**	**134**	**$624,870**

Source: NYS OEM 2021
Note: NFIP - National Flood Insurance Program; T - Town; V - Village

Impact on Critical Facilities and Lifelines

It is important to determine the critical facilities and infrastructure that may be at risk to flooding, and who may be impacted should damage occur. Critical services during and after a flood event may not be available if critical facilities are directly damaged or transportation routes to access these critical facilities are impacted. Roads that are blocked or damaged can isolate residents and can prevent access throughout the planning area to many service providers needing to reach vulnerable populations or to make repairs.

Critical facility exposure to the flood hazard was examined. Table 5.4.3-14 and Table 5.4.3-15 summarize the critical facilities and number of lifelines within each jurisdiction located within the 1-percent and 0.2-percent annual chance flood boundaries, respectively. Of the 93 critical facilities located in the 1-percent annual chance flood event boundary, bridges are the most vulnerable. Additionally, there are 122 critical facilities located in the 0.2-percent annual chance flood event boundary, 111 of which are considered lifelines for the County. A majority of the critical facilities located in the 1-percent and 0.2-percent annual chance flood event boundaries are in the Town of Livonia and the Town of North Dansville. Furthermore, Table 5.4.3-16 summarizes the number of lifelines located in the flood hazard areas and estimates that the most of the lifelines within the 1-percent and 0.2-percent annual chance flood events are transportation lifelines. Refer to Appendix E which summarizes the distribution of critical facilities by critical facility type and jurisdiction located in each respective flood hazard area.

In cases where short-term functionality is impacted by flooding, other facilities of neighboring municipalities may need to increase support response functions during a disaster event. Mitigation planning should consider means to reduce flood impacts to critical facilities and ensure sufficient emergency and school services remain when a significant event occurs.

Table 5.4.3-14. Total Number of Critical Facilities and Lifelines Located in the 1-Percent Annual Chance Flood Event

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the 1-Percent Annual Chance Flood Event Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	0	0.0%	0	0.0%
Avon (V)	36	27	0	0.0%	0	0.0%
Caledonia (T)	19	16	1	5.3%	1	6.3%
Caledonia (V)	28	25	1	3.6%	1	4.0%
Conesus (T)	26	26	1	3.8%	1	3.8%
Dansville (V)	46	37	4	8.7%	3	8.1%
Geneseo (T)	48	45	6	12.5%	6	13.3%
Geneseo (V)	46	39	0	0.0%	0	0.0%
Groveland (T)	63	59	11	17.5%	11	18.6%
Leicester (T)	26	26	6	23.1%	6	23.1%
Leicester (V)	13	13	1	7.7%	1	7.7%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	0	0.0%	0	0.0%

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the 1-Percent Annual Chance Flood Event Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Livonia (T)	70	65	12	17.1%	12	18.5%
Livonia (V)	16	12	1	6.3%	1	8.3%
Mount Morris (T)	30	29	2	6.7%	2	6.9%
Mount Morris (V)	28	24	7	25.0%	6	25.0%
North Dansville (T)	35	31	11	31.4%	10	32.3%
Nunda (T)	25	25	6	24.0%	6	24.0%
Nunda (V)	23	20	7	30.4%	7	35.0%
Ossian (T)	20	20	3	15.0%	3	15.0%
Portage (T)	23	22	0	0.0%	0	0.0%
Sparta (T)	18	18	3	16.7%	3	16.7%
Springwater (T)	27	26	1	3.7%	1	3.8%
West Sparta (T)	25	25	2	8.0%	2	8.0%
York (T)	58	54	7	12.1%	6	11.1%
Livingston County (Total)	**837**	**763**	**93**	**11.1%**	**89**	**11.7%**

Source: Livingston County Planning Partners 2014/2021; HIFLD 2020; Livingston County Q3 Data from FEMA 1970/1980
Notes: T – Town; V – Village; % - Percent

Table 5.4.3-15. Total Number of Critical Facilities and Lifelines Located in the 0.2-Percent Annual Chance Flood Event

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the 0.2-Percent Annual Chance Flood Event Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	0	0.0%	0	0.0%
Avon (V)	36	27	0	0.0%	0	0.0%
Caledonia (T)	19	16	1	5.3%	1	6.3%
Caledonia (V)	28	25	1	3.6%	1	4.0%
Conesus (T)	26	26	2	7.7%	2	7.7%
Dansville (V)	46	37	12	26.1%	8	21.6%
Geneseo (T)	48	45	6	12.5%	6	13.3%
Geneseo (V)	46	39	0	0.0%	0	0.0%
Groveland (T)	63	59	14	22.2%	14	23.7%
Leicester (T)	26	26	6	23.1%	6	23.1%
Leicester (V)	13	13	1	7.7%	1	7.7%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	0	0.0%	0	0.0%
Livonia (T)	70	65	14	20.0%	14	21.5%
Livonia (V)	16	12	1	6.3%	1	8.3%
Mount Morris (T)	30	29	3	10.0%	3	10.3%
Mount Morris (V)	28	24	11	39.3%	9	37.5%
North Dansville (T)	35	31	19	54.3%	15	48.4%
Nunda (T)	25	25	6	24.0%	6	24.0%
Nunda (V)	23	20	7	30.4%	7	35.0%
Ossian (T)	20	20	3	15.0%	3	15.0%
Portage (T)	23	22	1	4.3%	1	4.5%
Sparta (T)	18	18	3	16.7%	3	16.7%
Springwater (T)	27	26	1	3.7%	1	3.8%
West Sparta (T)	25	25	2	8.0%	2	8.0%
York (T)	58	54	8	13.8%	7	13.0%

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the 0.2-Percent Annual Chance Flood Event Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Livingston County (Total)	**837**	**763**	**122**	**14.6%**	**111**	**14.5%**

Source: Livingston County Planning Partners 2014/2021; HIFLD 2020; Livingston County Q3 Data from FEMA 1970/1980
Notes: T – Town; V – Village; % - Percent

Table 5.4.3-16. Number of Lifelines Categorized by FEMA Lifeline Category Located in the 1-Percent and 0.2-Percent Annual Chance Flood Events

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the 1-percent Annual Chance Flood Event Hazard Area	Number of Lifelines Located in the 0.2-percent Annual Chance Flood Event Hazard Area
Communications	72	0	0
Energy	18	1	1
Food, Water, Shelter	100	8	13
Hazardous Materials	50	7	12
Health and Medical	36	1	1
Safety and Security	269	12	17
Transportation	218	60	67
Livingston County (Total)	**763**	**89**	**111**

Source: Livingston County Planning Partners 2014/2021; HIFLD 2020; Livingston County Q3 Data from FEMA 1970/1980; FEMA 2021

Impact on the Economy

Flood events can significantly impact the local and regional economy. This includes but is not limited to general building stock damages and associated tax loss, impacts to utilities and infrastructure, business interruption, impacts on tourism, and impacts on the tax base to Livingston County. In areas that are directly flooded, renovations of commercial and industrial buildings may be necessary, disrupting associated services. Refer to the 'Impact on Buildings' subsection earlier which discusses direct impacts to buildings in Livingston County. Other economic components such as loss of facility use, functional downtime and socio-economic factors are less measurable with a high degree of certainty. Flooding can cause extensive damage to public utilities and disruptions to delivery of services. Loss of power and communications may occur, and drinking water and wastewater treatment facilities may be temporarily out of operation.

Debris management may also be a large expense after a flood event. Hazus estimates the amount of debris generated from the 1-percent annual chance event. The model breaks down debris into three categories: (1) finishes (dry wall, insulation, etc.); (2) structural (wood, brick, etc.) and (3) foundations (concrete slab and block, rebar, etc.). The distinction is made because of the different types of equipment needed to handle the debris. Table 5.4.3-17 summarizes the debris Hazus estimates for these events. As a result of the 1-percent annual chance event, Hazus estimates approximately 15,151 tons of debris will be generated in total.

Table 5.4.3-17. Estimated Debris Generated from the 1-Percent Annual Chance Flood Event

Jurisdiction	1-Percent Annual Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundation (tons)
Avon (T)	22	8	8	6
Avon (V)	102	39	35	28
Caledonia (T)	132	63	38	31
Caledonia (V)	166	121	21	24
Conesus (T)	26	19	3	4

Jurisdiction	1-Percent Annual Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundation (tons)
Dansville (V)	884	874	6	4
Geneseo (T)	4,696	1,205	2,068	1,422
Geneseo (V)	61	61	0	0
Groveland (T)	1,553	333	717	503
Leicester (T)	1,240	344	506	390
Leicester (V)	186	37	85	64
Lima (T)	310	104	116	89
Lima (V)	154	37	68	49
Livonia (T)	845	331	289	225
Livonia (V)	617	115	279	223
Mount Morris (T)	81	60	12	10
Mount Morris (V)	354	116	80	158
North Dansville (T)	466	133	168	164
Nunda (T)	817	232	323	261
Nunda (V)	411	325	46	40
Ossian (T)	243	85	93	66
Portage (T)	121	44	39	38
Sparta (T)	138	81	31	25
Springwater (T)	674	201	225	247
West Sparta (T)	193	56	71	65
York (T)	660	207	245	208
Livingston County (Total)	**15,151**	**5,234**	**5,572**	**4,345**

Source: Hazus v5.0; Livingston County Q3 Data from FEMA - 1970/1980; Livingston County 2014
Notes: T = Town; V = Village

Impact on the Environment

Flood extents for the 1- and 0.2-percent annual flood events will continue to evolve alongside natural occurrences such as sea level rise, climate change, and/or severity of storms. Further, residents living in and around areas of wildfire may be at increased risk of flooding in the future due to changes in the natural landscape. Flood events will inevitably impact Livingston County's natural and local environment. Severe flooding not only influences the habitat of these natural land areas, but it can also be disruptive to species that reside in these natural habitats. Table 5.4.3-18 lists the number of acres exposed to the 1- and 0.2-percent annual chance flood extents by land use type.

Table 5.4.3-18. NLCD Land Use Types Located in the 1-Percent and 0.2-Percent Annual Chance Flood Events

NLCD Land Use Type	Total Acres of Land Use Type	Acres Located in the 1-percent Annual Chance Flood Event Hazard Area	Percent of Total	Acres Located in the 0.2-percent Annual Chance Flood Event Hazard Area	Percent of Total
Agriculture	209,953	18,484	8.8%	21,124	10.1%
Barren Land	760	38	5.0%	50	6.6%
Forest	147,662	3,743	2.5%	4,433	3.0%
Urban Area	27,784	1,246	4.5%	1,641	5.9%
Wetlands	16,677	6,045	36.3%	6,529	39.1%
Livingston County (Total)	**402,836**	**29,556**	**7.3%**	**33,777**	**8.4%**

Source: NLCD USGS 2016; FEMA - Q3 Data; Livingston County HMP 2014
Notes: % - Percent; NLCD – National Land Cover Dataset
**The total land use area excludes waterways*

Cascading Impacts on Other Hazards

Flood events can exacerbate the impacts of utility failure. After a flooding event, runoff can pick up and transport debris. Water containing debris can trigger utility failure by clogging treatment systems or inundating power sources. Furthermore, flood waters can back up sanitary sewer systems and inundate wastewater treatment plants, causing raw sewage to contaminate residential and commercial buildings and the flooded waterway. The contents of unsecured containers of oil, fertilizers, pesticides, and other chemicals get added to flood waters. Hazardous materials may be released and distributed widely across the floodplain. Water supply and wastewater treatment facilities could be offline for weeks. After the flood waters subside, contaminated and flood-damaged building materials and contents must be properly disposed of. Contaminated sediment must be removed from buildings, yards, and properties. More information about this hazard of concern can be found in this HMP in Section 5.4.12 Utility Failure.

Future Changes that May Impact Vulnerability

Understanding future changes that effect vulnerability in the county can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The county considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

As discussed and illustrated in Section 4 (County Profile), areas targeted for future growth and development have been identified across the County. Development built in Q3 flood hazard areas may experience structural and content damages during a major flood event. These structures are also at risk to other cascading impacts caused by flooding such as utility failure or eroding foundations. Refer to Section 4, and Volume II Section 9 for more information about the potential new development in Livingston County.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. While less people will reside in the County, those that remain may move into locations that are more susceptible than others to flooding. This includes areas that are directly impacted by flood events and those that are indirectly impacted (i.e., isolated neighborhoods, flood-prone roadways, etc.). Section 4, County Profile, provides additional discussion on population trends.

Climate Change

As discussed earlier, annual precipitation amounts in the region are projected to increase, primarily in the form of heavy rainfalls, which have the potential to increase the risk to flash flooding and riverine flooding, and flood critical transportation corridors and infrastructure (NYSERDA 2014). Increases in precipitation may alter and expand the floodplain boundaries and runoff patterns, resulting in the exposure of populations, buildings, and critical facilities and infrastructure that were previously outside the floodplain. This increase in exposure would result in an increased risk to life and health, an increase in structural losses, a diversion of additional resources to response and recovery efforts, and an increase in business closures affected by future flooding events because of loss of service or access.

Change of Vulnerability Since the 2015 HMP

Since the 2015 HMP, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates. The general building stock was also updated using 2021 building footprint and tax assessor data from Livingston County. Furthermore, the replacement cost values of the building inventory were updated using 2021 RS Means values. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to the 1-percent and 0.2-percent annual chance flood events using Q3 FEMA flood data. The building stock and critical facility inventories created for this HMP were assessed in Hazus v5.0 to determine the effects of the 1-percent annual chance flood event.

Overall, this vulnerability assessment uses a more precise and thorough approach, which provides increased accuracy for estimated exposure and potential losses for Livingston County.

5.4.4 Hazardous Materials

This section provides a hazard profile (description, location, extent, previous occurrences and losses, probability of future occurrences, and impact of climate change) and vulnerability assessment of the hazardous materials (hazmat) hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.4.1 Hazard Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, climate change projections and the probability of future occurrences for the hazardous materials hazard.

Hazard Description

Hazardous substances include materials and wastes that are considered severely harmful to human health and the environment, as defined by the U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (also known as Superfund). Many hazardous materials are commonly-used substances, which are harmless in their normal uses, but are quite dangerous if released. EPA designates more than 800 substances as hazardous and identifies many more as potentially hazardous due to their characteristics and the circumstances of their release (EPA 2021).

Superfund's definition of a hazardous substance includes the following:

- Any element, compound, mixture, solution, or substance designated as hazardous under Section 102 of CERCLA.
- Any hazardous substance designated under Section 311(b)(2)(a) of the Clean Water Act (CWA), or any toxic pollutant listed under Section 307(a) of the CWA. More than 400 substances are designated as either hazardous or toxic under the CWA.
- Any hazardous waste having the characteristics identified or listed under section 3001 of the Resource Conservation and Recovery Act (RCRA).
- Any hazardous air pollutant listed under Section 112 of the Clean Air Act (CAA), as amended. More than 200 substances are listed as hazardous air pollutants under the CAA.
- Any imminently hazardous chemical substance or mixture that the EPA Administrator has "taken action" under Section 7 of the Toxic Substances Control Act (TSCA) (EPA 2020).

If released or misused, hazardous substances can cause death, serious injury, long-lasting health effects, and damage to structures and other properties, as well as the environment. Many products containing hazardous substances are used and stored in homes and these products are shipped daily on highways, railroads, waterways, and pipelines. For the purpose of this HMP update, hazardous substance incidents occurring at fixed sites and those that occur during transport will be discussed in this profile.

Hazardous Substances at Fixed Sites

A fixed-site hazardous substance (materials and waste) incident is the uncontrolled release of materials from a fixed site, capable of posing a risk to health, safety, and property as determined by RCRA. It is possible to identify and prepare for a fixed-site incident because federal and state laws require those facilities to notify state and local authorities about what is being used or produced at the site. Hazardous materials at fixed sites are regulated by the EPA.

The EPA chooses to specifically list substances as hazardous and extremely hazardous, rather than providing objective definitions. Hazardous substances, as listed, are generally materials that, if released into the environment, tend to persist for long periods and pose long-term health hazards for living organisms. Extremely hazardous substances, while also generally toxic materials, represent acute health hazards that, when released, are immediately dangerous to the lives of humans and animals and cause serious damage to the environment. When facilities contain these materials in quantities at or above the threshold planning quantity (TPQ), they must submit "Tier II" information to appropriate state and/or local agencies to facilitate emergency planning.

Nuclear power-generating stations, research reactors, or other stationary sources of radioactivity present the threat of release of radiological material. This type of event could threaten a large, multi-jurisdictional area, and result in property damage, contamination of farm and water supplies, and economic damage. This could be a concern to Livingston County because the Robert Emmett Ginna Nuclear Power Plant's 50-mile Ingestion Exposure Pathway Emergency Planning Zone (EPZ) encompasses much of Livingston County, threatening the water and food supply in the county.

Hazardous Substances in Transit

A hazardous materials transportation incident is any event resulting in uncontrolled release of materials during transport that can pose a risk to health, safety, and property as defined by the U.S. Department of Transportation (DOT) Materials Transport regulations. Transportation incidents are difficult to prepare for because there is little, if any, notice about what materials could be involved should an accident happen. Hazardous materials transportation incidents can occur anywhere within the United States. Transportation of hazardous materials on highways involves tanker trucks or trailers, and these are responsible for the greatest number of hazardous substance release incidents. Potential also exists for hazardous substance releases to occur along rail lines, as collisions and derailments of train cars can result in large spills. Hazardous materials in transit are regulated by the DOT.

DOT regulations define hazardous materials as a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under Section 5103 of Federal Hazardous Materials Transportation Law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (Title 49 of the *Code of Federal* Regulations [CFR] 172.101), and materials that meet the defining criteria for hazard classes and divisions. When a substance meets the DOT definition of a hazardous material, it must be transported in accordance with safety regulations, which provide guidelines for appropriate packaging, communication of hazards, and proper shipping controls.

In Livingston County, approximately 240.9 miles of county roads are present (New York State Department of Transportation [NYSDOT] 2021). These roads cross rivers and streams; hazardous substance spills on roads could pollute watersheds that serve as domestic water supplies for areas within Livingston County and other parts of the state. Hazardous substance releases also could occur along rail lines, as collisions and derailments of train cars can result in large spills.

Location

Hazardous materials are widely stored and transported throughout Livingston County. An event involving hazardous materials can occur anywhere; however, they usually occur along major highways and railways (in-transit) or at facilities that store and/or use hazardous materials (fixed site).

Hazardous Materials at Fixed Sites

Many years ago, numerous wastes were dumped on the ground, in rivers, or left out in the open at various locations throughout the United States. As a result, thousands of uncontrolled or abandoned contaminated sites were created. These sites included abandoned warehouses, manufacturing facilities, processing plants, and landfills. In response to concerns regarding health and environmental risks, Congress established the Superfund program in 1980 to clean up these sites. The Superfund program is administered by EPA in cooperation with individual states.

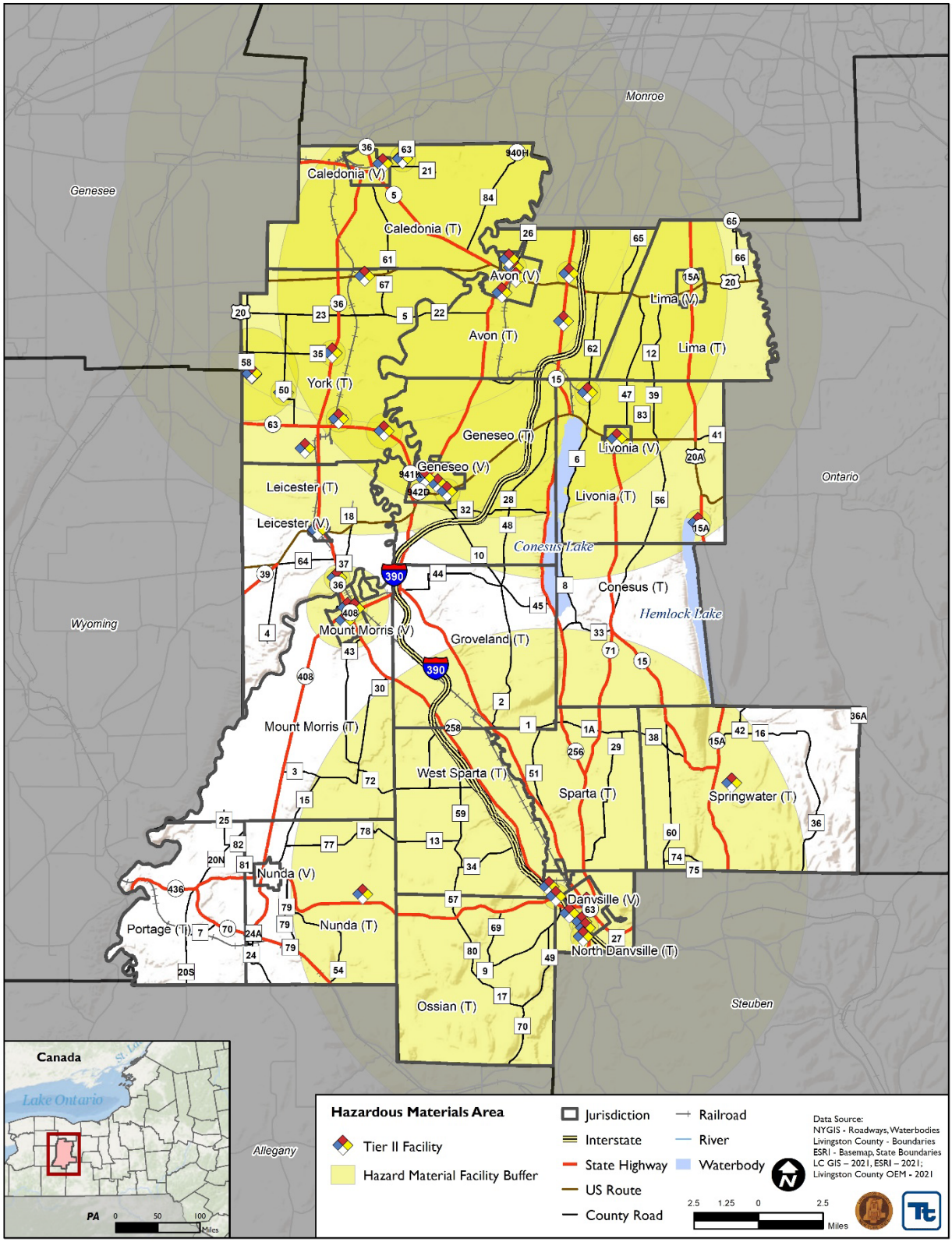
Federal regulations, including CERCLA and Superfund Amendments and Reauthorization Act (SARA), required that a National Priorities List (NPL) of sites throughout the United States be maintained and revised at least annually. The NPL contains a list of sites of national priority with known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. As of the date of this plan, there are no NPL (Superfund) sites in Livingston County (EPA 2021).

The Emergency Planning and Community Right-to-Know Act (EPCRA) was passed by Congress in 1986 (Title III of SARA). EPCRA establishes requirements for federal, state and local governments, Indian tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public's knowledge and provide access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment. There are four key provisions to EPCRA, which are described below.

- *Emergency planning* – Local governments are required to prepare chemical emergency response plans and to review those plans at least annually. State governments are required to oversee and coordinate local planning efforts. Facilities that maintain extremely hazardous substances (EHS) on site in quantities greater than corresponding threshold planning quantities (TPQ) must also cooperate in preparing emergency plans.
- *Emergency release notification* – Facilities must immediately report accidental releases of EHS and any other hazardous substances, as defined under CERCLA. Any release of these substances in quantities greater than their corresponding reportable quantities must be reported to state and local officials.
- *Hazardous chemical storage reporting requirements* – Facilities handling or storing any hazardous chemicals, as defined under the Occupational Safety and Health Administration (OSHA), must submit Material Safety Data Sheets (MSDS), or Safety Date Sheets (SDS), to state and local officials and fire departments. Facilities must also submit an inventory form for these chemicals to state and local officials and local fire departments.
- *Toxic chemical release inventory (TRI)* – Facilities must complete and submit a toxic chemical release inventory form (Form R) each year. Form R must be submitted for each TRI chemical manufactured or otherwise used above the applicable threshold quantities.

As part of the requirements for hazardous chemical storage reporting, facilities must annually submit an Emergency and Hazardous Chemical Inventory Form to the local emergency planning committee, the State Emergency Response Commission (SERC), and the local fire department. Facilities provide either a Tier I or Tier II inventory form; however, most states require Tier II inventory forms. The forms need to be submitted on or before March 1 each year, providing information on chemicals present at the facility in the previous year. Figure 5.4.4-1 shows the areas vulnerable to a hazardous materials release from a fixed facility.

Figure 5.4.4-1. Selected Buffer from Tier II Hazardous Materials Facilities in Livingston County



SARA requires the governor of each state to establish a SERC. New York's SERC was established by Executive Law, Article 2-B in 1978. The signing of this legislation also established the Disaster Preparedness Commission in 1978. SARA also requires establishment of emergency planning districts by SERC and specifies that these districts can be existing political subdivisions. The function of the emergency planning district is to facilitate preparation and implementation of emergency plans.

Livingston County has 42 fixed facilities that store or use hazardous materials and that fall under Tier II reporting requirements. For security purposes, they are not mapped in this profile.

EPA also requires these facilities to be registered with their Facility Registry Service (FRS). The FRS is a national database organized by facility industrial classification and geographic location. Livingston County reports 1,438 facilities to the FRS (EPA 2021).

Additionally, EPA identifies four facilities under the Toxic Release Inventory (TRI). These facilities are required to annually report how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on and off site. In 2019 (most recent data available), the TRI facilities in Livingston County reported a total of 2,483 pounds (lbs.) of on-site and off-site disposal or other releases, with the following breakdown:

- Total On-Site: 1,383 lbs.
- Total Off-Site: 1,100 lbs.

The majority of chemicals released into the air in Livingston County (as recorded in 2019) includes Zinc compounds (64.8 percent) and ammonia (20.3 percent).

Hazardous Materials In-Transit

Incidents involving hazardous materials in transit can occur anywhere in Livingston County. Transportation corridors within Livingston County that carry hazardous materials include highways, railroads, air/flight paths, pipelines, and navigable waterways. Major highways are more likely to be settings for this type of hazard because of interstate and local commercial transport of hazardous materials. Transport vehicles do not typically travel through residential areas unless they are en-route to destinations such as gasoline service stations or storage facilities.

Hazardous substance releases in navigable waterways are not a significant concern for Livingston County; per U.S. Coast Guard (USCG) determinations, there are no navigable waterways within the county (USCG 2021).

Major transportation routes through Livingston County include a framework of State Routes (S.R.) and one US Highway including S.R.-5, 15, 36, 39, 63 and US Highways 20 and 20A. Interstate 390 runs north to south through the center of the county. The potential for a spill also exists on routes used for industrial and business purposes. Section 4 of this HMP discusses roadways in the county.

Hazardous material incidents may occur along railways in Livingston County. Rail lines that may carry hazardous materials include the Norfolk Southern, and two short lines: Rochester & Southern Railroad and the Livonia Avon and Lakeville Railroad. Railways pose a risk for the Village of Avon, Village of Caledonia, and the hamlet of Lakeville.

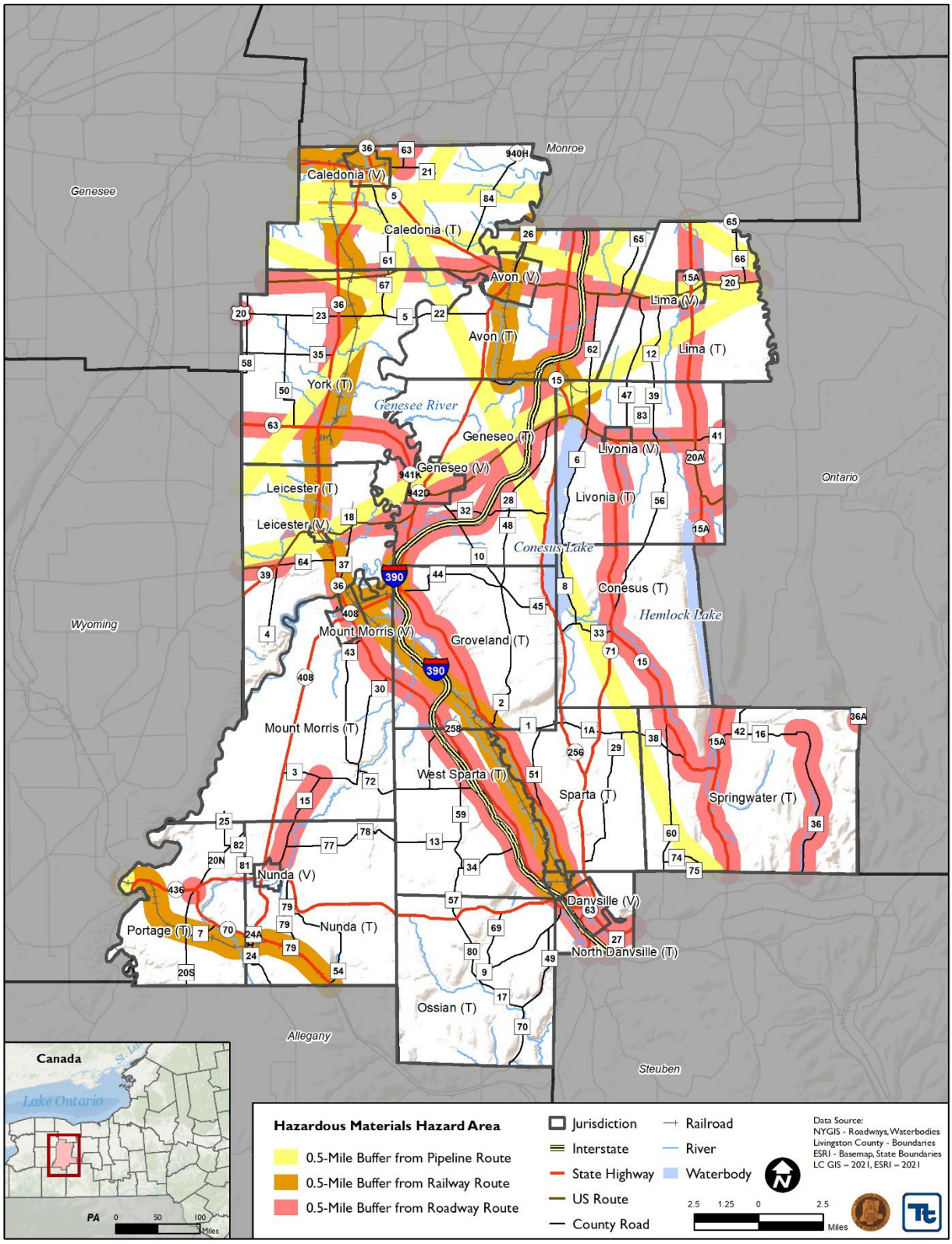
NYSDOT has a vital interest in preserving and improving the rail freight part of its transportation network. Rail shipments allow cost-effective movement of goods and thus decrease stress on the state's highway system. Major commodities shipped by rail include petrochemicals (including plastic pellets), construction materials, food

products, raw materials, and finished goods for manufacturers. An accident involving a rail car carrying hazardous materials could pose a public safety hazard to the community.

Hazardous materials can also be transported via underground petroleum and gas (natural and propane) pipelines across the state. New York State has an extensive network of natural gas and petroleum pipelines, some of which pass through Livingston County.

Figure 5.4.4-2 shows the areas vulnerable to a release of hazardous materials in transit, from pipelines, railways, and major roadways.

Figure 5.4.4-2. Half Mile Buffer from Gas Transmission/Hazardous Liquid Pipelines, Major Roadways and Rail Lines Within Livingston County



Extent

The extent of a hazardous substance release depends on (1) whether the substance is released from a fixed or mobile source, (2) the size of the impacted area, (3) the toxicity and properties of the substance, (4) the duration of the release, and (5) environmental conditions (for example, wind and precipitation, terrain, etc.).

Hazardous substance releases can contaminate air, water, and soils, possibly resulting in death or injuries. Dispersion can occur rapidly when the hazardous substance is transported by water and wind. While often accidental, releases can occur as a result of human carelessness, intentional acts, or natural hazards. Hazardous releases caused by natural hazards are known as secondary events. Hazardous materials can include toxic chemicals, radioactive substances, infectious substances, and hazardous wastes. Such releases can affect nearby populations and contaminate critical or sensitive environmental areas.

The severity or impact of a hazardous substance release, whether accidental or intentional, depends on several potentially mitigating or exacerbating circumstances. Mitigation involves precautionary measures taken in advance to reduce the impact of a release on the surrounding environment. For example, primary and secondary containment, or shielding by sheltering-in-place, protects people and property from the harmful effects of a hazardous substance release. Exacerbating conditions—characteristics that can enhance or magnify the effects of a hazardous substance release—include the following:

- Weather conditions, which affect the ways in which the hazard occurs and develops
- Micro-meteorological effects of buildings and terrain, which alter dispersion of hazardous materials
- Maintenance failures (such as fire protection and containment features), which can substantially increase damage to a facility and to surrounding buildings

The severity of an incident depends not only on the circumstances described above, but also on the type of substance released and the distance from the incident and related response time of emergency response teams. Areas closest to a release are generally at greatest risk; however, depending on the substance, a release can travel great distances or remain present in the environment for a long period of time (for example, centuries to millennia).

The warning time for a hazardous materials incident can be sudden, without any warning, such an explosion, or may slowly develop such as a leaking container. Facilities that store extremely hazardous substances are required to notify local officials when an incident occurs. Local emergency responders and emergency management officials would determine whether they need to evacuate the public or to advise to shelter in place. Similar to on-site hazardous substances incidents, the amount of warning time for incidents associated with hazardous substances in transit varies based on the nature and scope of the incident. If an explosion did not occur immediately following an accident, there may be time to warn adjacent neighborhoods and enough time to facilitate appropriate protective actions.

Previous Occurrences and Losses

Hazardous materials incidents, both on site or in transit, occur frequently across the state and in Livingston County. These incidents are typically small, localized events.

The Federal Railroad Administration (FRA) Office of Safety Analysis provides an incident report database with information on railroad incidents throughout the United States. According to this database, 18 incidents occurred in Livingston County between 2015 and 2021 (FRA 2021).

For this 2022 HMP update, known hazardous substances incidents that have impacted Livingston County between 2015 and 2021 are identified in Table 5.4.4-1. Between 1954 and 2019, New York State was included in one FEMA EM related to a hazardous substance incident. On August 7, 1978, and May 21, 1980, emergency declarations (EM-3066 and EM-3080) for New York State were issued related to the Love Canal incident. Livingston County was not included in this declaration (FEMA 2021).

It should be noted that not all events that have occurred in Livingston County are included in Table 5.4.4-1 because of the extent of documentation, and the fact that not all sources may have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP update.

Table 5.4.4-1. Hazardous Materials Incidents in Livingston County, 2015 to 2021

Date(s) of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
September 24, 2015	Small spill of Liquid hazmat	N/A	N/A	None reported
December 16, 2015	Liquid hazmat spill	N/A	N/A	Release of 60 gallons of chemicals
May 4, 2020	Liquid Hazmat release	N/A	N/A	Release of 3 gallons liquid chemicals

Sources: New York State Department of Environmental Conservation (NYSDEC) 2020; Pipeline and Hazardous Materials Safety Administration (PHMSA) 2021; FRA 2021; FEMA 2021
FEMA Federal Emergency Management Agency N/A Not applicable

Probability of Future Occurrences

Predicting future hazardous substance incidents in Livingston County is difficult. These can occur at any time and any location in the county. Incidents can occur suddenly, without any warning, or develop slowly. Small spills, at both fixed sites and in transit, occur throughout the year, and the probability of occurrences of these events is high. Risk of a major incident within a given year is small. The county is expected to continue to undergo direct and indirect impacts of hazardous substance incidents annually that may induce secondary hazards such as infrastructure deterioration or failure; potential decreases in water quality and supply; and transportation delays, accidents, and inconveniences. Therefore, the likelihood of a hazardous materials incident in the county is considered "frequent" (100 percent chance of happening in a given year), as presented in Table 5.3-1.

Climate Change Impacts

Non-natural incidents, such as hazardous substance incidents, are not typically considered vulnerable to climate change; however, that assessment not completely accurate. Climate change and its impact on hazardous materials sites, particularly waste sites, is a growing concern. According to the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) State Climate Summaries for New York State, the mean annual temperature has increased approximately 2 ºF.

ClimAID: The Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the state's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA] 2011). Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of Region 1, Western New York and the Great Lakes Plain. In Region 1, temperatures are estimated to increase

by 4.3 to 6.3 ºF by the 2050s, and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection).

As temperatures change, excessive heat on aging structures and/or infrastructure may be adversely affected. Excessive heat on structures or containers containing hazardous materials may alter the material properties.

In addition, hazardous substances stored at fixed locations in the floodplain may experience an increase in flood events due to the project changes in increased precipitation events; magnitude and frequency. Hazardous waste sites near rivers are tentatively at highest risk because extreme storms and higher water levels could release pollution into the environment. Many of these sites were built in locations believed to be removed from potential contamination or exposure-increasing factors. However, development, floodplain boundary change, and an increase in extreme events from climate change are increasing the possibility that water may reach hazardous material and waste sites.

5.4.4.2 Vulnerability Assessment

To understand risk, a community must evaluate the assets exposed and vulnerable in the identified hazard area. A spatial analysis was conducted using various lengths of buffer radii around hazardous material facilities, pipelines, and transportation networks. If a hazardous material incident occurred in or on the facility, pipeline, or transportation network, these buffers would represent the toxin or radiation release area. For the purposes of the assessment, an asset (population, structures, critical facilities, and lifelines) is considered exposed and potentially vulnerable to the hazmat hazard if it is located within these hazardous material buffer areas. The analysis looked at four different hazardous material areas:

1. Half mile from a major highway including the following roadways: Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A
2. Half mile from a rail line
3. Half mile from a pipeline
4. Selected buffer from Tier II hazardous material facilities

Effects from a radiological incident at a fixed facility would vary, depending on the product released, amount of product released, current weather conditions, and time of day. The priority following an incident at any facility within the State of New York is life and safety of all individuals within the area impacted. Secondary to health and safety would be effects on critical infrastructure, environment, property, and the economy.

Impacts on Life, Health, and Safety

Depending on the type and quantity of chemicals released and weather conditions, an incident can affect larger areas that cross jurisdictional boundaries. When hazardous materials are released into the air, water, or on land, they may contaminate the environment and pose greater danger to human health. The general population may be exposed to a hazardous materials release through inhalation, ingestion, or dermal exposure. Exposure may be either acute or chronic, depending on the nature of the substance and extent of release and contamination. Hazardous material incidents can lead to injury, illnesses, and/or death of involved persons and those living within the impacted areas.

Due to the varied location of different hazardous substances and waste sites in Livingston County, the entire County is considered vulnerable to this hazard. Those particularly vulnerable include populations located along major transportation routes because of the quantities of chemicals transported on these major thoroughfares. Potential losses from hazardous substances incidences include human health and life and property resources.

These types of incidents can lead to injury, illnesses, and/or death from both the involved persons and those living in the impacted areas.

Table 5.4.4-2 summarizes the estimated population located within a half mile of major roadways, rail lines, and pipelines and within selected buffers from Tier II hazardous materials facilities. Overall, most people are at risk to a hazardous material incident occurring from a Tier II hazardous materials facility. More than half the jurisdictions in Livingston County have a population 100-percent located within the Tier II hazardous material facility hazard area.

Table 5.4.4-2. Population Exposed to Hazardous Material Buffer Areas

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located Within 1/2 Mile of Hazardous Materials Roadway Routes*		Estimated Population Located Within 1/2 Mile of Hazardous Materials Railway Routes		Estimated Population Located Within 1/2 Mile of Hazardous Materials Pipelines		Estimated Population Located Within Selected Buffer from Hazardous Materials Tier II Facilities	
		Number of People	Percent of Total	Number of People	Percent of Total	Number of People	Percent of Total	Number of People	Percent of Total
Avon (T)	3,637	2,077	57.1%	599	16.5%	278	7.7%	3,637	100.0%
Avon (V)	3,260	2,252	69.1%	2,898	88.9%	41	1.3%	3,260	100.0%
Caledonia (T)	2,060	688	33.4%	462	22.4%	1,066	51.7%	2,060	100.0%
Caledonia (V)	2,078	1,946	93.7%	1,554	74.8%	278	13.4%	2,078	100.0%
Conesus (T)	2,325	631	27.1%	0	0.0%	666	28.7%	1,229	52.8%
Dansville (V)	4,586	4,424	96.5%	0	0.0%	0	0.0%	4,586	100.0%
Geneseo (T)	2,540	1,010	39.7%	52	2.1%	689	27.1%	2,512	98.9%
Geneseo (V)	8,095	6,305	77.9%	0	0.0%	3,517	43.4%	8,095	100.0%
Groveland (T)	3,241	773	23.8%	432	13.3%	0	0.0%	1,762	54.4%
Leicester (T)	1,798	1,389	77.2%	791	44.0%	629	35.0%	875	48.6%
Leicester (V)	518	518	100.0%	518	100.0%	499	96.3%	131	25.3%
Lima (T)	1,833	747	40.8%	0	0.0%	694	37.9%	1,833	100.0%
Lima (V)	2,278	2,278	100.0%	0	0.0%	1,621	71.2%	2,278	100.0%
Livonia (T)	6,231	2,894	46.5%	747	12.0%	220	3.5%	6,224	99.9%
Livonia (V)	1,353	1,353	100.0%	0	0.0%	0	0.0%	1,353	100.0%
Mount Morris (T)	1,340	210	15.6%	8	0.6%	0	0.0%	588	43.9%
Mount Morris (V)	2,931	2,672	91.2%	1,409	48.1%	0	0.0%	2,931	100.0%
North Dansville (T)	696	532	76.4%	156	22.4%	0	0.0%	696	100.0%
Nunda (T)	1,716	124	7.3%	337	19.6%	0	0.0%	793	46.2%
Nunda (V)	1,211	325	26.9%	0	0.0%	0	0.0%	0	0.0%
Ossian (T)	701	8	1.1%	0	0.0%	0	0.0%	701	100.0%
Portage (T)	837	45	5.4%	276	32.9%	3	0.4%	0	0.0%
Sparta (T)	1,591	210	13.2%	94	5.9%	92	5.8%	1,591	100.0%
Springwater (T)	2,233	970	43.5%	0	0.0%	207	9.3%	1,731	77.5%
West Sparta (T)	1,229	406	33.0%	55	4.5%	0	0.0%	1,229	100.0%
York (T)	3,273	2,123	64.9%	938	28.7%	740	22.6%	3,273	100.0%
Livingston County (Total)	**63,591**	**36,911**	**58.0%**	**11,326**	**17.8%**	**11,242**	**17.7%**	**55,444**	**87.2%**

Source: American Community Survey 2019; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village
**Roadway routes include Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A*

Impacts on General Building Stock

Potential losses to the general building stock caused by a hazardous substance releases, whether in transit or at fixed sites, is difficult to quantify. The degree of damages depends on the scale of the incident. Potential losses may include inaccessibility, loss of service, contamination and/or potential structural and content losses if an explosion occurs. To estimate the buildings located in the hazardous materials hazard area, specified hazardous material buffer areas were overlaid upon the structures located in the County. Refer to Table 5.4.4-3 and Table 5.4.4-4 for a summary of the buildings and total replacement cost value located within half a mile from roadways, rail lines, and pipelines, and located within a specified buffer of Tier II hazardous materials facilities.

Table 5.4.4-3. Total Number of Buildings and Replacement Cost Value Located in Designated Hazardous Materials Hazard Areas

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located Within 1/2 Mile of Hazardous Materials Roadway Routes*				Estimated Building Stock Located Within 1/2 Mile of Hazardous Materials Railway Routes			
			Number of Buildings Within the Hazardous Materials Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located Within the Hazardous Materials Hazard Area	Percent of Total	Number of Buildings Within the Hazardous Materials Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located Within the Hazardous Materials Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	1,203	56.0%	$788,780,162	59.5%	376	17.5%	$260,418,742	19.7%
Avon (V)	1,245	$1,365,771,007	872	70.0%	$824,962,820	60.4%	1,087	87.3%	$1,117,138,582	81.8%
Caledonia (T)	1,362	$792,755,652	424	31.1%	$187,771,281	23.7%	273	20.0%	$185,554,949	23.4%
Caledonia (V)	979	$735,609,120	917	93.7%	$682,943,278	92.8%	765	78.1%	$647,482,174	88.0%
Conesus (T)	1,774	$625,005,723	498	28.1%	$192,991,433	30.9%	0	0.0%	$0	0.0%
Dansville (V)	1,950	$1,341,807,175	1,884	96.6%	$1,306,386,009	97.4%	4	0.2%	$10,731,703	0.8%
Geneseo (T)	1,753	$1,161,720,041	694	39.6%	$559,251,485	48.1%	40	2.3%	$36,655,776	3.2%
Geneseo (V)	1,329	$1,570,704,963	1,066	80.2%	$1,317,452,360	83.9%	0	0.0%	$0	0.0%
Groveland (T)	1,330	$1,203,662,583	448	33.7%	$642,313,152	53.4%	141	10.6%	$94,772,376	7.9%
Leicester (T)	1,214	$715,987,145	825	68.0%	$432,946,293	60.5%	468	38.6%	$260,854,698	36.4%
Leicester (V)	240	$142,879,953	240	100.0%	$142,879,953	100.0%	240	100.0%	$142,879,953	100.0%
Lima (T)	1,436	$859,636,929	598	41.6%	$420,605,237	48.9%	0	0.0%	$0	0.0%
Lima (V)	777	$452,768,112	777	100.0%	$452,768,112	100.0%	0	0.0%	$0	0.0%
Livonia (T)	3,888	$1,866,897,181	1,864	47.9%	$1,068,446,613	57.2%	522	13.4%	$312,381,340	16.7%
Livonia (V)	569	$371,319,429	568	99.8%	$368,376,518	99.2%	0	0.0%	$0	0.0%
Mount Morris (T)	1,115	$646,574,328	181	16.2%	$197,190,473	30.5%	40	3.6%	$83,093,664	12.9%
Mount Morris (V)	1,337	$785,505,655	1,225	91.6%	$745,981,751	95.0%	687	51.4%	$487,538,785	62.1%
North Dansville (T)	607	$497,159,183	486	80.1%	$449,004,142	90.3%	179	29.5%	$293,737,731	59.1%
Nunda (T)	1,354	$544,934,442	89	6.6%	$28,981,446	5.3%	264	19.5%	$110,346,221	20.2%
Nunda (V)	641	$392,488,596	155	24.2%	$53,803,242	13.7%	0	0.0%	$0	0.0%
Ossian (T)	817	$488,703,931	8	1.0%	$4,350,817	0.9%	0	0.0%	$0	0.0%
Portage (T)	620	$338,465,763	33	5.3%	$25,149,287	7.4%	206	33.2%	$152,543,680	45.1%
Sparta (T)	1,151	$449,674,840	165	14.3%	$70,461,914	15.7%	66	5.7%	$24,856,642	5.5%
Springwater (T)	1,822	$702,256,303	788	43.2%	$347,600,171	49.5%	0	0.0%	$0	0.0%
West Sparta (T)	1,010	$423,213,015	356	35.2%	$181,641,447	42.9%	60	5.9%	$57,129,112	13.5%
York (T)	2,183	$1,677,949,006	1,296	59.4%	$820,001,343	48.9%	585	26.8%	$449,510,417	26.8%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**17,660**	**51.0%**	**$12,313,040,739**	**57.3%**	**6,003**	**17.3%**	**$4,727,626,547**	**22.0%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village
**Roadway routes include Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A*

Table 5.4.4-4. Total Number of Buildings and Replacement Cost Value Located in Designated Hazardous Materials Hazard Areas

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located Within 1/2 Mile of Hazardous Materials Pipelines				Estimated Building Stock Located Within Selected Buffer from Hazardous Materials Tier II Facilities			
			Number of Buildings Within the Hazardous Materials Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located Within the Hazardous Materials Hazard Area	Percent of Total	Number of Buildings Within the Hazardous Materials Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located Within the Hazardous Materials Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	162	7.5%	$85,589,288	6.5%	2,149	100.0%	$1,324,846,766	100.0%
Avon (V)	1,245	$1,365,771,007	20	1.6%	$107,555,027	7.9%	1,245	100.0%	$1,365,771,007	100.0%
Caledonia (T)	1,362	$792,755,652	618	45.4%	$316,918,113	40.0%	1,362	100.0%	$792,755,652	100.0%
Caledonia (V)	979	$735,609,120	115	11.7%	$49,497,215	6.7%	979	100.0%	$735,609,120	100.0%
Conesus (T)	1,774	$625,005,723	510	28.7%	$155,023,450	24.8%	937	52.8%	$313,703,177	50.2%
Dansville (V)	1,950	$1,341,807,175	0	0.0%	$0	0.0%	1,950	100.0%	$1,341,807,175	100.0%
Geneseo (T)	1,753	$1,161,720,041	483	27.6%	$261,674,676	22.5%	1,730	98.7%	$1,139,194,993	98.1%
Geneseo (V)	1,329	$1,570,704,963	586	44.1%	$825,302,700	52.5%	1,329	100.0%	$1,570,704,963	100.0%
Groveland (T)	1,330	$1,203,662,583	0	0.0%	$0	0.0%	786	59.1%	$786,658,523	65.4%
Leicester (T)	1,214	$715,987,145	376	31.0%	$190,730,556	26.6%	566	46.6%	$370,432,032	51.7%
Leicester (V)	240	$142,879,953	232	96.7%	$140,609,948	98.4%	69	28.8%	$43,066,744	30.1%
Lima (T)	1,436	$859,636,929	528	36.8%	$366,442,995	42.6%	1,436	100.0%	$859,636,929	100.0%
Lima (V)	777	$452,768,112	553	71.2%	$314,344,271	69.4%	777	100.0%	$452,768,112	100.0%
Livonia (T)	3,888	$1,866,897,181	155	4.0%	$103,110,678	5.5%	3,884	99.9%	$1,865,671,520	99.9%
Livonia (V)	569	$371,319,429	0	0.0%	$0	0.0%	569	100.0%	$371,319,429	100.0%
Mount Morris (T)	1,115	$646,574,328	0	0.0%	$0	0.0%	498	44.7%	$337,045,655	52.1%
Mount Morris (V)	1,337	$785,505,655	0	0.0%	$0	0.0%	1,337	100.0%	$785,505,655	100.0%
North Dansville (T)	607	$497,159,183	0	0.0%	$0	0.0%	607	100.0%	$497,159,183	100.0%
Nunda (T)	1,354	$544,934,442	0	0.0%	$0	0.0%	614	45.3%	$203,422,931	37.3%
Nunda (V)	641	$392,488,596	0	0.0%	$0	0.0%	0	0.0%	$0	0.0%
Ossian (T)	817	$488,703,931	0	0.0%	$0	0.0%	817	100.0%	$488,703,931	100.0%
Portage (T)	620	$338,465,763	2	0.3%	$738,369	0.2%	0	0.0%	$0	0.0%
Sparta (T)	1,151	$449,674,840	60	5.2%	$16,954,597	3.8%	1,151	100.0%	$449,674,840	100.0%
Springwater (T)	1,822	$702,256,303	169	9.3%	$61,990,187	8.8%	1,431	78.5%	$572,462,983	81.5%
West Sparta (T)	1,010	$423,213,015	0	0.0%	$0	0.0%	1,010	100.0%	$423,213,015	100.0%
York (T)	2,183	$1,677,949,006	483	22.1%	$259,940,726	15.5%	2,183	100.0%	$1,677,949,006	100.0%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**5,052**	**14.6%**	**$3,256,422,798**	**15.2%**	**29,416**	**84.9%**	**$18,769,083,342**	**87.4%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village

Impacts on Critical Facilities and Lifelines

Potential losses of critical facilities caused by a hazardous material incident are difficult to quantify. Potential losses may include inaccessibility, loss of service, contamination, and/or potential structural and content losses if an explosion occurs. The closure of waterways, railroads, airports and highways as a result of a hazardous substance incident has the potential to impact the ability to deliver goods and services efficiently. Potential impacts may be local, regional, or statewide depending on the magnitude of the event and level of service disruptions.

Table 5.4.4-5 through Table 5.4.4-8 summarize the number of critical facilities and lifelines built within the hazardous materials hazard areas by jurisdiction. Appendix F summarizes the distribution of critical facilities by critical facility type located in the hazardous material hazard areas by jurisdiction. The majority of the critical facilities located in the hazardous materials hazard areas are considered safety and security lifelines for the county (refer to Table 5.4.4-9).

Table 5.4.4-5. Number of Critical Facilities and Lifelines Located Within Half Mile of Hazardous Materials Roadway Routes

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within 1/2 Mile of Hazardous Material Roadway Routes*			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	36	70.6%	32	69.6%
Avon (V)	36	27	28	77.8%	23	85.2%
Caledonia (T)	19	16	5	26.3%	5	31.3%
Caledonia (V)	28	25	28	100.0%	25	100.0%
Conesus (T)	26	26	13	50.0%	13	50.0%
Dansville (V)	46	37	44	95.7%	35	94.6%
Geneseo (T)	48	45	34	70.8%	31	68.9%
Geneseo (V)	46	39	32	69.6%	26	66.7%
Groveland (T)	63	59	43	68.3%	39	66.1%
Leicester (T)	26	26	18	69.2%	18	69.2%
Leicester (V)	13	13	13	100.0%	13	100.0%
Lima (T)	16	14	9	56.3%	7	50.0%
Lima (V)	21	19	21	100.0%	19	100.0%
Livonia (T)	70	65	46	65.7%	43	66.2%
Livonia (V)	16	12	15	93.8%	12	100.0%
Mount Morris (T)	30	29	18	60.0%	17	58.6%
Mount Morris (V)	28	24	28	100.0%	24	100.0%
North Dansville (T)	35	31	30	85.7%	26	83.9%
Nunda (T)	25	25	3	12.0%	3	12.0%
Nunda (V)	23	20	2	8.7%	2	10.0%
Ossian (T)	20	20	0	0.0%	0	0.0%
Portage (T)	23	22	2	8.7%	2	9.1%
Sparta (T)	18	18	4	22.2%	4	22.2%
Springwater (T)	27	26	16	59.3%	15	57.7%
West Sparta (T)	25	25	15	60.0%	15	60.0%
York (T)	58	54	35	60.3%	33	61.1%
Livingston County (Total)	**837**	**763**	**538**	**64.3%**	**482**	**63.2%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village
** Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A*

Table 5.4.4-6. Number of Critical Facilities and Lifelines Located Within Half Mile of Hazardous Materials Railway Routes

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within 1/2 Mile of Hazardous Material Railway Routes			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	23	45.1%	21	45.7%
Avon (V)	36	27	27	75.0%	19	70.4%
Caledonia (T)	19	16	2	10.5%	1	6.3%
Caledonia (V)	28	25	28	100.0%	25	100.0%
Conesus (T)	26	26	0	0.0%	0	0.0%
Dansville (V)	46	37	1	2.2%	1	2.7%
Geneseo (T)	48	45	0	0.0%	0	0.0%
Geneseo (V)	46	39	0	0.0%	0	0.0%
Groveland (T)	63	59	21	33.3%	20	33.9%
Leicester (T)	26	26	9	34.6%	9	34.6%
Leicester (V)	13	13	13	100.0%	13	100.0%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	0	0.0%	0	0.0%
Livonia (T)	70	65	20	28.6%	17	26.2%
Livonia (V)	16	12	0	0.0%	0	0.0%
Mount Morris (T)	30	29	7	23.3%	7	24.1%
Mount Morris (V)	28	24	19	67.9%	15	62.5%
North Dansville (T)	35	31	12	34.3%	9	29.0%
Nunda (T)	25	25	4	16.0%	4	16.0%
Nunda (V)	23	20	0	0.0%	0	0.0%
Ossian (T)	20	20	0	0.0%	0	0.0%
Portage (T)	23	22	9	39.1%	9	40.9%
Sparta (T)	18	18	3	16.7%	3	16.7%
Springwater (T)	27	26	0	0.0%	0	0.0%
West Sparta (T)	25	25	3	12.0%	3	12.0%
York (T)	58	54	21	36.2%	21	38.9%
Livingston County (Total)	**837**	**763**	**222**	**26.5%**	**197**	**25.8%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village

Table 5.4.4-7. Number of Critical Facilities and Lifelines Located Within Half Mile of Hazardous Materials Pipelines Routes

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within 1/2 Mile of Hazardous Materials Pipelines			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	3	5.9%	3	6.5%
Avon (V)	36	27	2	5.6%	0	0.0%
Caledonia (T)	19	16	6	31.6%	6	37.5%
Caledonia (V)	28	25	0	0.0%	0	0.0%
Conesus (T)	26	26	7	26.9%	7	26.9%
Dansville (V)	46	37	0	0.0%	0	0.0%
Geneseo (T)	48	45	10	20.8%	10	22.2%
Geneseo (V)	46	39	24	52.2%	20	51.3%
Groveland (T)	63	59	0	0.0%	0	0.0%

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within 1/2 Mile of Hazardous Materials Pipelines			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Leicester (T)	26	26	8	30.8%	8	30.8%
Leicester (V)	13	13	13	100.0%	13	100.0%
Lima (T)	16	14	4	25.0%	4	28.6%
Lima (V)	21	19	19	90.5%	18	94.7%
Livonia (T)	70	65	7	10.0%	5	7.7%
Livonia (V)	16	12	0	0.0%	0	0.0%
Mount Morris (T)	30	29	0	0.0%	0	0.0%
Mount Morris (V)	28	24	0	0.0%	0	0.0%
North Dansville (T)	35	31	0	0.0%	0	0.0%
Nunda (T)	25	25	0	0.0%	0	0.0%
Nunda (V)	23	20	0	0.0%	0	0.0%
Ossian (T)	20	20	0	0.0%	0	0.0%
Portage (T)	23	22	0	0.0%	0	0.0%
Sparta (T)	18	18	0	0.0%	0	0.0%
Springwater (T)	27	26	1	3.7%	1	3.8%
West Sparta (T)	25	25	0	0.0%	0	0.0%
York (T)	58	54	8	13.8%	8	14.8%
Livingston County (Total)	**837**	**763**	**112**	**13.4%**	**103**	**13.5%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village

Table 5.4.4-8. Number of Critical Facilities and Lifelines Located Within Selected Buffer of Tier II Hazardous Materials Facilities

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within Selected Buffer of Hazardous Material Tier II Facilities			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	51	100.0%	46	100.0%
Avon (V)	36	27	36	100.0%	27	100.0%
Caledonia (T)	19	16	19	100.0%	16	100.0%
Caledonia (V)	28	25	28	100.0%	25	100.0%
Conesus (T)	26	26	8	30.8%	8	30.8%
Dansville (V)	46	37	46	100.0%	37	100.0%
Geneseo (T)	48	45	47	97.9%	44	97.8%
Geneseo (V)	46	39	46	100.0%	39	100.0%
Groveland (T)	63	59	38	60.3%	37	62.7%
Leicester (T)	26	26	19	73.1%	19	73.1%
Leicester (V)	13	13	5	38.5%	5	38.5%
Lima (T)	16	14	16	100.0%	14	100.0%
Lima (V)	21	19	21	100.0%	19	100.0%
Livonia (T)	70	65	70	100.0%	65	100.0%
Livonia (V)	16	12	16	100.0%	12	100.0%
Mount Morris (T)	30	29	25	83.3%	24	82.8%
Mount Morris (V)	28	24	28	100.0%	24	100.0%
North Dansville (T)	35	31	35	100.0%	31	100.0%
Nunda (T)	25	25	9	36.0%	9	36.0%
Nunda (V)	23	20	0	0.0%	0	0.0%
Ossian (T)	20	20	20	100.0%	20	100.0%
Portage (T)	23	22	0	0.0%	0	0.0%

Jurisdiction	Total Number of Critical Facilities	Total Number of Lifelines	Number of Critical Facilities and Lifeline Facilities Located Within Selected Buffer of Hazardous Material Tier II Facilities			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Sparta (T)	18	18	18	100.0%	18	100.0%
Springwater (T)	27	26	25	92.6%	24	92.3%
West Sparta (T)	25	25	25	100.0%	25	100.0%
York (T)	58	54	58	100.0%	54	100.0%
Livingston County (Total)	**837**	**763**	**709**	**84.7%**	**642**	**84.1%**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021
Notes: % = Percent; T = Town; V = Village

Table 5.4.4-9. Number of Lifelines Categorized by FEMA Lifeline Category Located in the Designated Hazardous Materials Hazard Areas

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located within 1/2 Mile of Hazardous Materials Roadway Routes*	Number of Lifelines Located Within 1/2 Mile of Hazardous Materials Railway Routes	Number of Lifelines Located Within 1/2 Mile of Hazardous Materials Pipelines	Number of Lifelines Located Within Selected Buffer from Hazardous Materials Facilities Tier II Facilities
Communications	72	26	7	13	69
Energy	18	13	5	5	13
Food, Water, Shelter	100	56	20	20	82
Hazardous Materials	50	34	25	4	49
Health and Medical	36	32	7	5	32
Safety and Security	269	179	69	39	221
Transportation	218	142	64	17	176
Livingston County (Total)	**763**	**482**	**197**	**103**	**642**

Source: RS Means 2021; Livingston County GIS 2021; Livingston County OEM 2021; FEMA 2021
*Notes: * Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A*

Impact on the Economy

If a significant hazardous substances incident occurred, not only would life, safety, and building stock be at risk, but the economy of Livingston County may be impacted as well. A significant incident in an urban area may force businesses to close for an extended period of time because of contamination or direct damage caused by an explosion, if one occurred. Estimating impacts on the economy is difficult to determine, given the uncertain nature of the size and scope of incidents.

Hazardous substance incidents have the potential to lead to major transportation route closures in Livingston County. According to the County, roadways that are considered major transit routes for hazardous materials include Interstate I-390 and Routes 20, 20A, 36, 63, 15, and 15A. The closure of railroads, airports, and highways as a result of hazard material release incidents has the potential to impact the ability to deliver goods and services. Potential impacts may be local, regional, or statewide, depending on the magnitude of the event and the level of services disruptions.

Impact on the Environment

Hazardous wastes that are released into the environment can be harmful to species and their habitat. Wastes that get into waterways will be disruptive and sometimes deadly to aquatic species. Consequentially, wastes that get into waterways can also contaminate drinking water supplies. Hazardous wastes can also leach into soils and travel with wind, which not only impacts the localized habitat, but can create issues for surrounding

communities. Strict disposal regulations have been defined by organizations like the EPA to ensure that the environment and community is protected from these types of events (EPA 2020).

Cascading Impacts to Other Hazards

Hazardous substance events can cause utility failure and transportation disruption. If a spill or other release occurred, water quality and supply could decrease. Transportation networks could experience disruption and accidents.

Future Changes That May Impact Vulnerability

Understanding future changes that impact vulnerability in the County can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The county considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development.
- Projected changes in population.
- Other identified conditions as relevant and appropriate, including the impacts of climate change.

Projected Development

As discussed and illustrated in Section 4 (County Profile), areas targeted for future growth and development have been identified across the county. Development near the transit routes for hazardous materials and facilities will increase the county's overall risk. Therefore, the County should take precautions with the location of new development and the development's proximity to hazardous material facilities and transit routes. The county may also want to consider implementing designs into the new development that enables improved evacuation or protection from residual impacts from the hazardous materials. Refer to Section 4 (County Profile) for more information about the County's anticipated and recent new development plans.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. Although population is decreasing, persons that move into hazardous material exposure areas are at greater risk to be impacted if there is a spill or toxin release.

Climate Change

As temperatures change, excessive heat on containers that contain hazardous materials may alter the material properties. In addition, hazardous substances stored at fixed locations in the floodplain may experience an increase in flood events due to the project changes in increased precipitation events; magnitude and frequency

Change of Vulnerability Since the 2015 HMP

Overall, the County's vulnerability has not changed, and the entire County will continue to be exposed and vulnerable to hazardous substance incidents.

5.4.5 Invasive Species

This section provides a hazard profile and vulnerability assessment of the invasive species hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.5.1 Hazard Profile

This section presents information regarding the description, extent, location, previous occurrences and losses, and probability of future occurrences for the infestation and invasive species hazard.

Description

Infestation

An infestation is defined as a state of being invaded or overrun by parasites that attack plants, animals and humans. Insect, fungi and parasitic infestations can result in destruction of various natural habitats and cropland, impact human health, and cause disease and death among native plant, wildlife and livestock. An infestation is the presence of a large number of pest organisms in an area or field, on the surface of a host, or in soil. They result from when an area is inhabited or overrun by these pest organisms, in numbers or quantities large enough to be harmful, threatening or obnoxious to native plants, animals and humans. Pests are any organism (insects, mammals, birds, parasite/pathogen, fungi, non-native species) that are a threat to other living species in its surrounding environment. Pests compete for natural resources or they can transmit diseases to humans, crops and livestock. Human populations are generally impacted by insect or animal infestations that can result in health impacts and can lead to potential epidemics or endemics. New York State has been impacted by insect borne diseases such as West Nile Virus, Lyme disease, Eastern Equine Encephalitis, La Crosse Encephalitis, Powassan Virus, St. Louis Encephalitis, Western Equine Encephalitis. These diseases are discussed in the disease outbreak profile, Section 5.4.1.

New York State has been impacted by various past and present infestations including Asian longhorned beetles; and hemlock woolly adelgid. Other infestations that have impacted the State include: Emerald Ash Borer, and Sirex Woodwasp. Some infestations, like hemlock wooly adelgid and Emerald Ash Borer, have already occurred in Livingston County. The following infestations listed below, will further be discussed in this section.

Invasive Species

According to the New York State Department of Environmental Conservation, invasive species are non-native species that can cause harm to the environment, to the economy, or to human health (NYSDEC 2018). Invasive species originate in many parts of the world and can be found in the form of aquatic or terrestrial species. Invasive species are one of the greatest threats to New York State's biodiversity. They can cause or contribute to:

- Habitat degradation and loss
- The loss of native fish, wildlife, and tree species
- The loss of recreational opportunities and income
- Impact water quality
- Crop damage and diseases in humans and livestock
- Risks to public health and safety (NYSDEC 2018).

Thousands of species have been introduced in the U.S., posing serious threats to agriculture, human health, and the integrity of land and water. New York State is vulnerable to damages from these invasive species. The following list contains the names of invasive species found in New York State. This list does not include all

plant species that are invasive or potentially invasive in the State. Jurisdictions in Livingston County and the Livingston County Soil and Water Conservation District are devoting resources to help control the invasive plant species populations, along with adopting codes and guidelines to help regulate and control the planting of different plant species. An invasive plant can thrive and spread aggressively outside its native range. A naturally aggressive plant may be especially invasive when it is introduced to a new habitat (USDA 2017). Invasive plants include invasive aquatic plants. Invasive aquatic plants are introduced plants that have adapted to living in, on, or next to water, and can grow either submerged or partially submerged in water (USDA 2017,). Invasive plants often are introduced to a new area for ornamental gardening.

The following table provides the animal and pathogen species that currently affect or may soon affect the natural areas of Livingston County.

Table 5.4.5-1. Animals, Insects, and Pathogens Impacted Natural Areas of Finger Lakes Region

Name	Species Type	Name	Species Type
Agriculture Weeds	Plant	Japanese Barberry	Plant
Akebia	Plant	Japanese hedgeparsley	Plant
Alewife	Fish	Japanese Stiltgrass	Plant
Amur River, California, Common privet	Plant	Kudzu (Not yet in region)	Plant
Amur cork-tree	Plant	Leafy Spurge	Plant
Asian bittersweet	Plant	Lesser celandine	Plant
Asian Clam	Fish	Lily-of-the-valley	Plant
Asian Longhorned Beetle (Not yet in region)	Insect	Mile-a-Minute	Plant
Asian Maple	Plant	Moneywort, creeping jenny	Plant
Autumn Olive	Plant	Mugwort	Plant
Balsam Woolly Adelgid (Not yet in region)	Insect	Multiflora Rose	Plant
Bittersweet nightshade	Plant	Norway Maple	Plant
Black locust	Plant	Norway Spruce	Plant
Black swallowwort	Plant	Oriental Bittersweet	Plant
Brittle Naiad (water nymph)	Plant	Pale swallowwort	Plant
Brazilian Elodea/waterweed (Not yet in region)	Plant	Periwinkle	Plant
Brown/Black Knapweed	Plant	Pondweed (Curly-leaf, Giant, Japanese)	Plant
Buckthorn (and Alder)	Plant	Porcelain-berry	Plant
Burning Bush/Winged euonymus	Plant	Purple Loosestrife	Plant
Callery Pear	Plant	Quagga Mussel	Mollusk
Canada Thistle	Plant	Reed canary grass	Plant
Common Crane Fly	Insect	Rocket	Plant
Common Reed Grass/Phragmites	Plant	Round Goby	Fish
Crabapple	Plant	Sheep sorrel	Plant
Creeping bellflower	Plant	Sirex (European Woodwasp)	Insect
Creeping Thistle	Plant	Slender Falsebrome	Plant
Crownvetch	Plant	Spiny Waterflea	Zooplankton
Daylily	Plant	Spotted Knapweed	Plant
Emerald Ash Borer	Insect	Spotted Wing Drosophila	Insect
English Ivy	Plant	Starry Stonewort	Plant
Eurasian Boar	Animal	Stilt-grass	Plant
Eurasian Watermilfoil	Plant	Swallow-worts	Plant
European black alder	Plant	Swede Midge	Insect
European barberry	Plant	Sycamore maple	Plant
European Crane Fly	Insect	Tree of heaven/ailanthus	Plant
European dewberry	Plant	Variable-leaf Watermilfoil	Plant
European Frog-bit	Plant	Water Chestnut	Plant
Evergreen bittersweet	Plant	White bedstraw	Plant

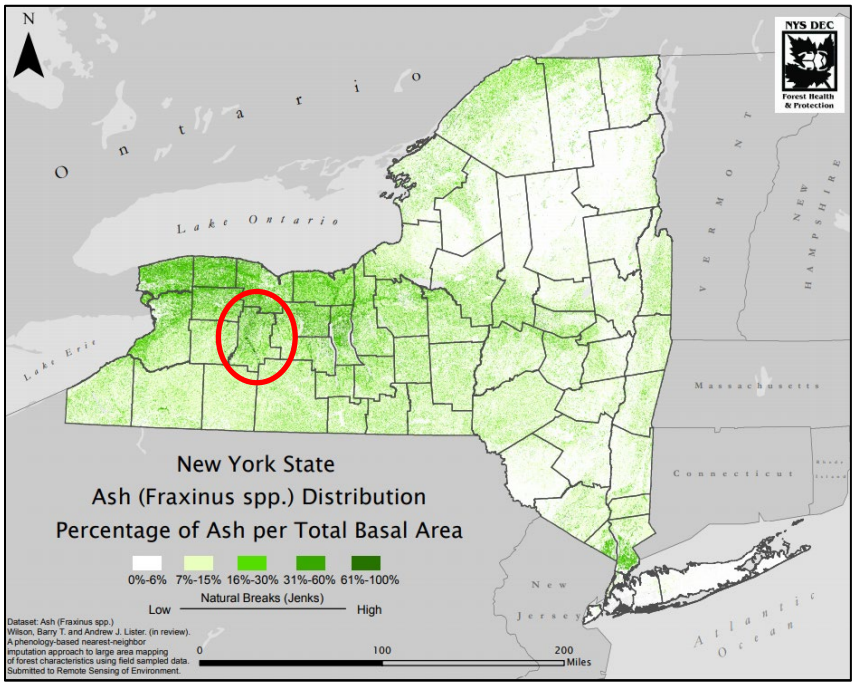
Name	Species Type	Name	Species Type
Fanwort	Plant	Wild Chervil	Plant
Fishhook Waterflea	Zooplankton	Wild onion/onion-grass	Plant
Flowering Rush	Plant	Wild Parsnip	Plant
Forget-me-not	Plant	Wineberry	Plant
Garlic Mustard	Plant	Wisteria	Plant
Giant Hogweed	Plant	Yellow-flag iris	Plant
Goutweed, bishop's weed	Plant	Yellow Floating Heart	Plant
Hairy cress	Plant	Yellow Iris	Plant
Hedge Maple	Plant	Zebra Mussel	Mollusk
Hemlock Wooly Adelgid	Plant		
Honeysuckle (Japanese, Maack's, Tartarian)	Plant		
Hydrilla	Plant		

Source: Finger Lakes PRISM, 2020; Livingston County Environmental Management Council 2018

For this HMP update, the following non-native species will be discussed in further detail for Livingston County:

Emerald Ash Borer (EAB) is a wood boring beetle native to Asia that feed on and kill all Ash Tree species. The beetle was first found in 2002 near Detroit, Michigan and has since spread to 13 states and 2 Canadian provinces, killing many millions of Ash Trees in both urban and rural settings. New York State's Department of Environmental Conservation had instituted a quarantine zone to contain the spread of this beetle, of which Livingston County was included. The quarantine zone has since been eliminated since it is no longer effective. In general, Ash is a common tree found throughout most of New York State and comprises nearly 8% of all trees within the state. As the tree is a common food source and is commonly used in lumber, the effect of the EAB in New York State can be significant. A map below provided by NYSDEC shows the general population of ash. Increased woodpecker activity is often the first sign of an EAB infestation and most tree die within 2 to 4 years after being infected. The population of EAB is increasing quickly across the state, however, DEC is not actively pursuing management of this invasive species currently (NYSDEC, 2020).

Figure 5.4.5-1. General Population of Ash Trees in New York State



Note: Livingston County is noted with a red oval.

Sirex Woodwasp (SW) an invasive insect that attacks pine species, including Scots Pine and Red Pine. It was found in Oswego County in 2004 and since then has spread throughout much of New York State. It is known for causing severe tree mortality as it lays its nests and inserts a fungus into destressed trees, which ultimately lead to the trees wilting and rotting.

Giant Hogweed This species is a perennial plant and a member of the carrot family. It is a garden ornamental from southwest Asia that is naturalizing in North America and has over time become a widespread issue in New York State. Giant hogweed has the potential to spread readily and grows along roadsides, ditches and streams. It invades old fields and native habitats such as open woodlands. Brushing against or breaking the plant releases sap that, combined with sunlight and moisture, can cause a severe burn within 24 to 48 hours. Giant hogweed is a Federally listed noxious weed and NYS law prohibits its possession with the intent to sell, import, purchase, transport, introduce or propagate (NYSDEC, 2020).Giant hogweed has been spotted in several towns throughout Livingston County and the NYSDEC is monitoring approximately 10 known locations of the plant. (Cornell Cooperative Extensions, 2020).

Starry Stonewort is an algae native to Eurasia, likely introduced to the Great Lakes by ballast water (NYS DEC n.d.). It has since spread to inland lakes in counties along Lake Ontario, the Finger Lakes region, and other locations in the state. It may outcompete native species of plants that provide shelter and food for native species of animals, and the mats it forms on the bottoms of waterbodies may negatively impact spawning of native species.

Wild Parsnip Wild parsnip is an invasive plant from Europe and Asia that has become naturalized in North America. The plant can grow up to five feet tall and has a hollow grooved stem. The plant can easily be mistaken for plants such as goldenrod or other yellow plants that can be found in the northeast region. It is well suited for the northeast climate and can be found in a broad range of habitat, especially along roads, in field and pastures, and along rivers or streams. The plant contains a chemical called furanocoumarins which cause human skin to become vulnerable to UV and thus cause swelling and inflammation. The burn can last between 24 and 48 hours and in severe cases cause discoloration of the skin. Livingston County and its associated organizations such as Cornell Cooperative Extension and SWCD are actively monitoring the species and have been providing education and outreach around the potentially hazardous plant (Cornell Cooperative Extension, 2020)

Hemlock Woolly Adelgid (HWA) is an invasive, aphid-like insect that attacks North American hemlocks. HWA are originally from Asia and is very small and hard to see but can be identified based on their whiteness that form underneath the branches around the needles. HWA develop by connecting at the base of needles and being feeding on the tree's stored starches which depletes the tree of nutrients and destroys the canopy due to the inability for adequate nutrients to be delivered to the twigs and needles. Eventually, the tree dies within 4 to 10 years if not addressed immediately. While all hemlock species are vulnerable, most often HMA can be found on eastern (most common in NYS) and Carolina hemlocks. In addition to direct effects on hemlock, the decline of the species health can cascade to affecting black bears, salamanders, and migrating birds, as well as unique lichen and plant communities that all depend on the unique dense canopy of the hemlock.

Figure 5.4.5-2 Hemlock Woolly Adelgid



Asian Longhorned Beetles (ALB) are an exotic pest, native to parts of Asia, threatening a wide variety of hardwood trees in North America, particularly in New York State, New Jersey, and Chicago. The beetle is believed to have arrived in New York City in the 1980s, in wooden packing material used in cargo shipments from China. The ALB can infest certain hardwood trees, eventually destroying them. They are threat to public, private, and commercial hardwood trees. The U.S. Department of Agriculture (USDA) believes this beetle can probably survive and reproduce in most sections of the country where suitable host trees exist.

This insect is native to the southeastern United States but has been expanding its range up the Eastern Seaboard in recent years. Warming of extreme winter temperatures has most likely contributed to this expansion. While this species has not yet been documented in Livingston County, according to DEC, with changing weather patterns and increasing temperatures, the Finger Lakes region will likely start encountering this species in the near future.

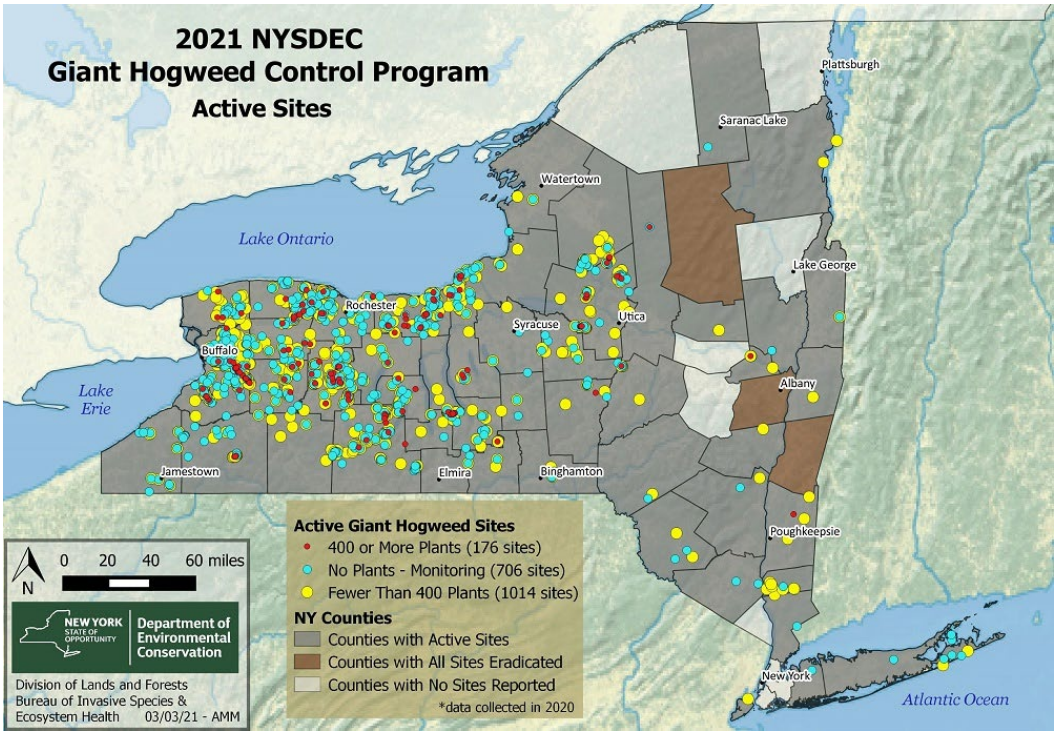
Extent and Location

The extent and location of infestations and invasive species depends on the preferred habitat of the species, as well as the species' ease of movement and establishment. However, each of these threats can impact most areas of New York State, including Livingston County.

Giant Hogweed

The species has been documented across the state including Livingston County. The plant grows along streams and rivers and in fields, forests, yards and roadsides. It prefers open sites with abundant light and moist soils, though it can grow in partially shaded habitats, too. The species is often found as a standalone plant, unlike many invasive species that cluster together. Due to the large size of this plant, it could cause potential harm to surrounding vegetation. The map depicts the extent to which giant hogweed has been documented, and the adjacent map shows the sites that have been treated and the species was successfully exterminated.

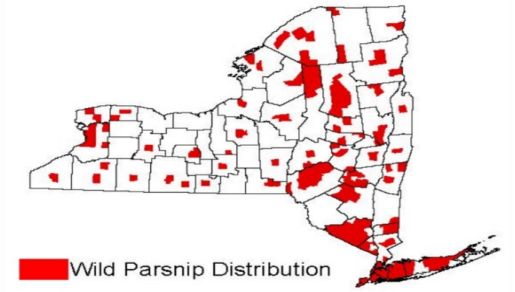
Figure 5.4.5-3 2021 NYSDEC Giant Hogweed Eliminated Plant Sites



Wild Parsnip

The species, like many other invasive plants can be found in large clusters along the side of the roads and can be especially prevalent during the summer months. The plant can be found in most of upstate New York Counties including Livingston County. The plant is most likely to be found in areas where sunlight is fully accessible and therefore not in shady areas such as forests. The adjacent map shows the distribution of the wild parsnip in New York State.

Figure 5.4.5-4 Wild Parsnip Distribution



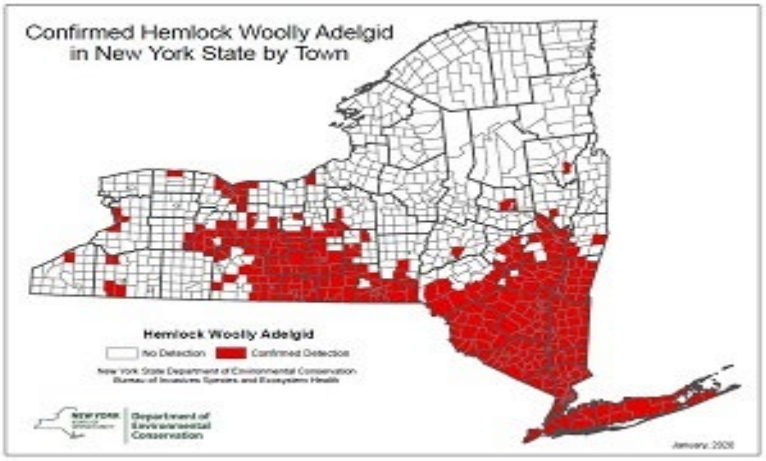
Starry Stonewort

Starry Stonewort has spread to inland lakes in counties along Lake Ontario, the Finger Lakes region, and other locations in the state. It has recently been found in Conesus Lake.

Hemlock Woolly Adelgid (HWA)

HWA was originally introduced to North America in the 1920s. Ever since, it has spread along the east coast from Georgia to Maine and now occupies nearly half of the eastern range of native hemlocks. It was documented in New York State around 1985 in the Lower Hudson Valley and Long Island and continued upward toward the Capital Region. The species has spread over the years across the state and in 2008 has been documented in Livingston County (Livingston County, 2020). The adjacent map shows the extent to which HWA has been documented in New York State (NYS DEC)

Figure 5.4.5-5 Confirmed Hemlock Woolly Adelgid Locations



Emerald Ash Borer (EAB)

As previously mentioned, EAB can be found across the state and has been identified in much of Upstate New York including Livingston County. However, no active mitigation measure is in place at this time (NYSDEC 2020).

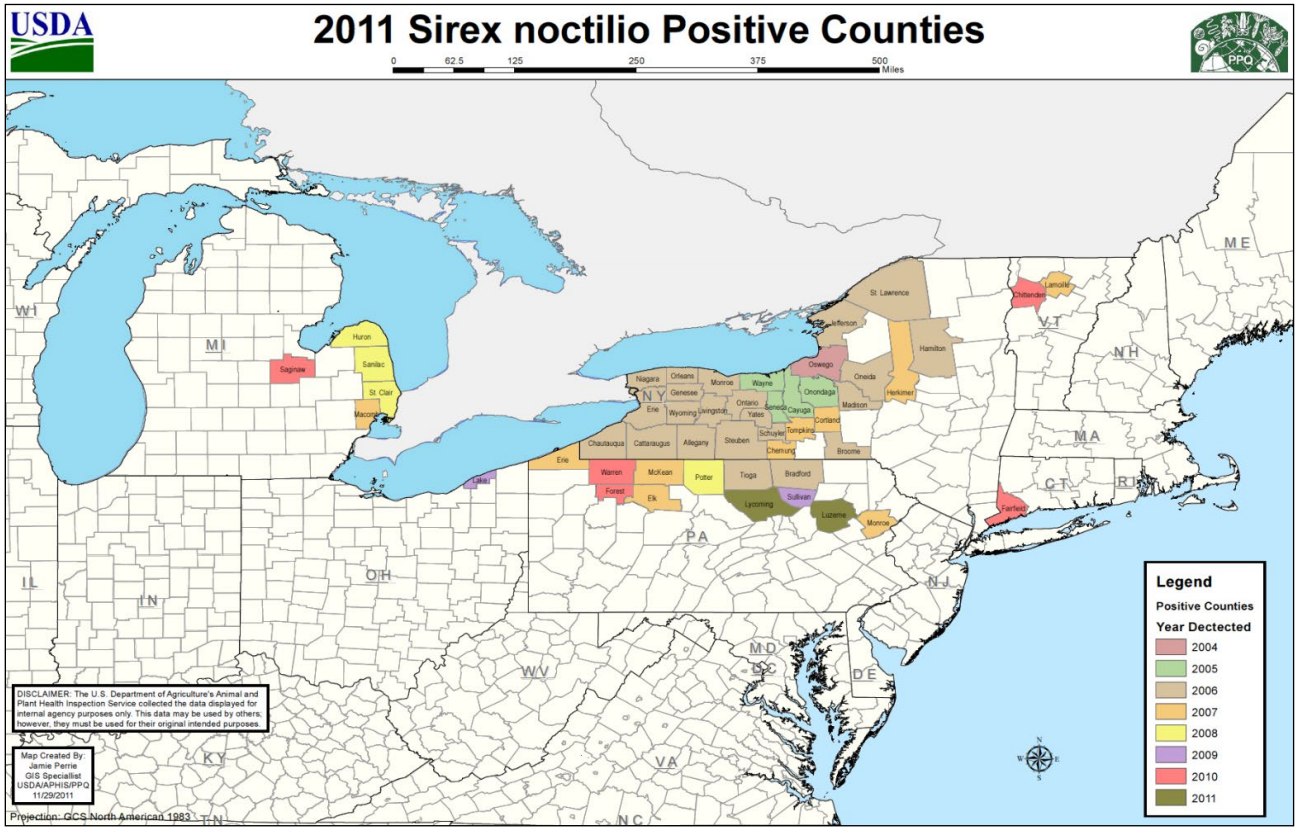
Sirex Woodwasp (SW)

The species is native to Europe, Asia, and North Africa. It can now be found within the northeast U.S. ranging from Michigan to New Hampshire. In New York State, the most affected species are scots pine, Austrian pine, and red pine from plantations dating to the mid-1900s. The damage to the underperforming trees has a minimal economic effect to the state (NYIS, 2019). It was found in Oswego County in 2004 and since then has spread throughout much of New York State, including Livingston County. The USDA Forest Service ranks Livingston

County as having a medium to very high introduction potential, establishment potential, and susceptibility potential for Sirex Woodwasp infestations (USDA Forest Service, 2006).

Figure 5.4.5-6 shows the counties in New York State where Sirex Woodwasp has been detected. According to this figure, as of 2011, Sirex Woodwasp has been documented in Livingston County. Available information regarding the identification of the species in Livingston County is provided below.

Figure 5.4.5-6. Sirex Woodwasp in New York State.



Source: New York State Invasive Species Clearinghouse, 2019

Previous Occurrences and Losses

Many sources provided historical information regarding previous occurrences and losses associated with infestation events throughout New York State and Livingston County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

Between 1954 and 2021, FEMA declared that New York State experienced one infestation-related emergency (EM) classified as a virus threat. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Livingston County was included in this declaration (FEMA 2021).

In addition, because invasive species can sometimes go unrecorded and the number of occurrences can be unclear, it can be more precise to identify the date when the identified species was first documented in the region.

Giant Hogweed

This species has been continuing to infest the Finger Lakes region and, according to DEC, the species is under strict monitoring. Proper education and outreach will need to be conducted, as the prevalence of this species and its spreading will likely increase.

Wild Parsnip

This species has been continuing to infest the Finger Lakes region and, according to DEC, the species is under strict monitoring. Proper education and outreach will need to be conducted, as with climate change eradication of this species is unlikely.

Starry Stonewort

Starry Stonewort was only recently discovered in Conesus Lake. No information on impacts was available.

Hemlock Woolly Adelgid

The HWA has been rapidly spreading across the State and there are no signs of this decreasing. While New York State is currently actively trying to mitigate the spread of this species, with climate change this species will likely continue to increase and reach northern counties over the years (NYSDEC, 2020)

Emerald Ash Borer

Currently there are no County-wide mitigation measures in place to combat this species spread. However, Cornell University is proactively treating, inventorying, and culling ash trees to manage the impact of the thousands of on- and off-campus trees that have succumbed to this insect and could become a life-safety concern as they fail. (Cornell Chronical, 2020). This program could provide a basis for a larger, regional program. Unless mitigation actions are taken by the state and County, the species will likely continue to increase its presence in Livingston County and the Finger Lakes Region.

Sirex Woodwasp

The USDA Forest Service ranks Livingston County as having a medium to very high introduction potential, establishment potential, and susceptibility potential for Sirex Woodwasp infestations (USDA Forest Service, 2006).

Probability of Future Occurrences

Based on historical documentation and the overall impact of changing climate trends, it is estimated that Livingston County and all its jurisdictions will continue to experience invasive speciess that may induce secondary hazards and health threats to the county population if these species are not prevented, controlled, or eradicated effectively. The Planning Partnership views this as an "occasional" hazard of concern (hazard event that occurs from once in 10 years to once in 100 years).

Climate Change

Climate change is beginning to affect both people and resources in New York State, and these impacts are projected to continue growing. Impacts related to increasing temperatures are already being felt in the State. ClimAID: the Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the State's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA], 2011).

Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of Region 1, Western New York and the Great Lakes Plain. Some of the issues in Region 1 affected by climate change include the fact that this region has the highest agricultural revenue in the state; relatively low rainfall, and therefore, increased summer drought risk; irrigation for high-value crops; improved condition for grapes (NYSERDA 2014).

Since the start of the twentieth century, annual temperatures in New York State have been rising. State-average temperatures have increased by approximately 0.6°F since 1970, with winter warming exceeding 1.1°F per decade. In Region 1, temperatures are estimated to increase by 4.3 to 6.3 ºF by the 2050s, and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection).

The amount of rain fall in a 100-year event is projected to increase, while the number of years between such storms (return period) is projected to decrease. Rainstorms will become more severe and more frequent (NYSERDA, 2011).

With the projection of temperature and rainfall increase due to climate change, there is the possibility that wetter soils will allow invasive plant species to thrive. Additionally, as temperatures increase, invasive pests can remain active for longer seasons and in wider areas.

5.4.5.2 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed and vulnerable. For the infestation hazard, the entire County is exposed. The following discusses Livingston County's vulnerability, in a qualitative nature, to the infestation and invasive species hazard.

Impact on Life, Health, and Safety

The entire population of Livingston County is vulnerable to infestation and invasive species; however, the elderly population and people with suppressed immune systems are more susceptible. According to the 2019 American Community Survey 5-year estimate, there are 10,929 persons over the age of 65 in Livingston County.

As discussed earlier, infestations and invasive species can have an impact on agricultural commodities. The NYS DEC has indicated that agricultural commodities are at risk of becoming infested with invasive species, such as the spotted lanternfly, gypsy moth, and hemlock wooly adelgid (NYS DEC 2020e). Agricultural goods and services may include consumable resources sold to persons throughout the County. Not only can the livelihood of farmers become affected by crops that are infested, consumers of the goods and services that are infested will also be impacted.

Impact on General Building Stock

No structures are anticipated to be directly affected by infestation or invasive species; however, the Emerald Ash Borer may cause a catastrophic loss of ash trees throughout the County, which could result in stream bank instability, erosion, and increased sedimentation, impacting ground stabilization and possibly cause foundation issues for nearby structures. Additionally, with an increased number of dead trees, there is an increased risk of trees falling on roadways, power lines, and buildings.

Some invasive plants have been shown to destabilize soil due to high densities and shallow root systems, negatively impacting nearby buildings and septic systems. Other invasive plant species have been known to clog culverts and streams, increasing flooding risk.

Impact on Critical Facilities and Lifelines

Water treatment plants could be impacted by infestation and invasive species because of similar issues that the general building stock may experience. Water that becomes polluted due to increased sedimentation and erosion caused by infestation or invasive species will require additional treatment. If the system becomes clogged with these pollutants, the ability of water treatment plants to operate may become impaired. Additionally, soil that becomes unstable due to decaying vegetation can impact critical facilities that are built on or around these soils.

Impact on the Economy

Impacts of invasive species and infestations on the economy and estimated dollar losses are difficult to measure and quantify. Costs associated with activities and programs implemented to conduct surveillance and address invasive species and infestations have not been quantified in available documentation. However, since 2016, the DEC Invasive Species Grant Program has awarded approximately $6.5 million to 114 municipalities, non-profit, and academic institutions to address the issue of invasive species including measures of control, removal, additional research, and prevention techniques (NYDEC 2020f).

In 2018, DEC and the NYS Department of Agriculture and Markets (DAM) developed a Final Invasive Species Comprehensive Management Plan (NYSDEC 2018b). This plan highlights some of the major programs that have been established for invasive species control for the State. According to the plan, up to $13.3 million has been raised by the NYS Environmental Protection Fund (NYSDEC 2018b).

Impact on the Environment

As previously discussed, Livingston County's parks, forests and neighborhood trees are vulnerable to gypsy moth, and EAB. In addition, a high population density of deer and the amount of browsing can have detrimental effects on the forest communities in the County.

Invasive species can cause eventual destabilization of soil, such as invasive insects that destroy plants or invasive plants that outcompete native vegetation but have less effective root systems, can increase runoff into waterbodies. This can lead to increased harmful algal blooms and negative impact on drinking water supplies. Soil destabilization can also increase the likelihood of mudslides in areas with a steep slope.

Cascading Impacts on Other Hazards

There are no known cascading impacts caused by infestation and invasive species to other hazards of concern for Livingston County.

Future Changes That May Impact Vulnerability

Understanding future changes that impact vulnerability in the county can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development.
- Projected changes in population.
- Other identified conditions as relevant and appropriate, including the impacts of climate change.

Projected Development

As discussed in Sections 4 (County Profile) and 9 (Jurisdictional Annexes), areas targeted for future growth and development have been identified across Livingston County. Changes in land use have the potential to render some habitats more susceptible to invasive species, such as clearing the land and providing opportunities for

invasive species to inhabit the area. Clearing the land may also reduce the habitat for predator species that could manage the spread of invasive species naturally. The specific areas of development are indicated in tabular form and/or on the hazard maps included in the jurisdictional annexes in Volume II, Section 9 of this plan.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. Any growth can create changes in density throughout the County, which can affect the location of future development projects. As a result, habitat changes can impact the distribution of natural wildlife to mitigate against infestation and invasive species.

Climate Change

Climate change could exacerbate the impacts of these species in the County. As mentioned above, changing weather patterns could create a change in the migration patterns for when these species move into and out of Livingston County. If the species have a more prolonged existence in the county, there may also be a greater number of infestation events or a higher value of loss tied to infestation.

Change of Vulnerability Since the 2015 HMP

Overall, the entire County continues to remain vulnerable to the infestation and invasive species hazard.

5.4.6 Landslide

This section provides a profile and vulnerability assessment of the landslide hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.6.1 Hazard Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, and the probability of future occurrences for the landslide hazard.

Description

Landslides are composed of natural rock, soil, artificial fill, or a combination and move along a downward slope. They flow rapidly, striking at avalanche speeds that can travel several miles, growing as they pick up trees, boulders, cars, and other materials (New York State Division of Homeland Security and Emergency Services [NYS DHSES] 2019).

Landslides occur when the slope or soil stability changes from stable to unstable, which may be caused by earthquakes, storms, volcanic eruptions, erosion, fire, or additional human-induced activities. Typically, the steeper the slope, the higher the risk for landslide occurrence. Slopes greater than 10 degrees are more likely to slide, as are slopes where the height from the top of the slope to its toe is greater than 40 feet. Slopes are also more likely to fail if vegetative cover is low and/or soil water content is high. However, landslides can occur with very little slope, sometimes classified as earth slumping or earth flow (NYS DHSES 2019).

Several different types of landslides include:

- *Rock Falls:* Blocks of rock that fall away from a bedrock unit without a rotational component
- *Rock Topples:* Blocks of rock that fall away from a bedrock unit with a rotational component
- *Rotational Slump:* Blocks of fine-grained sediment that rotate and move down slope
- *Transitional Slide:* Sediments that move along a flat surface without a rotational component
- *Earth Flows:* Fine-grained sediments that flow downhill and typically form a fan structure
- *Creep:* A slow-moving landslide often noticed only by presence of crooked trees and disturbed structures
- *Block Slides:* Blocks of rock that slide along a slip plane as a unit down a slope
- *Debris Avalanche:* Predominantly gravel, cobble, boulder, and sediment portions, and trees that move quickly down slope
- *Debris Flows:* Coarse sediments that flow downhill and spread out over relatively flat areas (NYS DHSES 2014)

The amount of damage associated with landslides is small, but they are constantly reoccurring in regular maintenance and repair costs of impacted. In addition, if residential damage occurs and is deemed not able to be rehabilitated, private losses could approach $50,000 to $80,000 per residential structure. Certain conditions can be life threatening such as structural failure, or disruption to utilities (natural gas, propane, and electric).

Extent

Extent of a landslide hazard is determined by identifying affected areas and assessing probability of a landslide occurring within a time period. Natural variables that contribute to overall extent of potential landslide activity in any particular area include soil properties, topographic position and slope, and historical incidence. Predicting

a landslide is difficult, even under ideal conditions. As a result, the landslide hazard is often represented by landslide incidence and susceptibility, defined as follows:

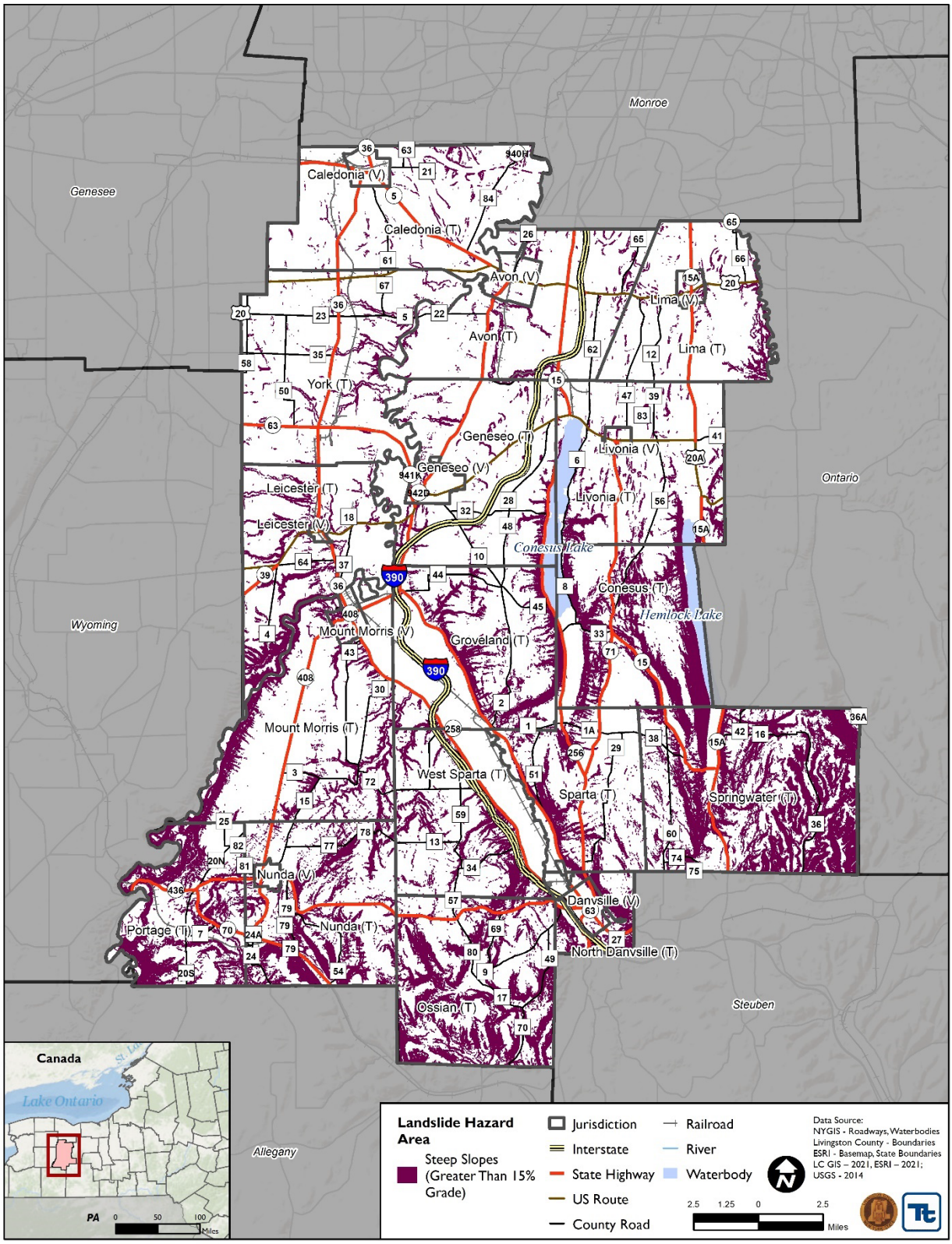
- *Landslide incidence:* Categorized by percentage of a given geographic area that has undergone landslides. High incidence means greater than 15 percent of a given area has been involved in landsliding, medium incidence means that 1.5 to 15% of an area has been involved, and low incidence means that less than 1.5 percent of an area has been involved. (Radbruch-Hall et al. 1982).
- *Landslide susceptibility:* Defined as the probable degree of response of geologic formations to natural or artificial cutting, to loading of slopes, or to unusually high precipitation. Assumedly, unusually high precipitation or changes in existing conditions can initiate landslide movement in areas where rocks and soils have been involved with landslides in the past. Landslide susceptibility depends on slope angle and geologic material underlying the slope. Landslide susceptibility applies only to areas potentially affected, and does not imply a time frame within which a landslide might occur. High, medium, and low susceptibility are delimited by the same percentages used for classifying incidence of landslides (Radbruch-Hall et al. 1982).

Location

The potential for landslides exists throughout New York State, including Livingston County. Generally, the highest potential for landslides is located along major rivers and lake valleys that were previously glacial lakes resulting in glacial lake deposits (glacial lake clays) and areas associated with steeper slopes.

Landslides in Livingston County occur after heavy rains when steep banks wash down into the roadways. Landslides have occurred in several areas within Livingston County. A bank slid into the Honeoye Creek just South of Routes 5 and 20 in Lima. On July 10, 1935, three landslides buried the DL&W railroad tracks in the Village of Dansville between Dansville and Perkinsville. In 1972, two landslides occurred in Stony Brook State Park in the Town of Dansville, causing $20,000 in damages. For this 2022 Plan update, landslide events that occurred in the county between 2015 and 2021 were researched. According to the NYS HMP, there have been no landslide events in the county during this time frame. Figure 5.4.6-1 shows areas in Livingston County where slopes are greater than 15-percent grade.

Figure 5.4.6-1. Landslide Susceptibility in Livingston County – Areas with Slopes Greater Than 15-Percent Grade



Previous Occurrences and Losses

Descriptive data on historic events are limited. The NYS HMP contained no records of any events from 1996–2017 (NYS DHSES 2019). Between 1954 and 2021, the Federal Emergency Management Agency (FEMA) issued one disaster declaration (DR) for landslides in NYS (DR-487), but Livingston County was not included in the DR. Annualized loss is negligible for landslide damage.

Probability of Future Occurrences

Based on historical records and input from the Planning Partnership, probability of occurrence of landslides in Livingston County is considered "rare" (1 to 10-percent annual probability of a hazard event occurring).

Climate Change Impacts

Projecting future climate change within a specific region is challenging. Shorter-term projections are more closely tied to existing trends, rendering longer-term projections even more challenging. The further into the future a prediction extends, the more it is subject to change.

Through the 2020s, average annual temperature is expected to increase in Region 1 by 1.8°F in the region of NYS where Livingston County is located. By the 2050s, this increase will be 3.6 °F, and by 2100, it will be 4.5 °F (New York State Energy Research and Development Authority [NYSERDA] 2014). Future climate change may impact storm patterns, increasing probability of more frequent, intense storms with varying duration. Global temperature increase could affect the snowpack and its ability to hold and store water. Warming temperatures also could increase occurrence and duration of droughts, which could increase probability of wildfire and likely reduce the vegetation that helps support steep slopes. All these factors could increase the probability of landslide occurrence.

5.4.6.2 Vulnerability Assessment

To evaluate the landslide hazard in Livingston County, slopes above 15-percent were selected using the 2014 USGS 1-meter Digital Elevation Model (DEM). The following text summarizes the potential impact of landslides on the County. Refer to Section 5.1 (Methodology and Tools) for additional details on the methodology used to assess the landslide hazard risk.

Impact on Life, Health, and Safety

Generally, a landslide event would be an isolated incidence and impact the populations within the immediate area of the incident. Specifically, the population located downslope of the landslide hazard areas are particularly vulnerable to this hazard. In addition to causing damages to residential buildings and displacing residents, landslide events can block off or damage major roadways and inhibit travel for emergency responders or populations trying to evacuate the area.

Table 5.4.6-1 summarizes the population located in the landslide-susceptible hazard area, or areas where slopes have degree angles greater than 15-percent. The Town of Livonia has the greatest number of persons located in the landslide-susceptible hazard area with 547 people, or 8.8-percent of its total population. The Town of Geneseo has the greatest percentage of its population located in the landslide-susceptible hazard area (18.8-percent of its total population).

Table 5.4.6-1. Total Number of Persons Located in the Landslide Hazard Area

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located in the Landslide Hazard Areas	
		Number of Persons Located in the Steep Slopes (Greater Than 15% Grade) Hazard Area	Percent of Total
Avon (T)	3,637	108	3.0%
Avon (V)	3,260	9	0.3%
Caledonia (T)	2,060	12	0.6%
Caledonia (V)	2,078	0	0.0%
Conesus (T)	2,325	342	14.7%
Dansville (V)	4,586	118	2.6%
Geneseo (T)	2,540	479	18.8%
Geneseo (V)	8,095	21	0.3%
Groveland (T)	3,241	403	12.4%
Leicester (T)	1,798	47	2.6%
Leicester (V)	518	0	0.0%
Lima (T)	1,833	42	2.3%
Lima (V)	2,278	26	1.2%
Livonia (T)	6,231	547	8.8%
Livonia (V)	1,353	29	2.2%
Mount Morris (T)	1,340	45	3.4%
Mount Morris (V)	2,931	72	2.5%
North Dansville (T)	696	71	10.2%
Nunda (T)	1,716	110	6.4%
Nunda (V)	1,211	0	0.0%
Ossian (T)	701	104	14.8%
Portage (T)	837	58	7.0%
Sparta (T)	1,591	126	7.9%
Springwater (T)	2,233	233	10.4%
West Sparta (T)	1,229	116	9.4%
York (T)	3,273	32	1.0%
Livingston County (Total)	**63,591**	**3,150**	**5.0%**

Source: American Community Survey 2019; USGS 2014
Notes: T – Town; V – Village; % - Percent

Research has also shown that some populations, while they may not have more hazard exposure, may experience exacerbated impacts and prolonged recovery if/when impacted. For example, persons over the age of 65 and people below the poverty level are most vulnerable to geologic hazards because of the potential limited access to mobilization or medical resources if a landslide or subsidence event occurs. According to the 2019 ACS 5-Year Population Estimate, there are 10,929 persons over 65 years old and 7,572 persons living below the poverty level out of the total 63,591 persons that live in Livingston County.

Impact on General Building Stock

In general, the built environment is vulnerable to the landslide hazard if built on slopes that are greater than 15-percent. Landslide hazard areas may destabilize the foundation of structures resulting in monetary losses to businesses and residents. There are 1,894 buildings with a replacement cost value of approximately $728 million built on lands with slopes greater than 15-percent.

The Town of Livonia has the greatest number of buildings built on landscapes with slopes greater than 15-percent; 302 buildings (7.8-percent of its total building stock) with an estimated replacement cost of $95.9 million. Table 5.4.6-2 summarizes the number of buildings and the total replacement cost of these buildings built on landslide susceptible areas by municipality.

Table 5.4.6-2. Total Number of Buildings and Replacement Cost Value Located in the Landslide Hazard Area

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located in the Landslide Hazard Area			
			Number of Buildings Located in the Steep Slope (Greater Than 15% Grade) Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located in the Steep Slope (Greater Than 15% Grade) Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	56	2.6%	$26,375,092	2.0%
Avon (V)	1,245	$1,365,771,007	5	0.4%	$2,359,980	0.2%
Caledonia (T)	1,362	$792,755,652	7	0.5%	$3,409,162	0.4%
Caledonia (V)	979	$735,609,120	0	0.0%	$0	0.0%
Conesus (T)	1,774	$625,005,723	274	15.4%	$96,910,622	15.5%
Dansville (V)	1,950	$1,341,807,175	48	2.5%	$19,239,494	1.4%
Geneseo (T)	1,753	$1,161,720,041	243	13.9%	$79,051,230	6.8%
Geneseo (V)	1,329	$1,570,704,963	9	0.7%	$45,556,721	2.9%
Groveland (T)	1,330	$1,203,662,583	125	9.4%	$48,815,372	4.1%
Leicester (T)	1,214	$715,987,145	40	3.3%	$13,451,412	1.9%
Leicester (V)	240	$142,879,953	0	0.0%	$0	0.0%
Lima (T)	1,436	$859,636,929	30	2.1%	$13,158,641	1.5%
Lima (V)	777	$452,768,112	13	1.7%	$15,757,688	3.5%
Livonia (T)	3,888	$1,866,897,181	302	7.8%	$95,877,306	5.1%
Livonia (V)	569	$371,319,429	13	2.3%	$4,689,840	1.3%
Mount Morris (T)	1,115	$646,574,328	33	3.0%	$12,477,394	1.9%
Mount Morris (V)	1,337	$785,505,655	30	2.2%	$9,276,300	1.2%
North Dansville (T)	607	$497,159,183	58	9.6%	$18,911,168	3.8%
Nunda (T)	1,354	$544,934,442	85	6.3%	$27,369,853	5.0%
Nunda (V)	641	$392,488,596	0	0.0%	$0	0.0%
Ossian (T)	817	$488,703,931	95	11.6%	$36,625,158	7.5%
Portage (T)	620	$338,465,763	37	6.0%	$9,367,278	2.8%
Sparta (T)	1,151	$449,674,840	96	8.3%	$33,130,058	7.4%
Springwater (T)	1,822	$702,256,303	181	9.9%	$50,350,293	7.2%
West Sparta (T)	1,010	$423,213,015	90	8.9%	$53,299,506	12.6%
York (T)	2,183	$1,677,949,006	24	1.1%	$12,980,680	0.8%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**1,894**	**5.5%**	**$728,440,249**	**3.4%**

Source: Livingston County 2021; RS Means 2021; USGS 2014
Notes: T – Town; V – Village; % - Percent

Impact on Critical Facilities and Lifelines

To estimate potential risk, the critical facility and lifeline inventory was overlaid upon the landslide hazard area. There are 44 critical facilities built on landscapes with slopes greater than 15-percent. All of the critical facilities located on these areas of steep slopes are considered lifelines for the cCounty. Refer to Table 5.4.6-3 which summarizes the number of critical facilities and lifelines exposed to the landslide hazard area by municipality. Overall, bridges and polling sites are the most common critical facility types located on landscapes with slopes greater than 15-percent grade. The critical facilities located on slopes greater than 15-percent grade are also categorized by the FEMA lifeline categories, refer to Table 5.4.6-4. Out of the lifelines in the county, transportation lifelines have the greatest number of facilities in the landslide hazard area. Appendix E summarizes the distribution of critical facilities by facility type located on landscapes with greater than 15-percent grade slopes.

Table 5.4.6-3. Number of Critical Facilities and Lifelines Located in the Landslide Hazard Area

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the Steep Slope (Greater Than 15% Grade) Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	2	3.9%	2	4.3%
Avon (V)	36	27	0	0.0%	0	0.0%
Caledonia (T)	19	16	4	21.1%	4	25.0%
Caledonia (V)	28	25	0	0.0%	0	0.0%
Conesus (T)	26	26	2	7.7%	2	7.7%
Dansville (V)	46	37	1	2.2%	1	2.7%
Geneseo (T)	48	45	2	4.2%	2	4.4%
Geneseo (V)	46	39	2	4.3%	2	5.1%
Groveland (T)	63	59	1	1.6%	1	1.7%
Leicester (T)	26	26	3	11.5%	3	11.5%
Leicester (V)	13	13	0	0.0%	0	0.0%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	2	9.5%	2	10.5%
Livonia (T)	70	65	4	5.7%	4	6.2%
Livonia (V)	16	12	1	6.3%	1	8.3%
Mount Morris (T)	30	29	2	6.7%	2	6.9%
Mount Morris (V)	28	24	0	0.0%	0	0.0%
North Dansville (T)	35	31	3	8.6%	3	9.7%
Nunda (T)	25	25	1	4.0%	1	4.0%
Nunda (V)	23	20	0	0.0%	0	0.0%
Ossian (T)	20	20	2	10.0%	2	10.0%
Portage (T)	23	22	3	13.0%	3	13.6%
Sparta (T)	18	18	0	0.0%	0	0.0%
Springwater (T)	27	26	2	7.4%	2	7.7%
West Sparta (T)	25	25	2	8.0%	2	8.0%
York (T)	58	54	5	8.6%	5	9.3%
Livingston County (Total)	**837**	**763**	**44**	**5.3%**	**44**	**5.8%**

Source: Livingston County Planning Partners 2021; HIFLD 2020; USGS 2014
Notes: T – Town; V – Village; % - Percent

Table 5.4.6-4. Number of Lifelines Categorized by FEMA Lifeline Category Located in the Landslide Hazard Area

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the Steep Slope (Greater Than 15% Grade) Hazard Area
Communications	72	10
Energy	18	1
Food, Water, Shelter	100	8
Hazardous Materials	50	0
Health and Medical	36	0
Safety and Security	269	12
Transportation	218	13
Livingston County (Total)	**763**	**44**

Source: Livingston County Planning Partners 2021; HIFLD 2020; USGS 2014; FEMA 2021

In addition to critical facilities, a significant amount of infrastructure can be exposed to mass movements of geological material:

- *Roads*—Access to major roads is crucial to life-safety after a disaster event and to response and recovery operations. Landslides can block egress and ingress on roads, causing isolation for neighborhoods, traffic problems, and delays for public and private transportation. This can result in economic losses for businesses.
- *Bridges*—Landslides can significantly impact road bridges. Mass movements can knock out bridge abutments or significantly weaken the soil supporting them, making them hazardous for use.
- *Power Lines*—Power lines are generally elevated above steep slopes; but the towers supporting them can be subject to landslides. A landslide could trigger failure of the soil underneath a tower, causing it to collapse and ripping down the lines. Power and communication failures due to landslides can create problems for vulnerable populations and businesses.
- *Rail Lines* – Similar to roads, rail lines are important for response and recovery operations after a disaster. Landslides can block travel along the rail lines, which would become especially troublesome, because it would not be as easy to detour a rail line as it is on a local road or highway. Many residents rely on public transport to get to work around the county and into Philadelphia and New York City, and a landslide event could prevent travel to and from work.

Several other types of infrastructure may also be exposed to the geologic hazards, including water and sewer infrastructure. At this time, all critical facilities, infrastructure, and transportation corridors located within the hazard areas are considered vulnerable until more information becomes available.

Impact on the Economy

The impact of a landslide on the economy and estimated dollar losses are difficult to measure. As stated earlier, landslides can exert direct and indirect effects on society. Direct costs include actual damage sustained by buildings, property, and infrastructure and estimated costs to repair or replace damaged buildings. Indirect costs include clean-up costs, business interruption, loss of tax revenues, reduced property values, and loss of productivity. The 2019 NYS HMP shows that Livingston County has experienced zero economic damages from landslide events between 1996 and 2017 (NYS HMP 2019). Historic losses discussed earlier in this section also show that Livingston County has not experienced any economic losses from landslides. Therefore, the impact landslides have on the economy for Livingston County is minimal.

Impact on the Environment

A landslide event will alter the landscape and can have great impacts on the changes it creates to the natural topography. In addition to changes in topography, vegetation and wildlife habitats may be damaged or destroyed, and soil and sediment runoff will accumulate downslope potentially blocking waterways and roadways and impacting quality of streams and other water bodies. Additional environmental impacts include loss of forest productivity.

Furthermore, soil and sediment runoff can accumulate downslope potentially blocking waterways and roadways and impacting quality of streams and other water bodies. Mudflows that erode into downstream waterways can threaten the life of freshwater species (USGS 2021). The impacts of eroded landscape can travel for miles downstream into adjacent waterways and create issues for surrounding watersheds.

Figure 5.4.6-1 shows landslide susceptibility (i.e., where slope degrees are greater than 15 percent) in Livingston County. Approximately 13.2-percent of Livingston County is susceptible to landslide events where slopes are greater than 15-percent grade (approximately 54,000 acres).

Cascading Impacts on Other Hazards

Landslide events can have cascading impacts on utility failure in Livingston County. As discussed in earlier sections, landslides may disrupt the functionality of utilities if the debris falls, topples, or spreads over the utilities providing services to the county. For example, electric utilities may become disconnected if power lines are broken from displaced geologic material. Water utilities may become breached with excess debris and/or contaminates carried by landslide events. More information about utility interruptions can be found in Section 5.4.12 Utility Failure.

Future Changes that May Impact Vulnerability

Understanding future changes that impact vulnerability in the county can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

As discussed in Section 4, areas targeted for future growth and development have been identified across the County. Any areas of growth located in the landslide-susceptible hazard areas could be potentially impacted by the geologic ground movement caused by landslides. It is recommended that the County and jurisdictional partners implement design strategies that mitigate against the risk of landslides. The maps in the jurisdictional annexes in Section 9 show new development locations throughout the county and their proximity to the landslide-susceptible hazard areas (i.e., where slope degrees are greater than 15 percent).

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the county has decreased by approximately 3-percent since 2010. While less people will reside in the County, those that remain may move into areas that are susceptible to landslide events. Section 4, County Profile, provides additional discussion on population trends.

Climate Change

A direct impact of climate change on landslides is difficult to determine. However as discussed earlier, multiple secondary effects of climate change have the potential to increase the likelihood of landslides. Warming temperatures resulting in wildfires would reduce vegetative cover along steep slopes and destabilize the soils due to destruction of the root system; increased intensity of rainfall events would increase saturation of soils on steep slopes. Under these future conditions, the County's assets located on or at the base of these steep slopes will have an increased risk to landslides. Roadways and other transportation infrastructure located in these areas will also be at an increased risk of closure, which would impact the County's risk as described above.

Change of Vulnerability Since 2014 HMP

For this HMP, the 2014 1-meter Digital Elevation Model (DEM) from USGS was used to determine areas within Livingston County that have slope degrees greater than 15 percent. Population statistics have also been updated using the 5-Year 2014-2019 American Community Survey Population Estimates. The general building stock was updated using RSMeans 2021 building valuations that estimated replacement cost value for each building in the inventory. 2021 building footprint and tax assessor data from Livingston County was used to update the

general building stock attributes. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to the landslide hazard.

Overall, this vulnerability assessment uses a more accurate and updated building inventory than that used in the 2015 HMP. This information provides more accurate exposure and potential loss estimates for Livingston County.

5.4.7 Mine Subsidence

This section provides a hazard profile and vulnerability assessment of the mine subsidence hazard.

5.4.7.1 Hazard Profile

This section presents the mine subsidence hazard description, extent, location, previous occurrences and losses, and probability of future occurrences.

Hazard Description

"Mine Subsidence" means lateral or vertical ground movement caused by a failure initiated at the mine level, of manmade underground mines, including, but not limited to salt mines, coal mines, clay mines, limestone mines, and fluorspar mines that directly damages residences or commercial buildings. "Mine Subsidence" does not include lateral or vertical ground movement caused by earthquake, landslide, volcanic eruption, soil conditions, soil erosion, soil freezing and thawing, improperly compacted soil, construction defects, roots of trees and shrubs or collapse of storm and sewer drains and rapid transit tunnels.

Sinkhole subsidence occurs in areas generally where there is less than 50 feet of overburden, or vertical distance between ground surface and the mineral seam. This is commonly associated with abandoned mining activities because current mining regulations ensure that there is sufficient overburden to reduce the likelihood of subsidence. Sinkholes occur from the collapse of the mine roof into a mine opening, resulting in caving of the overlying strata and an abrupt depression in the ground surface (i.e. when the roof of an underground mine collapses, it causes the ground above to sink or subside). This type of subsidence is typically localized, affecting a small area on the overlying surface. However, structures and surface features affected by subsidence can experience extensive and costly damages. Subsidence troughs can occur over active or abandoned mines. Trough subsidence induced by room-and-pillar mining occurs when the overburden sags downward due to the failure of the remnant pillars or by punching of the pillars into a soft mine floor or roof (PA DEP 2018)

This section provides a profile and vulnerability assessment of subsidence related to mining activities. Subsidence is defined as the movement of the ground surface as a result of readjustments of the overburden due to collapse or failure of underground mine workings. Areas underlain by coal or other minerals (e.g., salt) may become susceptible to subsidence. Mine subsidence features usually take the form of either sinkholes or troughs. (PA DEP 2018)

Extent

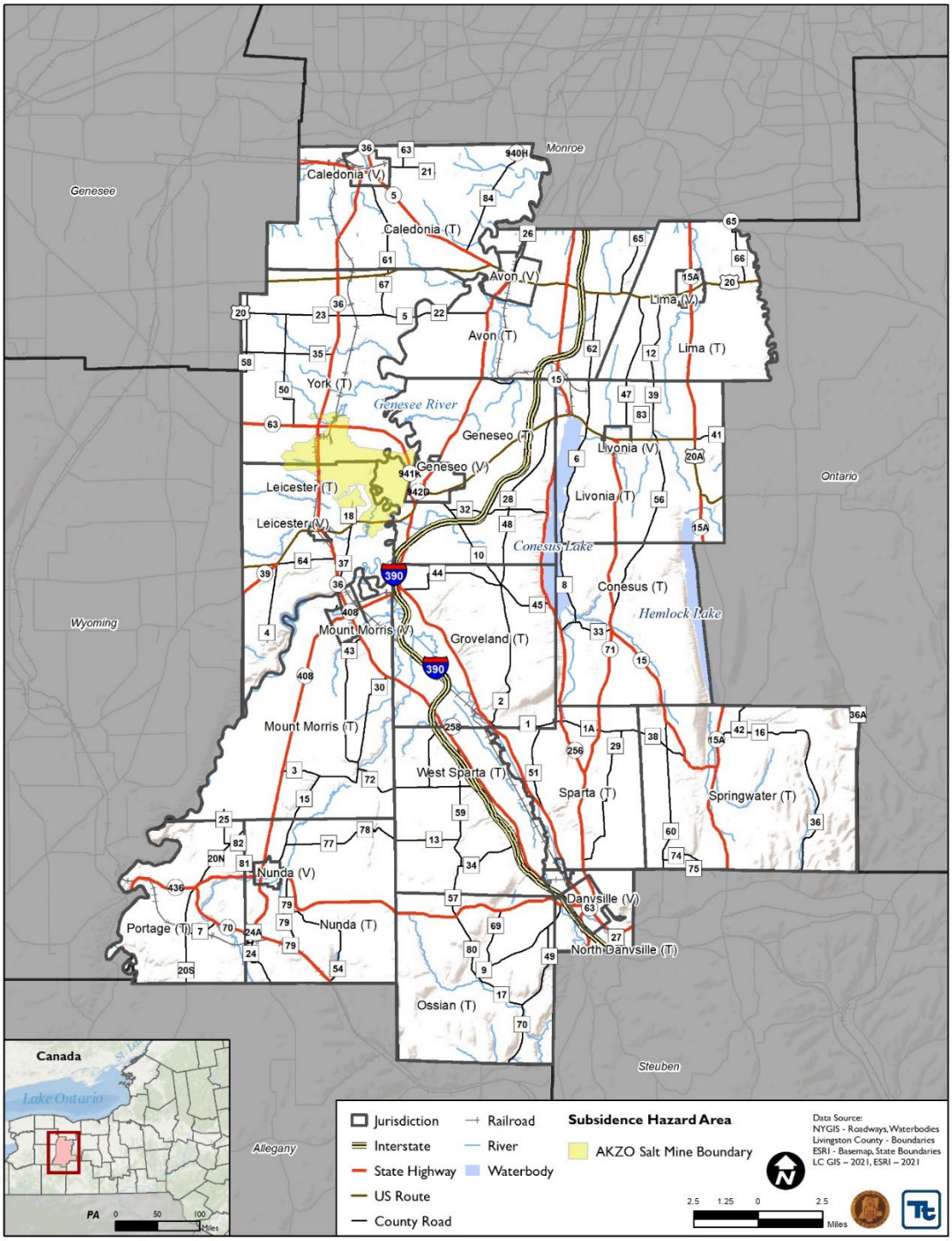
Damages from mine subsidence are generally classified as cosmetic, functional, or structural. Cosmetic damage refers to slight problems where only the physical appearance of a structure is affected. Functional damage refers to when the structure's use has been impacted. More significant damages that impact structural integrity is classified as structural damage. This includes situations where entire foundations need replacement due to severe cracking of supporting walls and footings (PA DEP 2018)

No two subsidence areas are exactly alike. Variations in size and shape, time period under which they occur (i.e. gradually or abruptly), and their proximity to development ultimately determines the magnitude of damage incurred. Events could result in minor elevation changes or deep, gaping holes in the ground surface. Subsidence events can cause severe damage in urban environments, although gradual events can be addressed before significant damage occurs. Primarily, problems related to subsidence include the disruption of utility services and damages to private and public property including buildings, roads, and underground infrastructure.

Location

The area of concern for this hazard in Livingston County is limited to the area above the Retsof Salt Mine. The mine is located in teh Town of Leicester, though the mine extends underground into the Towns of Geneseo and York, as shown in Figure 5.4.7-1.

Figure 5.4.7-1. Mine subsidence in Livingston County



Previous Occurrences and Losses

There have been no federally declared disasters for mine subsidence in New York State. According to the New York State Geological Survey (NYSGS), historical records, including scientific study data for land subsidence in the state, is either sparse, not readily available, or does not exist in summary form. There may have been incidents of mine subsidence causing damage, but these incidents have not been reported (NYS DHSES 2013).

Four mine collapse incidents were recorded between 1905 and 2005, all of which occurred over the Retsof mine (Livingston County 2007). The most major collapse occurred on March 12, 1994. Following this collapse, the subsidence of the area above the mine forced the closure of NYS Route 20A. The collapse cost $200 million for construction of a new mine, geological work, and reparations to landowners (Livingston County 2007). No injuries or fatalities were reported during this collapse. However, there were two fatalities and one person injured in an incident in 1990, when a large slab fell from the roof of the mine.

Probability of Future Occurrences

Based on there having been four mine collapse incidents since 1993, and that the subsidence experienced in the county in that time has been due to mine collapse incidents, there is an estimated probability of the mine subsidence hazard impacting the county in the future of approximately 10 percent.

In Section 5.3, the identified hazards of concern for Livingston County were ranked. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records and input from the Planning Committee, the probability of occurrence for mine subsidence, in that it is caused by the collapse of the underlying Retsof Mine, is considered "occasional" (between 10 and 100-percent annual probability of a hazard event occurring, as presented in Table 5.3-1) for the areas over the mine, but "unlikely" (a hazard event is not likely to occur or is unlikely to occur with less than a 1-percent annual chance probability) for the county as a whole.

Climate Change Impacts

A direct impact of climate change on mine subsidence is difficult to determine. Multiple secondary effects of climate change have the potential to increase the likelihood of subsidence events. Warming temperatures resulting in wildfires would reduce vegetative cover along the Retsof Salt Mine and destabilize the soils due to destruction of the root system. Changes in precipitation may alter the soil structure in the salt mine project area, making soils more susceptible to ground failure. Under these future conditions, the county's assets located on or around the Retsof Salt Mine will have an increased risk to mine subsidence. Roadways and other transportation infrastructure located in these areas will also be at an increased risk of closure, which would impact the county's risk as described above.

5.4.7.2 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed and vulnerable in the identified hazard area. The analysis used the Retsof Salt Mine boundary to document the historic subsidence hazard area to estimate future risk to the county's assets. Refer to Section 5.1 (Methodology and Tools) for additional details on the methodology used to assess the salt mine subsidence hazard area.

Impact on Life, Health and Safety

Generally, a subsidence event is an isolated incidence and impacts the populations within the immediate area. In addition to causing damages to residential buildings and displacing residents, subsidence events can block off or damage major roadways and inhibit travel for emergency responders or populations trying to evacuate the area.

According to the 2019 ACS annual estimate, Livingston County has a population of 63,591 people. The Town of York has the greatest population at risk of events caused by mine subsidence (653 people) and the greatest percentage of population located in the mine subsidence hazard area (i.e., 19.9-percent of the total population). Additionally, Table 5.4.7-5. shows that an estimated 18 residents and 103 residents live on the mine subsidence hazard area in the Town of Geneseo and Town of Leicester, respectively.

Table 5.4.7-1. Total Number of Persons Located in the Retsof Salt Mine Subsidence Hazard Area

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located in the Subsidence Hazard Area	
		Number of Persons Located in the Salt Mine Subsidence Hazard Area	Percent of Total
Avon (T)	3,637	0	0.0%
Avon (V)	3,260	0	0.0%
Caledonia (T)	2,060	0	0.0%
Caledonia (V)	2,078	0	0.0%
Conesus (T)	2,325	0	0.0%
Dansville (V)	4,586	0	0.0%
Geneseo (T)	2,540	18	0.7%
Geneseo (V)	8,095	0	0.0%
Groveland (T)	3,241	0	0.0%
Leicester (T)	1,798	103	5.7%
Leicester (V)	518	0	0.0%
Lima (T)	1,833	0	0.0%
Lima (V)	2,278	0	0.0%
Livonia (T)	6,231	0	0.0%
Livonia (V)	1,353	0	0.0%
Mount Morris (T)	1,340	0	0.0%
Mount Morris (V)	2,931	0	0.0%
North Dansville (T)	696	0	0.0%
Nunda (T)	1,716	0	0.0%
Nunda (V)	1,211	0	0.0%
Ossian (T)	701	0	0.0%
Portage (T)	837	0	0.0%
Sparta (T)	1,591	0	0.0%
Springwater (T)	2,233	0	0.0%
West Sparta (T)	1,229	0	0.0%
York (T)	3,273	653	19.9%
Livingston County (Total)	**63,591**	**774**	**1.2%**

Source: American Community Survey 2019; Livingston County 2021
Notes: T - Town; V - Village; % - percent

Impact on General Building Stock

Structures built near or on salt mining locations, such as the Retsof Salt Mine in Livingston County, will inevitably experience an increase in mine subsidence risk. Historically, USGS has identified that salt mines will increase surface and underground impacts of subsidence, especially for poorly managed operations which result in ground failure (USGS 1983). Overall, there are 493 buildings located in the Retsof Salt Mine project area at risk to subsidence impacts. This is equivalent to approximately $384.5 million of replacement cost value. Refer to Table 5.4.7-6 which summarizes the number of structures within the mine subsidence hazard area by jurisdiction.

Table 5.4.7-2. Total Number of Buildings and Replacement Cost Value Located in the Mine Subsidence Hazard Area

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located in the Mine Subsidence Hazard Area			
			Number of Buildings Located in the Salt Mine Subsidence Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located in the Salt Mine Subsidence Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	0	0.0%	$0	0.0%
Avon (V)	1,245	$1,365,771,007	0	0.0%	$0	0.0%
Caledonia (T)	1,362	$792,755,652	0	0.0%	$0	0.0%
Caledonia (V)	979	$735,609,120	0	0.0%	$0	0.0%
Conesus (T)	1,774	$625,005,723	0	0.0%	$0	0.0%
Dansville (V)	1,950	$1,341,807,175	0	0.0%	$0	0.0%
Geneseo (T)	1,753	$1,161,720,041	34	1.9%	$52,219,306	4.5%
Geneseo (V)	1,329	$1,570,704,963	0	0.0%	$0	0.0%
Groveland (T)	1,330	$1,203,662,583	0	0.0%	$0	0.0%
Leicester (T)	1,214	$715,987,145	87	7.2%	$73,465,467	10.3%
Leicester (V)	240	$142,879,953	0	0.0%	$0	0.0%
Lima (T)	1,436	$859,636,929	0	0.0%	$0	0.0%
Lima (V)	777	$452,768,112	0	0.0%	$0	0.0%
Livonia (T)	3,888	$1,866,897,181	0	0.0%	$0	0.0%
Livonia (V)	569	$371,319,429	0	0.0%	$0	0.0%
Mount Morris (T)	1,115	$646,574,328	0	0.0%	$0	0.0%
Mount Morris (V)	1,337	$785,505,655	0	0.0%	$0	0.0%
North Dansville (T)	607	$497,159,183	0	0.0%	$0	0.0%
Nunda (T)	1,354	$544,934,442	0	0.0%	$0	0.0%
Nunda (V)	641	$392,488,596	0	0.0%	$0	0.0%
Ossian (T)	817	$488,703,931	0	0.0%	$0	0.0%
Portage (T)	620	$338,465,763	0	0.0%	$0	0.0%
Sparta (T)	1,151	$449,674,840	0	0.0%	$0	0.0%
Springwater (T)	1,822	$702,256,303	0	0.0%	$0	0.0%
West Sparta (T)	1,010	$423,213,015	0	0.0%	$0	0.0%
York (T)	2,183	$1,677,949,006	372	17.0%	$258,803,835	15.4%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**493**	**1.4%**	**$384,488,608**	**1.8%**

Source: Livingston County 2021; RS Means 2021
Notes: T – Town; V – Village; % - Percent

Impact on Critical Facilities and Lifelines

Approximately two percent of the critical facilities in Livingston County are located in the mine subsidence hazard area. All 17 facilities located in the mine subsidence hazard area are considered lifelines for the county.

The majority of lifelines located in the mine subsidence hazard area provide safety and security services to the county. Table 5.4.7-7 and Table 5.4.7-8 summarize the number of critical facilities and lifelines per jurisdiction and the total number of lifelines categorized by FEMA lifeline category located in the salt mine subsidence hazard area, respectively. Appendix F summarizes the distribution of critical facilities by critical facility type and jurisdiction located in the mine subsidence hazard area.

Table 5.4.7-3. Number of Critical Facilities and Lifelines Located in the Mine Subsidence Hazard Area

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the Salt Mine Subsidence Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	0	0.0%	0	0.0%
Avon (V)	36	27	0	0.0%	0	0.0%
Caledonia (T)	19	16	0	0.0%	0	0.0%
Caledonia (V)	28	25	0	0.0%	0	0.0%
Conesus (T)	26	26	0	0.0%	0	0.0%
Dansville (V)	46	37	0	0.0%	0	0.0%
Geneseo (T)	48	45	5	10.4%	5	11.1%
Geneseo (V)	46	39	0	0.0%	0	0.0%
Groveland (T)	63	59	0	0.0%	0	0.0%
Leicester (T)	26	26	1	3.8%	1	3.8%
Leicester (V)	13	13	0	0.0%	0	0.0%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	0	0.0%	0	0.0%
Livonia (T)	70	65	0	0.0%	0	0.0%
Livonia (V)	16	12	0	0.0%	0	0.0%
Mount Morris (T)	30	29	0	0.0%	0	0.0%
Mount Morris (V)	28	24	0	0.0%	0	0.0%
North Dansville (T)	35	31	0	0.0%	0	0.0%
Nunda (T)	25	25	0	0.0%	0	0.0%
Nunda (V)	23	20	0	0.0%	0	0.0%
Ossian (T)	20	20	0	0.0%	0	0.0%
Portage (T)	23	22	0	0.0%	0	0.0%
Sparta (T)	18	18	0	0.0%	0	0.0%
Springwater (T)	27	26	0	0.0%	0	0.0%
West Sparta (T)	25	25	0	0.0%	0	0.0%
York (T)	58	54	11	19.0%	11	20.4%
Livingston County (Total)	**837**	**763**	**17**	**2.0%**	**17**	**2.2%**

Source: Livingston County 2021; Livingston County Planning Partners 2021; HIFLD 2020
Notes: T – Town; V – Village; % - Percent

Table 5.4.7-4. Number of Lifelines Categorized by FEMA Lifeline Category Located in the Mine Subsidence Hazard Area

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the Salt Mine Subsidence Hazard Area
Communications	72	1
Energy	18	2
Food, Water, Shelter	100	0
Hazardous Materials	50	3
Health and Medical	36	0
Safety and Security	269	6
Transportation	218	5
Livingston County (Total)	**763**	**17**

Source: Livingston County 2021; Livingston County Planning Partners 2021; HIFLD 2020; FEMA 2021

Critical facilities will experience similar impacts from mine subsidence as highlighted in the general building stock section. Smaller structures built on mine subsidence may be more susceptible to damages caused by the shrinking and swelling properties of mine subsidence. Furthermore, roadways built on mine subsidence that are major transportation routes leading to critical facilities or connect essential services to the community could also be affected. Roadways that become damaged from mine subsidence could create a disruption to critical services.

Impact on the Economy

Mine subsidence may impact the economy where structures and roadways are damaged. Businesses built on the hazard area may need to shut down for repairs or move to a new, potentially less profitable, location if the building does not meet the 2012 IBC code (FEMA n.d.). As discussed earlier, mine subsidence may also cause damage to highways and roads. For pavement, differential movement of 0.4 inches with a horizontal distance of 20 feet can pose an engineering problem for fast travel (FEMA 1997). Infrastructure damage is costly and can impact the local and regional economy.

Impact on the Environment

The impacts of mine subsidence on the environment is not well known and has not been extensively described. Mine subsidence could lead to cracks in the ground, impacting rooted plants. Salt mining subsidence could also impact the chemistry of groundwater supplies. Furthermore, the instability of salt mine soil may not be the most ideal habitat for species in the County.

Cascading Impacts to Other Hazards

Mine subsidence can cause utility failure. Underground connections to utilities within or near the mining project area could be at risk to disconnection if the foundation of the utility sinks during a mine subsidence event, impacting the integrity of the utility's structural support. Furthermore, utilities may become disconnected if power lines are torn away from their supply during subsidence events. Additionally, mine subsidence may trigger landslide events in areas of steep slope. Refer to Section 5.4.12 Utility Failure and Section 5.4.6 Landslide for more information about these hazards of concern.

Future Changes That May Impact Vulnerability

Understanding future changes that effect vulnerability in the County can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

As discussed in Section 4, areas targeted for future growth and development have been identified across the county. Any areas of growth located in the mine subsidence hazard area could be potentially impacted by the geologic ground movement caused by historical or current salt mining activities. It is recommended that the county and jurisdictional partners implement design strategies that mitigate against the risk of future mine subsidence events around the Retsof Salt Mine. The maps in the jurisdictional annexes in Section 9 show new development locations throughout the county and their proximity to the Retsof Salt Mine.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the county has decreased by approximately 3-percent since 2010. While less people will reside in the county, those that remain may move closer to the Retsof Salt Mine project area. Section 4, County Profile, provides additional discussion on population trends.

Climate Change

The impact of climate change on the likelihood of mine subsidence occurring in the county was described above. The impact of climate change on the county's vulnerability to mine subsidence events will be primarily affected to the potential for change in probability of mine subsidence, as opposed to mine subsidence events becoming more severe due to climate change.

Vulnerability Change Since the 2015 HMP

The mine subsidence hazard was not included in the 2015 HMP, though it was examined in the 2007 version of the HMP. For this HMP, the Retsof Salt Mine boundary was provided by Livingston County to assess the county's risk to salt mine subsidence. Population statistics have also been updated using the 5-Year 2014-2019 American Community Survey Population Estimates. The general building stock was updated using RSMeans 2021 building valuations that estimated replacement cost value for each building in the inventory. 2021 building footprint and tax assessor data from Livingston County was used to update the general building stock attributes. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to the mine subsidence hazard.

Overall, this vulnerability assessment uses a more accurate and updated building inventory than that used in the 2007 HMP, which was the last version of the HMP to examine the mine subsidence hazard. This information provides more accurate exposure and potential loss estimates for Livingston County.

5.4.8 Pandemic

This section provides profile information, including description, location, extent, previous occurrences and losses, probability of future occurrences, and climate change impacts as well as the vulnerability assessment for the pandemic hazard in Livingston County.

5.4.8.1 Hazard Profile

Description

An outbreak or a pandemic exists when there are more cases of a particular disease than expected in a given area, or among a specific group of people, over a particular period of time. An aggregation of cases in a given area over a particular period, regardless of the number of cases, is called a cluster. In an outbreak or pandemic, it is presumed that the cases are related to one another or that they have a common cause (Center for Disease Control and Prevention [CDC] 2004). Diseases that impact Livingston County include foodborne illness, vaccine-preventable disease, and vector-borne diseases (tick-borne and mosquito-borne). However, for the disease outbreak profile, the county identified influenza, the Ebola virus, and COVID-19 as the diseases that may lead to a pandemic.

Influenza

The risk of a global influenza pandemic has increased over the last several years. This disease is capable of claiming thousands of lives and adversely affecting critical infrastructure and key resources. An influenza pandemic has the ability to reduce the health, safety, and welfare of the essential services workforce; immobilize core infrastructure; and induce fiscal instability.

Pandemic influenza is different from seasonal influenza (or "the flu") because outbreaks of seasonal flu are caused by viruses that are already among people. Pandemic influenza is caused by an influenza virus that is new to people and is likely to affect many more people than seasonal influenza. In addition, seasonal flu occurs every year, usually during the winter season, while the timing of an influenza pandemic is difficult to predict. Pandemic influenza is likely to affect more people than the seasonal flu, including young adults. A severe pandemic changes daily life for some time, including limitations on travel and public gatherings (CDC 2016).

At the national level, the CDC's Influenza Division has a long history of working with the World Health Organization (WHO) and its global network of National Influenza Centers (NIC). With limited resources, most international assistance provided in the early years was through hands-on laboratory training of in-country staff, the annual provision of WHO reagent kits (produced and distributed by CDC), and technical consultations for vaccine strain selections. The Influenza Division also conducts epidemiologic research, including vaccine studies and serologic assays, and provides international outbreak investigation assistance (CDC 2020).

Ebola Virus

Ebola, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus strains. According to the CDC, the 2014 Ebola epidemic was the largest in history, affecting multiple countries in West Africa. From 2014–2016, 11 people were treated in the United States, two of whom died (CDC 2019).

COVID-19 Virus

Coronavirus disease (COVID-19) is an infectious disease first identified in 2019. The virus rapidly spread into a global pandemic by spring of 2020. Older people and those with underlying medical problems like

cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness (WHO 2020). With the virus being relatively new, information regarding transmission and symptoms of the virus is still fresh. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Illnesses have ranged from mild symptoms to severe illness and death. Reported symptoms include flu-like symptoms, trouble breathing, persistent pain or pressure in the chest, headaches, and loss of taste. Symptoms may appear 2–14 days after exposure to the virus (based on the incubation period of MERS and COVID-19 viruses) (CDC 2021).

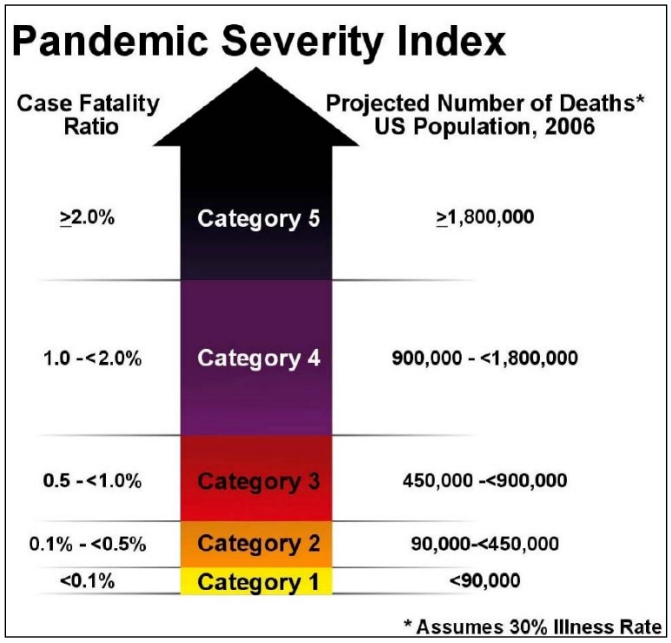
In order to slow the spread of the virus, the federal government and states have urged the public to avoid touching of the face, properly wash hands often, wear a face mask in public areas, and use various social distancing measures. Vaccines and treatments have been developed and are continuing to be refined for COVID-19. Many ongoing clinical trials are evaluating potential treatments (WHO 2021).

Extent

The exact size and extent of an infected population depends on how easily the illness is spread, the mode of transmission, and the amount of contact between infected and uninfected individuals. The transmission rates of pandemic illnesses are often higher in more densely populated areas. The transmission rate of infectious diseases will depend on the mode of transmission of a given illness. The Ebola virus is spread to others through direct contact; it is not spread through the air like influenza or COVID-19.

The CDC and Prevention Community Strategy for Pandemic Influenza Mitigation guidance introduced a Pandemic Severity Index (PSI), which uses the case fatality ratio as the critical driver for categorizing the severity of a pandemic. The index is designed to estimate the severity of a pandemic on a population to allow better forecasting of the impact of a pandemic and to enable recommendations on the use of mitigation interventions that are matched to the severity of influenza pandemic. Pandemics are assigned to one of five discrete categories of increasing severity (Category 1 to Category 5) (CDC 2016). Figure 5.4.8-1 illustrates the five categories of the PSI.

Figure 5.4.8-1. Pandemic Severity Index



Source: CDC 2016

WHO and CDC identify pandemics according to a number of pandemic classification levels. Additionally, New York State Department of Health (NYSDOH) and State Emergency Operations Center (EOC) have their own activation levels in response to a pandemic event. Multiple waves of a pandemic can be anticipated throughout the life cycle of an event. Refer to https://www.health.ny.gov/diseases/communicable/influenza/pandemic/ for information regarding the various levels in New York State.

Location

Livingston County's geographic location and demographic characteristics make it vulnerable to importation and spread of infectious diseases. The county has experienced the effects of a pandemic or diseases outbreak, including influenza and COVID-19. There are a handful of relatively densely populated municipalities within the county, which can lead to the spread of influenza and COVID-19 more quickly than less densely populated communities. See Section 4 (County Profile) for a population density map of Livingston County.

Previous Occurrences and Losses

Between 1954 and 2021, New York State was included in two disease outbreak-related emergency (EM) declarations, classified as a virus threat due to both West Nile Virus (EM-3155, May–November 2000) and COVID-19 (EM-3434/DR-4480, January 2020–Ongoing) impacting the State. Generally, pandemic disasters cover a wide region of the State; therefore, they may have impacted many, but not all, counties. Livingston County was included in these two declarations (Federal Emergency Management Agency [FEMA] 2021). Table 5.4.8-1 provides details on pandemic episodes that occurred in Livingston County between 2015 and 2021. Influenza information is provided for comparison.

Table 5.4.8-1. Influenza, Ebola, and COVID-19 Pandemics Affecting Livingston County, 2015 to 2021

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Event Details
2020 & ongoing	COVID-19	EM-3434/DR 4480	Yes	COVID-19 pandemic. 4,841 confirmed cases and 46 deaths as of August 20, 2021
October 2020-January 2021 Season	Influenza	N/A	N/A	8 cases of influenza reported
October 2019–April 2020 Season	Influenza	N/A	N/A	695 cases of influenza reported
October 2018–May 2019 Season	Influenza	N/A	N/A	580 cases of influenza reported
October 2017–May 2018 Season	Influenza	N/A	N/A	693 cases of influenza reported
2015–2019	Ebola	N/A	N/A	0 confirmed cases of Ebola

Source: *NYSDOH 2021; Livingston County 2021*
Note: **COVID-19 count as of August 20, 2021*

Probability of Future Events

Predicting the future occurrences of disease outbreaks is difficult; however, based on the history of occurrences in Livingston County, it is possible to predict the likelihood of a disease outbreak impacting the county. Additionally, increases in population and population density in the county, were they to occur, have the potential to increase exposure and susceptibility of its residents to outbreaks.

In Section 5.4, the identified hazards of concern for Livingston County were ranked. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Committee, the probability of occurrence for disease outbreaks in the county is

considered "occasional" (Between 10 and 100-percent annual probability of a hazard event occurring., as presented in Table 5.3-2).

Impacts of Climate Change

Climate change is beginning to affect both people and resources in New York State, and these impacts are projected to continue growing. Impacts related to increasing temperatures and sea-level rise are already being felt in the State. ClimAID: the Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the State's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority (NYSERDA 2011).

Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of geographical Region 1, Western New York and the Great Lakes Plain. Some of the issues in this region affected by climate change include: relatively low seasonal rainfall and increased summer drought risk, high-value crops could need irrigation, and growing conditions will improve for some crops, such as grapes. (NYSERDA 2014). The relationship between climate change and increase in infectious diseases is difficult to predict with certainty; there are scientific linkages between the two. As warm habitats that host insects such as mosquitoes increase, more of the population becomes exposed to potential virus threats (The Washington Post, 2017).

Temperatures and precipitation amounts are expected to increase throughout the State as well as within Region 1. Within Region 1, temperatures are anticipated to increase between 4.3 to 6.3 ºF by the 2050s and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle-range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection).

Annual temperatures have been rising throughout New York State since the start of the 20th century. State average temperatures have increased by approximately 0.6 °F since 1970, with winter warming exceeding 1.1 °F per decade. Extreme heat events are likely to increase throughout New York State, and short-duration warm season droughts will become more common (NYSERDA 2014).

With the increase in temperatures, heat waves will become more frequent and intense, as shown in Table 5.4.8-2 below. Heat waves are defined as three or more consecutive days with maximum temperatures at or above 90 ˚F. Summer droughts are projected to increase under these conditions, affecting water supply, agriculture, ecosystems, and energy projects (NYSERDA 2014).

Table 5.4.8-2. Extreme Event Projections for Region 1

Middle Range (25th to 75th Percentile)	2020s	2050s	2080s
Days over 90 °F (8 days)	14 to 17	22 to 34	27 to 57
# of Heat Waves (0.7 heat waves)	2 to 2	3 to 4	3 to 8
Duration of Heat Waves (4 days)	4 to 4	4 to 5	5 to 6
Days below 32 °F (133 days)	103 to 111	84 to 96	68 to 88
Days over 1" Rainfall (5 days)	5 to 5	5 to 5	5 to 6
Days over 2" Rainfall (0.6 days)	0.6 to 0.7	0.6 to 0.8	0.6 to 0.9

Source: NYSERDA 2014

Warmer temperatures and changing rainfall patterns provide an environment where mosquitoes can remain active longer, greatly increasing the risk for animals and humans. Lyme disease could also expand throughout the United States as temperatures warm, allowing ticks to move into new areas of the country. The changes in

climate can also allow tropical and subtropical insects to move from regions where diseases thrive into new places (Natural Resources Defense Council 2017).

An increase in temperature and humidity may also lead to a larger number of influenza outbreaks. Studies have shown that warmer winters lead to an increase in influenza cases. During warm winters, fewer people contract influenza, which causes a large number in population to remain vulnerable into the next season. This causes an early and strong occurrence of the virus (Natural Resources Defense Council 2018).

5.4.8.2 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed or vulnerable in the identified hazard area. For disease outbreaks and pandemics, all of Livingston County is considered exposed to the hazard. Therefore, all assets in the County, as described in the County Profile (Section 4), are exposed and potentially vulnerable.

Impact on Life, Health, and Safety

The entire population of Livingston County is vulnerable to the pandemic hazard. Healthcare providers and first responders have an increased risk of exposure due to their frequent contact with infected populations. As of August 20, 2021, the cumulative confirmed cases of COVID within the county was 4,841 and the confirmed death toll was 46. Countywide, 54% of the population had received a COVID-19 vaccination. (Livingston County Department of Health, 2021)

The CDC has indicated that persons over 65 years and older, persons living in a nursing home or long-term care facility, and persons with underlying medical conditions such as cancer, chronic kidney disease, severe obesity, serious heart conditions, immunocompromised, etc. are at a higher risk of getting severely ill (CDC 2020). Population data from the 2019 U.S. Census Population Estimates indicates that 10,929 persons over 65 years old in Livingston County would be considered at risk for getting severely ill from the COVID-19 virus. While the statistics of this virus are subject to change during the publication of this Hazard Mitigation Plan (HMP), the New York Department of Health dashboard shows that there is a higher percentage of illnesses within this particular age group.

Impact on General Building Stock, Critical Facilities, and Lifelines

No structures are anticipated to be directly affected by pandemics. An important secondary impact of a pandemic is that health care facilities can become overwhelmed with patient numbers and intensity of care needs.

Impact on Economy

The impact pandemics have on the economy and estimated dollar losses are difficult to measure and quantify. Costs associated with the activities and programs implemented to conduct surveillance and address pandemics have not been quantified in available documentation. Instead, activities and programs implemented by the county to address this hazard are described below, all of which could impact the local economy.

Most recently, the New York State Health Department has played an active role in maintaining and controlling COVID-19 protocols across the state. This activity requires additional costs from the State and Livingston County to manage COVID-19 in the communities. Further, there has been secondary economic impact of closing non-essential facilities to reduce the spread of the virus. At the time of this HMP update, as the COVID-19 pandemic continues, the final costs of this virus are yet to be determined.

Impact on Environment

Disease outbreaks may have an impact on the environment if the outbreaks are caused by invasive species. Invasive species tend to be competitive with native species and their habitat and can be the major transmitters of diseases like Zika, dengue, and yellow fever (Placer Mosquito and Vector Control District 2019). Secondary impacts from mitigating disease outbreaks could also have an impact on the environment. Pesticides used to control disease-carrying insects like mosquitoes have been reviewed by the Environmental Protection Agency (EPA) and the New York Department of Environmental Conservation. If these sprays are applied in large concentrations, they could potentially leach into waterways and harm nearby terrestrial species. As a result, pesticides must be registered before they can be sold, distributed, or used in the state (New York Department of Environmental Conservation 2021).

Cascading Impacts on Other Hazards

There are no known cascading impacts that disease outbreaks can cause to other hazards of concern for Livingston County.

Future Changes that May Impact Vulnerability

Understanding future changes that effect vulnerability in the County can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. Changes in the natural environment and built environment and how they interact can also provide insight about ways to plan.

Projected Development

As discussed in Section 4, areas targeted for future growth and development have been identified across the county. Any areas of growth could be potentially impacted by the pandemic hazard because the entire planning area is exposed and vulnerable.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. While fewer people will reside in the county, those who remain are still vulnerable to a pandemic or pandemic event. As the population ages, more persons will become vulnerable to a pandemic outbreak in Livingston County. Section 4, County Profile, presents additional discussion on population trends.

Climate Change

The relationship between climate change and infectious diseases is somewhat controversial. The notion that rising temperatures will increase the number of mosquitoes that can transmit diseases among humans (rather than just shift their range) has been the subject of debate over the past decade. Climate change may affect the spread of disease. However, many researchers point out that climate is not the only force at work in increasing the spread of infectious diseases into the future. Other factors, such as expanded rapid travel and evolution of resistance to medical treatments, are already changing the ways pathogens infect people, plants, and animals. Climate change accelerations may likely work synergistically with many of these factors, especially in populations increasingly subject to massive migration and malnutrition (American Journal of Epidemiology 2019).

Changes in Vulnerability Since the 2015 HMP

The pandemic hazard is a new hazard of concern since the 2015 HMP.

5.4.9 Severe Storm

This section provides profile information and the vulnerability assessment for the severe storm hazard for the Livingston County Hazard Mitigation Plan.

5.4.9.1 Hazard Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, climate change projections and the probability of future occurrences for the severe storm hazard.

Hazard Description

For the purpose of this HMP and as deemed appropriated by Livingston County, the severe storm hazard includes hailstorms, windstorms, lightning, thunderstorms, tornadoes, and hurricanes, which are defined below. Northeasters (or Nor'easters) are a type of extra-tropical cyclone that most frequently occur during winter months. Because Livingston County's is located in New York's Finger Lakes, the county is not susceptible to Nor'easters; therefore, they are not profiled in this HMP.

Hail

Hail forms inside a thunderstorm where there are strong updrafts of warm air and downdrafts of cold water. If a water droplet is picked up by the updrafts, it can be carried well above the freezing level. Water droplets freeze when temperatures reach 32 °F or colder. As the frozen droplet begins to fall, it may thaw as it moves into warmer air toward the bottom of the thunderstorm. However, the droplet may be picked up again by another updraft and carried back into the cold air and re-freeze. With each trip above and below the freezing level, the frozen droplet adds another layer of ice. The frozen droplet, with many layers of ice, falls to the ground as hail. Most hail is small and typically less than 2 inches in diameter (National Weather Service [NWS] n.d.). Table 5.4.9-1 lists descriptions of hail size as outlined by National Oceanic and Atmospheric Administration (NOAA).

High Winds

High winds, other than tornadoes, are experienced in all parts of the United States. Areas that experience the highest wind speeds are coastal regions from Texas to Maine, and the Alaskan coast; however, exposed mountain areas experience winds at least as high as those along the coast. Wind begins with differences in air pressures. It is rough horizontal movement of air caused by uneven heating of the earth's surface. Wind occurs at all scales, from local breezes lasting a few minutes to global winds resulting from solar heating of the earth (NWS n.d.). High winds have the potential to down trees, tree limbs, and power lines, which lead to widespread power outages and damage to residential and commercial structures throughout Livingston County. High winds are often associated by other severe storm events such as thunderstorms, tornadoes, hurricanes, and tropical storms (all discussed further in this section). Table 5.4.9-2 provides the wind descriptions used by the NWS.

Thunderstorms

A thunderstorm is a local storm produced by a cumulonimbus cloud and accompanied by lightning and thunder. A thunderstorm forms from a combination of moisture, rapidly rising warm air, and a force capable of lifting air such as a warm and cold front, a sea breeze, or a mountain. Thunderstorms form from the equator to as far north as Alaska. Although thunderstorms generally affect a small area when they occur, they have the potential to become dangerous due to their ability in generating tornadoes, hailstorms, strong winds, flash flooding, and lightning. The NWS considers a thunderstorm severe only if it produces damaging wind gusts of 58 mph or higher or large hail 1 inch in diameter (quarter size) or larger, or tornadoes.

Lighting is a bright flash of electrical energy produced by a thunderstorm. The resulting clap of thunder is the result of a shock wave created by the rapid heating and cooling of the air in the lightning channel. All thunderstorms produce lightning and are very dangerous. It ranks as one of the top weather killers in the United States and kills approximately 50 people and injures hundreds each year. Lightning can occur anywhere there is a thunderstorm.

Thunderstorms can lead to flooding, landslides, strong winds, and lightning. Roads may become impassable from flooding, downed trees or power lines, or a landslide. Downed power lines can lead to utility losses, such as water, phone and electricity. Lightning can damage homes and injure people. In the United States, an average of about 300 people are injured and 50 people are killed by lightning each year. Typical thunderstorms are 15 miles in diameter and last an average of 30 minutes. An estimated 100,000 thunderstorms occur each year in the United States, with approximately 10 percent of thunderstorms classified as severe. During the warm season, thunderstorms are responsible for most of the rainfall (National Severe Storms Laboratory [NSSL] n.d.).

Tornadoes

Tornadoes are nature's most violent storms and can cause fatalities and devastate neighborhoods in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 mph. Damage paths can be greater than one mile in width and 50 miles in length. Tornadoes typically develop from either a severe thunderstorm or hurricane as cool air rapidly overrides a layer of warm air. The average speed of a tornado is 30 mph but may vary from nearly stationary to 70 mph. The lifespan of a tornado rarely is longer than 30 minutes (NSSL n.d.).

Hurricanes/Tropical Storms

A hurricane is a tropical storm that attains hurricane status when its wind speed reaches 74 or more miles per hour (mph). Tropical systems may develop in the Atlantic between the Lesser Antilles and the African coast, or may develop in the warm tropical waters of the Caribbean and Gulf of Mexico. These storms may move up the Atlantic coast of the United States and impact the eastern seaboard, or move into the United States through the states along the Gulf Coast, bringing wind and rain as far north as New England before moving offshore and heading east.

A tropical storm system is characterized by a low-pressure center and numerous thunderstorms that produce strong winds and heavy rain (winds are at a lower speed than hurricane-force winds, thus gaining its status as tropical storm versus a hurricane). Tropical storms strengthen when water evaporated from the ocean is released as the saturated air rises, resulting in condensation of water vapor contained in the moist air. They are fueled by a different heat mechanism than other cyclonic windstorms such as Nor'easters and polar lows. The characteristic that separates tropical storms from other cyclonic systems is that at any height in the atmosphere, the center of a tropical storm will be warmer than its surroundings; a phenomenon called "warm core" storm systems (NOAA 2020).

NWS issues hurricane and tropical storm watches and warnings. These watches and warnings are issued or will remain in effect after a tropical storm becomes post-tropical, when such a storm poses a significant threat to life and property. NWS allows the National Hurricane Center (NHC) to issue advisories during the post-tropical stage. The following are the definitions of the watches and warnings:

- *Hurricane/Typhoon Warning* is issued when sustained winds of 74 mph or higher are expected somewhere within the specified area in association with a tropical, subtropical, or post-tropical storm. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the warning is issued 36 hours in advance of the anticipated onset of tropical storm force winds (24 hours in the western north Pacific). The warning can remain in effect when dangerously high water or a

combination of dangerously high water and waves continue, even though winds may be less than hurricane force.

- *Hurricane Watch* is issued when sustained winds of 74 mph or higher are possible within the specified area in association with a tropical, subtropical, or post-tropical cyclone. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours prior to the anticipated onset of tropical storm force winds.
- *Tropical Storm Warning* is issued when sustained winds of 39 to 73 mph are expected somewhere within the specified area within 36 hours (24 hours for the western north Pacific) in association with a tropical, subtropical, or post-tropical storm.
- *Tropical Storm Watch* is issued when sustained winds of 39 to 73 mph are possible within the specified area within 48 hours in association with a tropical, sub-tropical, or post-tropical storm (NWS 2020).

One of the most severe impacts associated with hurricanes is storm surge; however, because of Livingston County's location, storm surge is not a concern for the county and has not been detailed in this profile.

Extent

Hail

The severity of hail is measured by duration, hail size, and geographic extent. All of these factors are directly related to thunderstorms, which create hail. There is wide variation in the severity components of hail, with the most significant impact being damage to crops. Hail also has the potential to damage structures and vehicles during hailstorms.

Hail can be produced from many different types of storms; however, hail typically occurs with thunderstorm events, and the size of hail is estimated by comparing it to a known object. Most hailstorms are made up of a variety of sizes, and only the very largest hail stones pose serious risk to people, if exposed (NOAA Storm Prediction Center [SPC] n.d.). Table 5.4.9-1 lists the different sizes of hail compared to real-world objects.

Table 5.4.9-1. Hail Size

Description	Diameter (in inches)	Description	Diameter (in inches)
Pea	0.25	Golf ball	1.75
Marble or mothball	0.50	Hen's egg	2.00
Penny or dime	0.75	Tennis ball	2.75
Nickel	0.88	Baseball	2.75
Quarter	1.00	Tea cup	3.00
Half dollar	1.25	Grapefruit	4.00
Walnut or ping pong ball	1.50	Softball	4.50

Source: NOAA SPC n.d.

Windstorms and High Winds

The wind speed describes the prevailing direction from which the wind is blowing with speeds in miles per hour (mph). Table 5.4.9-2 provides the NWS descriptions of winds during wind-producing events.

Table 5.4.9-2. NWS Wind Descriptions

Descriptive Term	Sustained Wind Speed (mph)
Strong, dangerous, or damaging	≥40
Very windy	30-40
Windy	20-30
Breezy, brisk, or blustery	15-25
None	5-15 or 10-20
Light or light and variable wind	0-5

Source: NWS 2020
mph Miles per hour

NWS issues advisories and warnings for winds, which are normally site-specific. High-wind advisories, watches, and warnings are issued by the NWS when wind speeds may pose a hazard or may be life threatening. The criterion for each of these varies from state to state. Wind warnings and advisories for New York State are as follows:

- *High Wind Warnings* are issued when sustained winds of 40 mph or greater are forecast for 1 hour or longer, or wind gusts of 58 mph or greater for any duration
- *Wind Advisories* are issued when sustained winds of 30 to 39 mph are forecast for 1 hour or longer, or wind gusts of 46 to 57 mph for any duration (NWS n.d.).

Lightning

As with hail, lightning can be produced by a wide variety of situations, but it is most often associated with moderate to severe thunderstorms. As noted earlier, lightning is responsible for deaths, injuries, and property damage in all areas of the United States. Lightning-based deaths and injuries typically involve heart damage, inflated lungs, or brain damage, as well as loss of consciousness, amnesia, paralysis, and burns, depending upon the severity of the strike. Lightning can also spark wildfires or building fires, especially if structures are not protected by surge protectors on critical electronic, lighting, or information technology systems (NSSL n.d.).

Despite the potential damage associated with lightning, most strikes do not hit anything important (i.e., persons, animals, local assets). Additionally, the majority of people struck by lightning survive, although they may have severe burns and internal damage (as mentioned above). Multiple devices are available to track and monitor the frequency of lightning strikes; however, most jurisdictions only focus on cloud-to-ground lightning that occurs during periods of dry heat or when associated with severe storms.

Thunderstorms

Severe thunderstorm watches and warnings are issued by the local NWS office and NOAA's SPC. NWS and SPC will update the watches and warnings and will notify the public when they are no longer in effect. Watches and warnings for thunderstorms in New York are as follows:

- *Severe Thunderstorm Warnings* are issued when there is evidence based on radar or a reliable spotter report that a thunderstorm is producing, or is forecast to produce, wind gusts of 58 mph or greater, structural wind damage, and hail 1 inch in diameter or greater. A warning will include where the storm was located, what municipalities will be impacted, and the primary threat associated with the severe thunderstorm warning. After it has been issued, the NWS office will follow up periodically with Severe Weather Statements, which contain updated information on the severe thunderstorm and will let the public know when the warning is no longer in effect.

- *Severe Thunderstorm Watches* are issued by the SPC when conditions are favorable for the development of severe thunderstorms over a larger-scale region for a duration of at least 3 hours. Tornadoes are not expected in such situations, but isolated tornado development may also occur. Watches are normally issued well in advance of the actual occurrence of severe weather. During the watch, the NWS will keep the public informed on what is happening in the watch area and also let the public know when the watch has expired or been cancelled.
- *Special Weather State for Near Severe Thunderstorms* bulletins are issued for strong thunderstorms that are below severe levels, but still may have some adverse impacts. Usually, they are issued for the threat of wind gusts of 40 to 58 mph or small hail less than 1 inch in diameter (NSSL n.d.).

Tornado

The magnitude or severity of a tornado was originally categorized using the Fujita Scale (F-Scale) or Pearson Fujita Scale introduced in 1971. This used to be the standard measurement for rating the strength of a tornado. The F-Scale categorized tornadoes by intensity and area and was divided into six categories, F0 (gale) to F5 (incredible).

The Enhanced Fujita Scale (EF-Scale) is now the standard used to measure the strength of a tornado. It is used to assign tornadoes a "rating" based on estimated wind speeds and related damage. When tornado-related damage is surveyed, it is compared to a list of Damage Indicators (DI) and Degree of Damage (DOD), which help better estimate the range of wind speeds produced by the tornado. From that, a rating is assigned, similar to that of the F-Scale, with six categories from EF0 to EF5 representing increasing degrees of damage. The EF-Scale was revised from the original F-Scale to reflect better examinations of tornado damage surveys. This new scale considers how most structures are designed (NOAA SPC n.d.). Table 5.4.9-3 lists the EF-Scale and each of its six categories.

Table 5.4.9-3. Enhanced Fujita Damage Scale

F-Scale Number	Intensity Phrase	Wind Speed (mph)	Type of Damage Done
EF0	Light tornado	65–85	**Light damage**. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	Moderate tornado	86-110	**Moderate damage**. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	Significant tornado	111-135	**Considerable damage**. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	Severe tornado	136-165	**Severe damage**. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	Devastating tornado	166-200	**Devastating damage**. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	Incredible tornado	>200	**Incredible damage**. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); high-rise buildings have significant structural deformation; incredible phenomena occur.

Source: NOAA SPC 2014

Tornado watches and warning are issued by the local NWS office. A tornado watch is released when tornadoes are possible in an area. A tornado warning means a tornado has been sighted or indicated by weather radar. The

current average lead time for tornado warnings is 13 minutes. Occasionally, tornadoes develop so rapidly, that little, if any, advance warning is possible (NWS n.d.).

Hurricanes and Tropical Storms

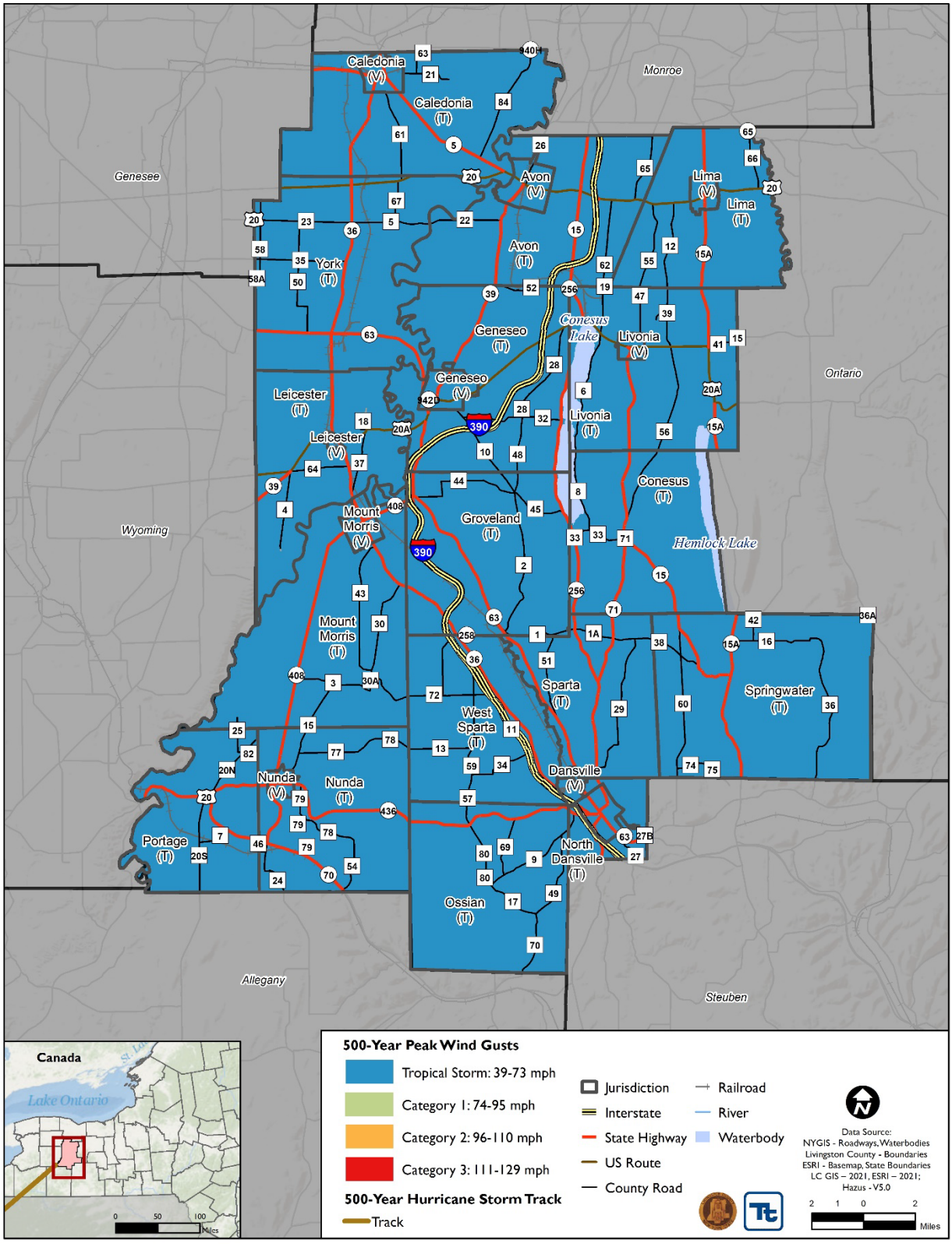
The extent of a hurricane is categorized in accordance with the Saffir-Simpson Hurricane Scale. The Saffir-Simpson Hurricane Wind Scale is a 1-to-5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous and require preventative measures (NOAA n.d.). Table 5.4.9-4 presents this scale, which is used to estimate the potential property damage and flooding expected when a hurricane makes landfall.

Table 5.4.9-4. The Saffir-Simpson Hurricane Scale

Category	Wind Speed (mph)	Expected Damage
Tropical Storm	39-73 mph	**Dangerous winds produce some damage:** Effects include heavy rain, strong winds, wind gusts, storm surge and tornadoes.
1	74-95 mph	**Very dangerous winds will produce some damage:** Homes with well-constructed frames could have damage to roof, shingles, vinyl siding, and gutters. Large tree branches will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph	**Extremely dangerous winds will cause extensive damage:** Homes with well-constructed frames could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph	**Devastating damage will occur:** Homes with well-built frames may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph	**Catastrophic damage will occur:** Homes with well-built frames can sustain severe damage with loss of most of the roof structure and some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	>157 mph	**Catastrophic damage will occur:** A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Source: NWS n.d.
mph Miles per hour
> Greater than

Figure 5.4.9-1. Wind Speeds for the 500-Year Mean Return Period Hurricane Wind Event



Location

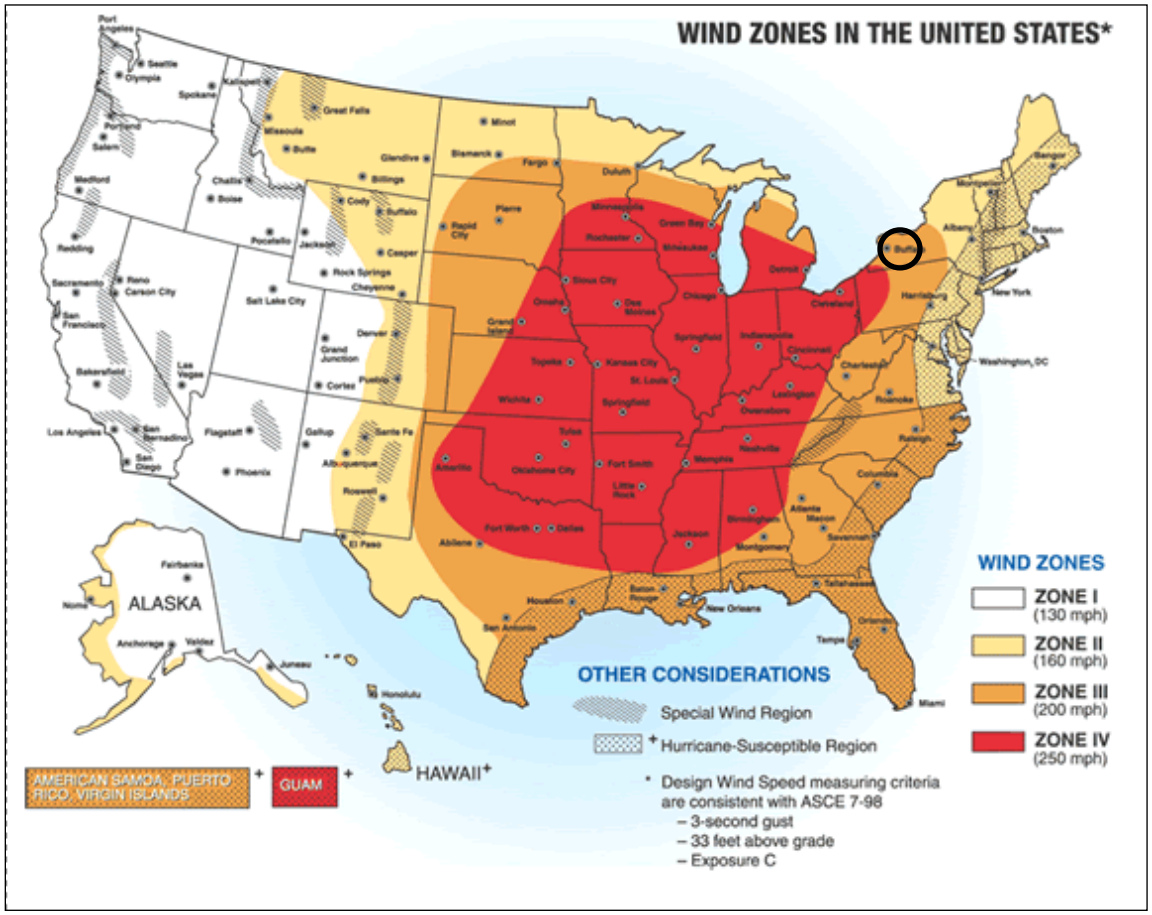
Hail

Hailstorms are most frequent in the southern and central plains states in the United States, where warm moist air off of the Gulf of Mexico and cold dry air from Canada collide, and thereby spawning violent thunderstorms. This area of the United States is known as hail alley and lies within the states of Texas, Oklahoma, Colorado, Kansas, Nebraska, and Livingston. In New York State, hailstorms can occur anywhere within the State of New York independently or during a tornado, thunderstorm, or lightning event.

Windstorms and High Winds

All of Livingston County is subject to high winds from thunderstorms, hurricanes, tropical storms, tornadoes, and other severe weather events. According to the FEMA Winds Zones of the United States map, Livingston County is located in Wind Zone III, where wind speeds can reach up to 200 mph. Figure 5.4.9-2 illustrates how the frequency and strength of windstorms impacts the United States, and the general location of the most wind activity. This is based on 40 years of tornado data and 100 years of hurricane data collected by FEMA.

Figure 5.4.9-2. Wind Zones in the United States

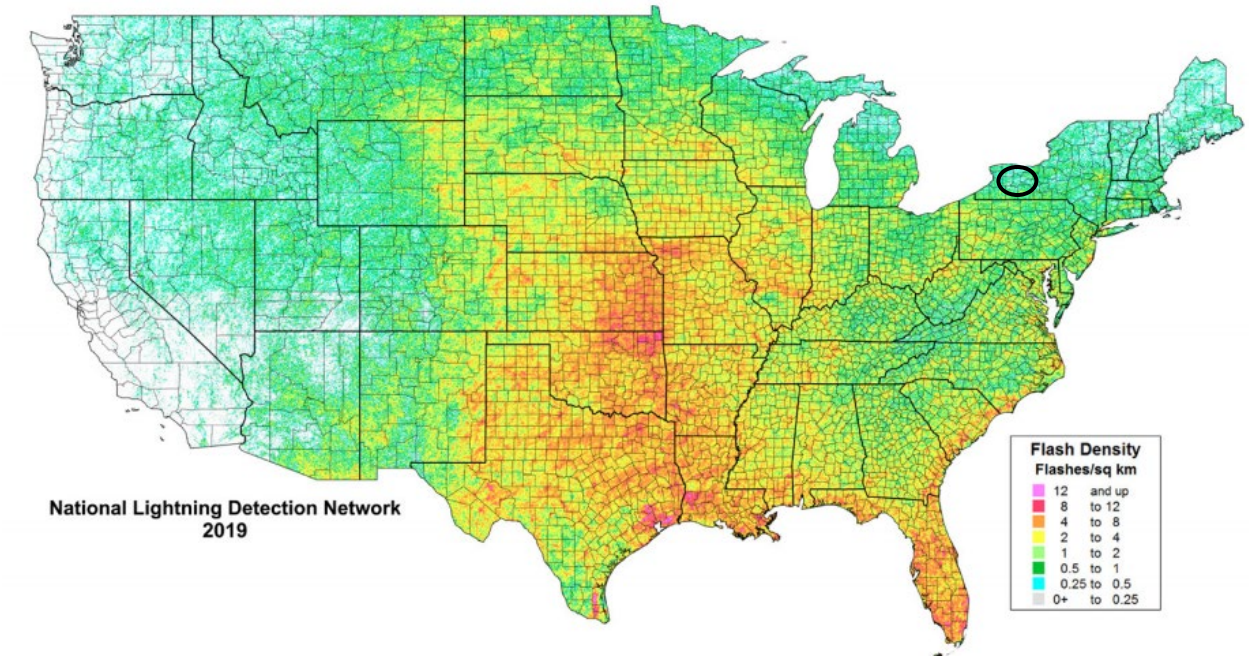


Source: *FEMA 2012*
Note: *The black circle indicates the approximate location of Livingston County. Livingston County is located within Zone III.*

Lightning

Lightning is most often associated with thunderstorms and other severe storms. Although dry lightning strikes can occur without significant precipitation anywhere in the United States, they are more frequently associated with the western portion of the country. The New York City Office of Emergency Management (NYC OEM) notes that the State of New York has a moderate frequency of lightning strikes, with 3.8 strikes occurring per square mile each year. In comparison, Florida experiences 25.3 strikes per square mile per year. Vaisala's National Lightning Detection Network (NLDN) data are the primary data source used by NWS NOAA for lighting information. Figure 5.4.9-3 provides a map of the U.S. Cloud-to-Ground Flash Density in 2019. This depicts the approximate amount of lightning strikes per square mile in 2019. According to the map, Livingston County experienced 0.25 – 1 flash per square mile.

Figure 5.4.9-3. U.S. Cloud-to-Ground Flash Density 2019



Source: *Vaisala National Lightning Detection Network (NLDN) 2019*
Note: *The approximate location of Livingston County is within the black circle.*

Thunderstorms

Thunderstorms affect relatively small, localized areas, rather than large regions such as winter storms and hurricanes. Thunderstorms can strike in all regions of the United States; however, they are common in the central and southern states. The atmospheric conditions in these regions of the country are most ideal for generating these powerful storms.

Tornado

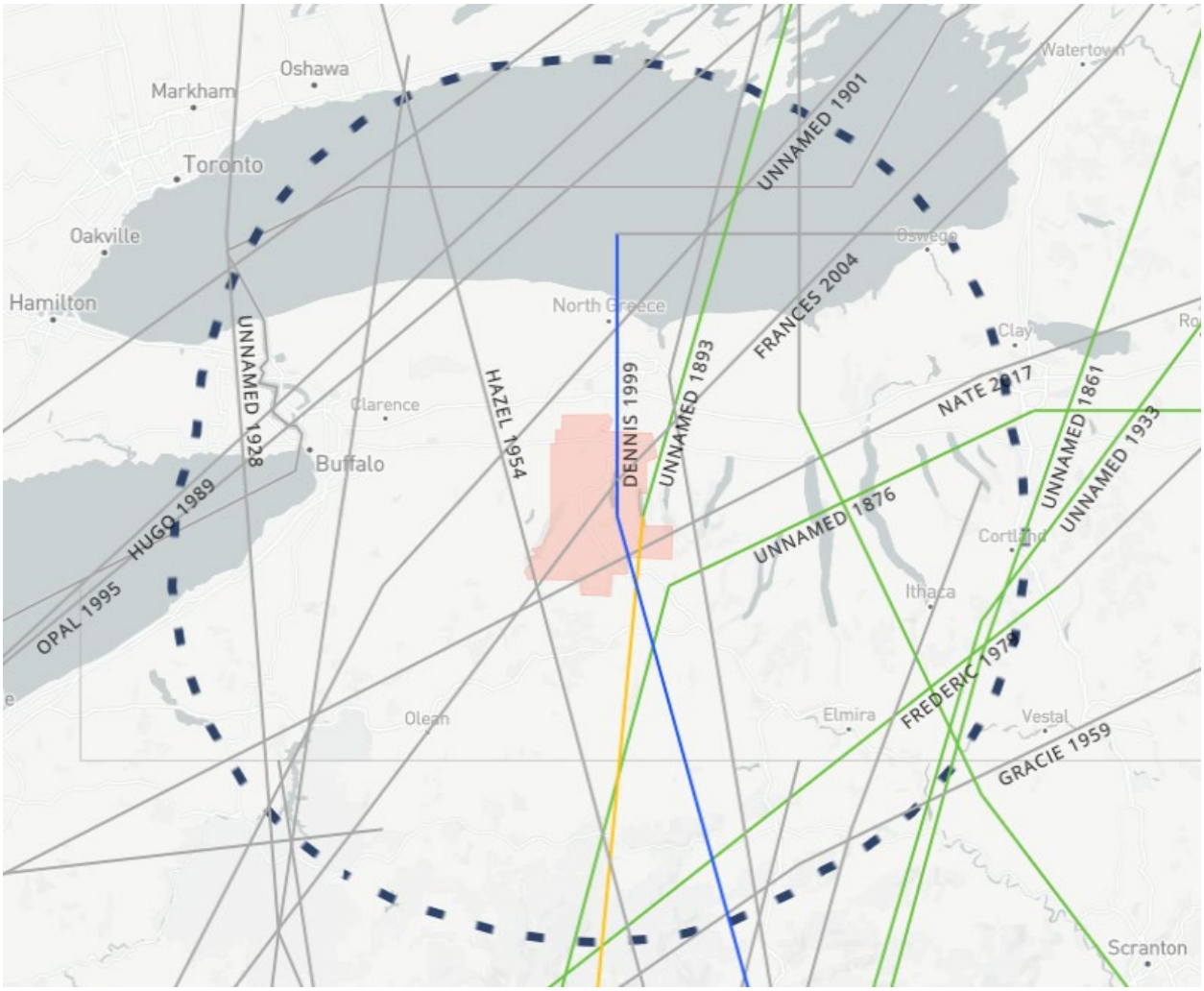
Tornadoes can occur at any time of the year, with peak seasons at different times for different states (NSSL n.d.). New York State has a definite vulnerability to tornadoes. Since 1950, over 440 tornadoes ranging from F0 to F4 have occurred throughout the state. Based on statistics from 2009 and 2019, New York State has experienced an average of 11 tornadoes annually. Livingston County experienced only two tornadoes between 1961 and 2020. (NOAA-National Centers for Environmental Information [NCEI] 2021).

Hurricanes and Tropical Storms

Hurricanes and tropical storms can impact New York State from June to November, the official eastern United States hurricane season (NOAA 2020).

NOAA's Historical Hurricane Tracks tool is a public interactive mapping application that displays Atlantic Basin and East-Central Pacific Basin tropical cyclone data. This interactive tool catalogs tropical cyclones that have occurred from 1842 to 2021. Between 1950 and 2021, 22 tropical cyclones have been tracked within 65 nautical miles of Livingston County, as shown in Figure 5.4.9-4.

Figure 5.4.9-4. Hurricane Tracks within 65 Nautical Miles of Livingston County



Source: NOAA 2021.

Livingston County is not frequently impacted by hurricanes, tropical storms, or tropical depressions. It occasionally has experienced the direct and indirect landward effects associated with hurricanes and tropical storms in recent history. In 2012, Superstorm Sandy brought strong winds and heavy rains to Livingston County, which downed trees and power lines (NCEI 2017).

Previous Occurrences and Losses

Many sources provided historical information regarding previous occurrences and losses associated with severe storm events throughout New York State and Livingston County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP Update.

Table 5.4.9-5 documents historical severe storm events from 1950 to August 2021 in Livingston County based on data collected from the NOAA-NCEI and FEMA databases.

Table 5.4.9-5. Severe Storm Events 1950-2021

Hazard Type	Number of Occurrences Between 1950 and 2021	Total Fatalities	Total Injuries	Total Property Damage ($)	Total Crop Damage ($)
Hail	25	0	0	$147,000	$19,000
Hurricane / Tropical Storm	0	0	0	$0	$0
Lightning	3	0	1	$145,000	$0
Strong / High Winds	32	0	1	$1.980,000	$0
Thunderstorms	106	0	0	$1.940,000	$15,000
Tornado	2	0	0	$275,000	$0

Source: NOAA -NCEI 2021

Between January 1954 and August 2021, FEMA declared that New York State experienced 582 severe storm-related disasters (DR) or emergencies (EM) classified as one or a combination of the following disaster types: severe storm, heavy rain, high wind, hurricane/tropical storm, and tornado. Generally, these disasters cover a wide region of the state; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Of those events, the FEMA database indicates that Livingston County has been included in 11 declarations for severe storm-related events (Table 5.4.9-6) (FEMA 2020).

Table 5.4.9-6. FEMA DR & EM Declarations for Severe Storm Events in Livingston County, 1954 to 2020

Disaster Number	Event Date	Declaration Date	Incident Type	Title
DR-338	June 23, 1972	1972	Flood	Tropical Storm Agnes
DR-494	March 19, 1976	1976	Severe Ice Storm	Ice Storm, Severe Storms & Flooding
DR-1095	January 24, 1996	1996	Flood	Severe Storms and Flooding
DR-1233	July 7, 1998	1998	Severe Storm(s)	Severe Storms and Flooding
DR-1335	July 21, 2000	2000	Severe Storm(s)	Severe Storms and Flooding
DR-1486	August 29, 2003	2003	Severe Storm(s)	Severe Storms, Flooding, and Tornadoes
DR-1534	August 3, 2004	2004	Severe Storm(s)	Severe Storms and Flooding
DR-1993	June 10, 2011	2011	Flood	Severe Storms, Flooding, Tornadoes, and Straight-line Winds
EM-3262	September 30, 2005	2005	Hurricane	Hurricane Katrina Evacuation

Disaster Number	Event Date	Declaration Date	Incident Type	Title
EM-3351	October 28, 2012	2013	Hurricane	Hurricane Sandy
DR-4180	July 8, 2014	2014	Severe Storm(s)	Severe Storms and Flooding

Source: FEMA 2021

The Secretary of Agriculture from the U.S. Department of Agriculture (USDA) is authorized to designate counties as disaster areas to make emergency loans available to producers suffering losses in those counties and in counties that are contiguous to a designated county. There have been eight USDA agricultural disasters from 2013 to August 2021 attributed to severe storms (USDA 2021):

- S3593 – 2013 Excessive Rain and Related Flooding, High Winds, and Hail
- S3777 – 2014 Excessive Snow, Flooding, Freeze, and High Winds.
- S3758 - 2014 Excessive Snow, Flooding, Freeze, and High Winds.
- S3747 – 2014 Excessive Rain, Flash Flooding, Flooding, High Winds, and Hail
- S3885 – 2015 Excessive Rain, High Winds, Hail, Lightning, and Tornado
- S4023 – 2016 High Winds
- S4031 – 2016 High Winds
- S4265 – 2017 Excessive Rain

USDA crop loss information provides another indicator of the severity of previous events. Additionally, crop losses can have a significant impact on the economy by reducing produce sales and purchases. Such impacts may have long-term consequences, particularly if crop yields are low the following years as well. USDA records indicate that Livingston County has experienced crop losses from severe storm events. Details are provided in the Table 5.4.9-7.

Table 5.4.9-7. USDA Crop Losses from Severe Storms in Livingston County, 2014-2019

Year	Crop Type	Cause of Loss	Losses
2014	Wheat, corn, beans, soybeans, potatoes	Excess Moisture/Precipitation/Rain	$2.5 million
2015	Wheat, corn, beans, soybeans, potatoes	Excess Moisture/Precipitation/Rain	$3.1 million
2016	Wheat, corn, soybeans,	Excess Moisture/Precipitation/Rain	$3 million
2017	Wheat, corn, beans, soybeans, potatoes, oats	Excess Moisture/Precipitation/Rain	$5.1 million
2018	Wheat, corn, beans, soybeans, potatoes, oats	Excess Moisture/Precipitation/Rain	$776,000
2019	Wheat, corn, beans, soybeans, potatoes, oats	Excess Moisture/Precipitation/Rain	$1.4 million
2020	Wheat	Excess Moisture/Precipitation/Rain	$12,000

Source: USDA 2020b

For this 2022 HMP update, known severe storm events that have impacted Livingston County between 2014 and 2021 are identified in Table 5.4.9-8. The jurisdictional annexes included in Section 9 of the HMP provide detailed information on damages and impacts to each municipality. Not all severe storm events that have occurred in Livingston County are included because not all sources have been identified or researched. Also, only those events that caused more than $50,000 of recorded damage are reported herein. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this plan. Shows only events where property damage exceeded $50,000.

Table 5.4.9-8. Severe Storm Events in Livingston County, 2014 to 2021

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Losses / Impacts
5/16/2014	Flood	N/A	N/A	Heavy rain along a slow moving cold front produced flooding across parts of the Genesee River valley and Finger Lakes region. Rainfall amounts of two to three inches fell on already rain-soaked soils. Honeoye Creek reached crested at 5.63 feet, a moderate flood.
8/5/2014	Flash Flood	N/A	N/A	Showers and thunderstorms developed ahead of an approaching cold front. The heavy rains from the storms fell on already saturated ground and produced localized flash flooding in Sparta. Portions of Routes 36 and 63 were washed out.
5/10/2015	Flash Flood	N/A	N/A	Thunderstorms developed during the afternoon hours across parts of the Genesee Valley and Finger Lakes. Training thunderstorms dropped upwards of four inches of rain across northern Livingston County in about an hour. The heavy rain resulted in flash flooding in the Towns of Avon and Ashantee.. Preliminary damage estimates were around $200,000.
6/14/2015	Flash Flood	N/A	N/A	A warm front lifted north across western New York during the morning ushering in an extremely moist air mass. Showers and thunderstorms began to develop during the early afternoon hours. The slow moving thunderstorms dropped two to three inches of rain across the area however rainfall amounts of one- to one-and-a-half inches of rain in less than a half hour were received.
6/14/2015	Flash Flood	N/A	N/A	A warm front lifted north across western New York during the morning ushering in an extremely moist air mass. Showers and thunderstorms began to develop during the early afternoon hours. The slow moving thunderstorms dropped two to three inches of rain across the area however rainfall amounts of one- to one-and-a-half inches of rain in less than a half hour were received.
3/8/2017	High Wind	N/A	N/A	Unusually deep low pressure moved from northwest Ontario across Hudson Bay. The low brought strong winds to the entire region with sustained winds up to 49 mph and wind gusts as high as 81 mph. A significant amount of damage resulted with hundreds of thousands left without powerï¿½ï¿½ï¿½over 100,000 in Monroe County alone. Particularly hard hit was the northern Genesee Valley region including parts of Orleans, Monroe, and Genesee counties.
10/31/2019	High Wind	N/A	N/A	A deepening area of consolidated low pressure tracked from the north shoreline of Lake Erie to Toronto, and then along the northern shoreline of Lake Ontario Thursday evening,.

Sources: *NOAA-NCEI 2021; FEMA 2021*
DR *Major Disaster Declaration*
EM *Emergency Declaration*
FEMA *Federal Emergency Management Agency*
mph *Miles per hour (wind)*
N/A *Not applicable*
NOAA *National Oceanic and Atmospheric Administration*
NCEI *National Centers for Environmental Information*
NWS *National Weather Service*

Probability of Future Events

Predicting future severe storm events in a constantly changing climate has proven to be a difficult task. Predicting extremes in New York State is difficult because the region's geographic location is positioned roughly halfway between the equator and the North Pole, and it is exposed to both cold and dry airstreams from the south. The interaction between these opposing air masses often leads to turbulent weather across the region.

Table 5.4.9-9 provides the probability of occurrences of severe storm events. Based on historic occurrences, thunderstorm events are the most common in Livingston County, followed by strong/ high wind events. However, the information used to calculate the probability of occurrences is only based on using NOAA-NCEI storm event database results.

Table 5.4.9-9. Probability of Occurrence of Severe Storm Events

Hazard Type	Number of Occurrences Between 1950 and 2021	Recurrence Interval (in years) (# Years/Number of Events)	% chance of occurrence in any given year
Hail	25	2.80	35%
Hurricane / Tropical Storm	0	0	0
Lightning	3	23.33	4%
Strong / High Winds	32	2.19	45%
Thunderstorms	106	0.66	100 %
Tornado	2	35.00	2%
TOTAL	**168**	**0.42**	**100%**

Source: *NOAA-NCEI 2021*
Note: *Probability was calculated using the available data provided in the NOAA-NCEI storm events database.*

It is estimated that Livingston County will continue to experience direct and indirect impacts of severe storms annually. These storms may induce secondary hazards such as flooding, infrastructure deterioration or failure, utility failures, power outages, water quality and supply concerns, transportation delays, accidents, and inconveniences.

In Section 5.3, the identified hazards of concern for Livingston County were ranked. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records and input from the Planning Committee, the probability of occurrence for severe storms in the county is considered "frequent" (likely to occur more than once every 25 years, as presented in Table 5.3-2).

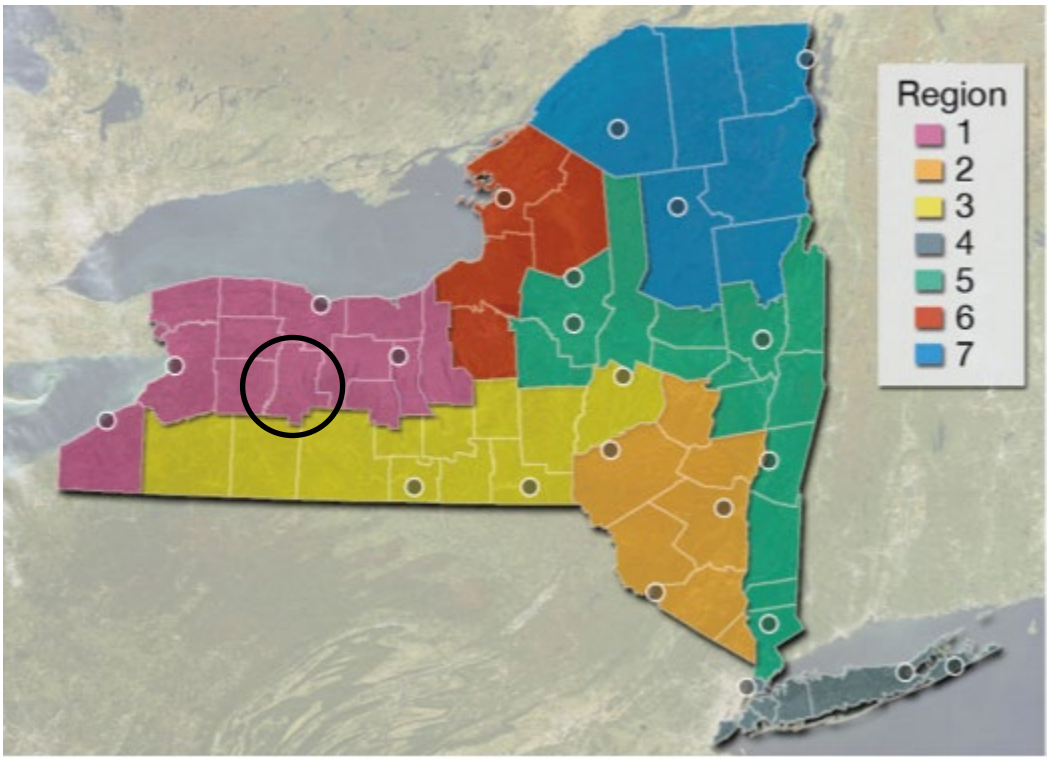
Climate Change Impacts

Climate change is beginning to affect both people and resources of Livingston County and the impacts of climate change will continue. Impacts related to increasing temperatures are already being felt in the county. ClimAID: the Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the state's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA] 2014). Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change.

Livingston County is part of Region 1, Western New York and the Great Lakes Plain (shown on Figure 5.4.9-5). In Region 1, temperatures are estimated to increase by 4.3 to 6.3 ºF by the 2050s, and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection).

Some of the issues in Region 1 affected by climate change include the fact that this region has the highest agricultural revenue in the state; relatively low rainfall, and therefore, increased summer drought risk; irrigation for high-value crops; improved condition for grapes (NYSERDA 2014).

Figure 5.4.9-5. Climate Regions of New York State



Source: NYSERDA 2014
Note: Livingston County is shown within the black circle.

The projected increase in precipitation is expected to fall in heavy downpours and less in light rains. The increase in heavy downpours has the potential to affect drinking water; heighten the risk of riverine flooding; flood key rail lines, roadways, and transportation hubs; and increase delays and hazards related to extreme weather events (NYSERDA 2014).

The projected increase in precipitation is expected to occur by heavy downpours and less through light rains. The increase in heavy downpours has the potential to affect drinking water; heighten the risk of riverine flooding; flood key rail lines, roadways, and transportation hubs; and increase delays and hazards related to extreme weather events. Increasing air temperatures intensify the water cycle by increasing evaporation and precipitation, which can cause an increase in rain totals during storm events, with longer dry periods in between those events. These changes can have a variety of effects on the state's water resources.

Over the past 50 years, heavy downpours have increased, and this trend is projected to continue, contributing to localized flash flooding in urban areas and hilly regions. Flooding has the potential to increase pollutants in the water supply and inundate wastewater treatment plants and other vulnerable facilities located within floodplains. Less frequent rainfall during the summer months may impact the ability of water supply systems. Increasing water temperatures in rivers and streams will affect aquatic health and reduce the capacity of streams to assimilate effluent wastewater treatment plants.

5.4.9.2 Vulnerability Assessment

All assets in Livingston County are at risk to severe storm events. Potential losses associated with high-wind events were calculated for the 500-year Mean Return Period (MRP) probabilistic hurricane wind event. The impacts on population, existing structures, critical facilities, lifelines and the economy are presented below.

Impact on Life, Health and Safety

The impact of a hurricane wind event on life, health, and safety is dependent upon several factors including the severity of the event and whether or not adequate warning time was provided to residents. All Livingston County residents are at risk to the impacts caused by severe storm wind events (63,591 persons; 2015-2019 ACS 5-year Estimate).

Research has shown that some populations, while they may not have more hazard exposure, may experience exacerbated impacts and prolonged recovery if/when impacted. This is due to many factors including their physical and financial ability to react or respond during a hazard. Economically disadvantaged populations are vulnerable because they are likely to evaluate their risk and make decisions based on the major economic impact to their family and may not have funds to evacuate. The population over the age of 65 is also vulnerable and, physically, they may have more difficulty evacuating. Additionally, the elderly are considered vulnerable because they require extra time or outside assistance during evacuations and are more likely to seek or need medical attention which may not be available due to isolation during a storm event. Please refer to Section 4 (County Profile) for the statistics of these populations.

Residents may be displaced or require temporary to long-term sheltering. In addition, downed trees, damaged buildings and debris carried by high winds can lead to injury or loss of life. Socially vulnerable populations are most susceptible, based on a number of factors including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Hazus estimates there will be zero displaced households and no people will require temporary shelter due to a 500-year MRP. Please note that estimates are only based on wind speed and do not account for sheltering needs associated with flooding that may accompany severe storm events.

Impact on General Building Stock

Damage to buildings is dependent upon several factors, including wind speed, storm duration, and path of the storm track. Building construction also plays a major role in the extent of damage resulting from a coastal storm. Due to differences in construction, residential structures are generally more susceptible to wind damage than commercial and industrial structures. Mobile/manufactured homes, and structures constructed of wood and masonry buildings, in general, tend to experience more damage than concrete or steel buildings.

To better understand these risks, Hazus was used to estimate the expected wind-related building damages. Specific types of wind damages are also summarized in Hazus at the following wind damage categories: no damage/very minor damage, minor damage, moderate damage, severe damage, and total destruction. Table 5.4.9-10 summarizes the definition of the damage categories. Table 5.4.9-11 summarizes the number and type of buildings and their estimated severity of expected damage.

Table 5.4.9-10. Description of Damage Categories

Qualitative Damage Description	Roof Cover Failure	Window Door Failures	Roof Deck	Missile Impacts on Walls	Roof Structure Failure	Wall Structure Failure
No Damage or Very Minor Damage Little or no visible damage from the outside. No broken windows, or failed roof deck. Minimal loss of roof cover, with no or very limited water penetration.	≤2%	No	No	No	No	No
Minor Damage Maximum of one broken window, door or garage door. Moderate roof cover loss that can be covered to prevent additional water entering the building. Marks or dents on walls requiring painting or patching for repair.	>2% and ≤15%	One window, door, or garage door failure	No	<5 impacts	No	No
Moderate Damage Major roof cover damage, moderate window breakage. Minor roof sheathing failure. Some resulting damage to interior of building from water.	>15% and ≤50%	> one and ≤ the larger of 20% & 3	1 to 3 panels	Typically 5 to 10 impacts	No	No
Severe Damage Major window damage or roof sheathing loss. Major roof cover loss. Extensive damage to interior from water.	>50%	> the larger of 20% & 3 and ≤50%	>3 and ≤25%	Typically 10 to 20 impacts	No	No
Destruction Complete roof failure and/or, failure of wall frame. Loss of more than 50% of roof sheathing.	Typically >50%	>50%	>25%	Typically >20 impacts	Yes	Yes

Source: Hazus Hurricane Technical Manual

Table 5.4.9-11. Expected Severity of Damages Caused by the 500-Year Mean Return Period Hurricane Wind Event

Occupancy Class	Total Number of Buildings in Occupancy	Severity of Expected Damage	500-Year Mean Return Period Hurricane	
			Building Count	Percent of Buildings in Occupancy Class
Residential Exposure (Single and Multi-Family Dwellings)	28,577	None	28,484	99.7%
		Minor	0	0.0%
		Moderate	93	0.3%
		Severe	0	0.0%
		Complete Destruction	0	0.0%
Commercial Buildings	2,323	None	2,322	100.0%
		Minor	1	0.0%
		Moderate	0	0.0%
		Severe	0	0.0%
		Complete Destruction	0	0.0%
Industrial Buildings	224	None	224	100.0%
		Minor	0	0.0%
		Moderate	0	0.0%
		Severe	0	0.0%
		Complete Destruction	0	0.0%
Government, Religion, Agricultural, and Education Buildings	3,528	None	3,528	100.0%
		Minor	0	0.0%
		Moderate	0	0.0%
		Severe	0	0.0%
		Complete Destruction	0	0.0%

Source: Hazus v5.0; Livingston County 2021; RS Means 2021
Notes: % - Percent

Table 5.4.9-12 summarizes the replacement cost value damage for all occupancies estimated for the 500-year MRP wind-only event. Damage estimates are reported for the County's probabilistic Hazus model scenarios. The data shown indicates total losses associated with wind damage to the building only.

The total damage to buildings for all occupancy types across Livingston County is estimated to be approximately $10.3 million for the 500-year MRP wind-only event. All of the estimated losses are expected to occur to residential structures. Due to differences in building construction, residential structures are generally more susceptible to wind damage than commercial and industrial structures. The damage counts include buildings damaged at all severity levels from minor damage to destruction. Total dollar damage reflects the overall impact to buildings at an aggregate level. The Village of Dansville is estimated to experience the greatest damage, approximately $2.6 million in a 500-year MRP event.

Table 5.4.9-12. Estimated Building Losses from the 500-Year Mean Return Period Hurricane Wind Event

Jurisdiction	Building Replacement Cost Value	Estimated Building Losses Caused by the 500-Year Mean Return Period Hurricane Wind Event	Percent of Total
Avon (T)	$1,324,846,766	$0	0.0%
Avon (V)	$1,365,771,007	$0	0.0%
Caledonia (T)	$792,755,652	$0	0.0%
Caledonia (V)	$735,609,120	$0	0.0%
Conesus (T)	$625,005,723	$1,695,689	0.3%
Dansville (V)	$1,341,807,175	$2,631,832	0.2%
Geneseo (T)	$1,161,720,041	$0	0.0%
Geneseo (V)	$1,570,704,963	$0	0.0%
Groveland (T)	$1,203,662,583	$2,868	<0.1%
Leicester (T)	$715,987,145	$0	0.0%
Leicester (V)	$142,879,953	$0	0.0%
Lima (T)	$859,636,929	$0	0.0%
Lima (V)	$452,768,112	$0	0.0%
Livonia (T)	$1,866,897,181	$0	0.0%
Livonia (V)	$371,319,429	$0	0.0%
Mount Morris (T)	$646,574,328	$0	0.0%
Mount Morris (V)	$785,505,655	$0	0.0%
North Dansville (T)	$497,159,183	$722,101	0.1%
Nunda (T)	$544,934,442	$0	0.0%
Nunda (V)	$392,488,596	$0	0.0%
Ossian (T)	$488,703,931	$971,705	0.2%
Portage (T)	$338,465,763	$0	0.0%
Sparta (T)	$449,674,840	$1,367,760	0.3%
Springwater (T)	$702,256,303	$1,741,570	0.2%
West Sparta (T)	$423,213,015	$1,201,250	0.3%
York (T)	$1,677,949,006	$0	0.0%
Livingston County (Total)	**$21,478,296,842**	**$10,334,774**	**<0.1%**

Source: Hazus v5.0; Livingston County 2021; RS Means 2021
Notes: T – Town; V – Village; % - Percent; < - Less Than

Impact on Critical Facilities and Lifelines

Critical facilities may experience structural damage directly from high winds or falling tree limbs/flying debris, which can also result in the loss of power. Power loss can greatly impact households, business operations, public utilities, and emergency personnel. The elderly population may be more vulnerable if power loss results in interruption of heating and cooling services, stagnated hospital operations, and potable water supplies.

Emergency personnel such as police, fire, and EMS may not be able to effectively respond and maintain the safety of its residents.

Hazus estimates the probability that critical facilities (i.e., medical facilities, fire/EMS, police, EOC, schools, and user-defined facilities such as shelters and municipal buildings) could sustain damage as a result of the 500-year MRP wind event. Additionally, Hazus estimates the loss of use for each facility in number of days. Due to the sensitive nature of the critical facility dataset, individual facility estimated loss is not provided.

Table 5.4.9-13 summarizes the percent probability that each facility type may experience damage as a result of the 500-year mean return period hurricane wind event.

Table 5.4.9-13. Estimated Impacts to Critical Facilities and Lifelines from the 500-Year Mean Return Period Hurricane Wind Event

Facility Type	500-Year Mean Return Period Hurricane				
	Loss of Days	Percent-Probability of Sustaining Damage			
		Minor	Moderate	Severe	Complete
EOC	0	0.0%	0.0%	0.0%	0.0%
Medical Facilities	0	0.0% - <0.1%	0.0%	0.0%	0.0%
Police Stations	0	0.0% - <0.1%	0.0%	0.0%	0.0%
Fire Stations/EMS	0	0.0% - 0.2%	0.0%	0.0%	0.0%
Schools	0	0.0% - 0.1%	0.0%	0.0%	0.0%

Source: Hazus v5.0; Livingston County Planning Partners 2021; HIFLD 2020
Notes: % - Percent; < - Less Than; EOC – Emergency Operations Center; EMS – Emergency Medical Services

At this time, Hazus does not estimate losses to transportation lifelines and utilities as part of the hurricane model. Transportation lifelines are not considered particularly vulnerable to the wind hazard; they are more vulnerable to cascading effects such as flooding, falling debris etc. Impacts to transportation lifelines affect both short-term (e.g., evacuation activities) and long-term (e.g., day-to-day commuting) transportation needs.

Impact on Economy

Damage to structures from flooding and wind occur immediately; however, this damage can have long-lasting impacts on the economy. When a business is closed during storm recovery, there is lost economic activity in the form of day-to-day business and wages to employees. Overall, economic impacts include the loss of business function (e.g., tourism, recreation), damage to inventory, relocation costs, wage loss and rental loss due to the repair/replacement of buildings. As evidenced by Hurricane Sandy, the State of New York, including Livingston County, lost millions of dollars in wages and economic activity.

Hazus estimates the total economic loss associated with each storm scenario (direct building losses and business interruption losses). Direct building losses are the estimated costs to repair or replace the damage caused to the building. This is reported in the "Impact on General Building Stock" subsection discussed earlier. Business interruption losses are the losses associated with the inability to operate a business because of the wind damage sustained during the storm or the temporary living expenses for those displaced from their home because of the event. Refer to Table 5.4.9-14 for a summary of Hazus estimated economic losses for Livingston County caused by the 500-year mean return period hurricane wind event.

Table 5.4.9-14. Estimated Economic Losses for the 500-Year Mean Return Period Hurricane Wind Event

Mean Return Period (MRP)	Inventory Loss	Relocation Loss	Building Loss	Wage Loss	Rental Loss	Income Loss
500-Year MRP	$0	$156,790	$10,334,770	$0	$0	$0

Source: Hazus v5.0

Debris management can be costly. Hazus estimates the amount of debris that might be produced as result of the 500-year mean return period hurricane wind event. Because the estimated debris production does not include debris generated by flooding, this is likely a conservative estimate and could be higher if multiple impacts occur. According to the Hazus Hurricane User Manual, estimates of weight and volume of eligible tree debris consist of downed trees that would likely be collected and disposed at public expense. Refer to the User Manual for additional details regarding these estimates. Overall, Hazus estimates that the 500-year mean return period hurricane wind event will not produce any debris for Livingston County.

Impact on the Environment

The impact of severe weather events on the environment varies, but researchers are finding that the long-term impacts of more severe weather can be destructive to the natural and local environment. National organizations such as USGS and NOAA have been studying and monitoring the impacts of extreme weather phenomena as it impacts long term climate change, streamflow, river levels, reservoir elevations, rainfall, floods, landslides, erosion, etc. (USGS 2017). For example, severe weather that creates longer periods of rainfall can erode natural banks along waterways and degrade soil stability for terrestrial species. Tornadoes can tear apart habitats causing fragmentation across ecosystems. Researchers also believe that a greater number of diseases will spread across ecosystems because of impacts that severe weather and climate change will have on water supplies (NOAA 2013). Overall, as the physical environment becomes more altered, species will begin to contract or migrate in response, which may cause additional stressors to the entire ecosystem within Livingston County.

Cascading Impacts to Other Hazards

Severe weather events and severe wind events can escalate the impacts of flooding and utility failure. Severe winds can be destructive to the functionality of utilities by breaching power lines and disconnecting the utility systems. Severe weather may carry extreme rainfall that could exacerbate flooding. More information about flooding and utility failure can be found in Section 5.4.3 and Section 5.4.12, respectively.

Future Changes That May Impact Vulnerability

Understanding future changes that effect vulnerability in the County can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The County considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

Understanding future changes that impact vulnerability in the Livingston County can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. It is anticipated that any new development and new residents will be exposed to the severe storm events. However, due to increased standards and codes, new development might be less vulnerable to wind-related hazards compared to the aging building stock. The tables and hazard maps included in the jurisdictional annexes contain additional information regarding the specific areas of development that would increase County vulnerability to a wind event.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. While less people will reside in the County, those that

remain are still vulnerable to severe weather and severe wind evets. Section 4, County Profile, provides additional discussion on population trends.

Climate Change

The entire State of New York is projected to experience an increase in the frequency and severity of extreme storms and rainfall. Major clusters of summertime thunderstorms in North America will grow larger, more intense, and more frequent later this century in a changing climate, unleashing far more rain and posing a greater threat of flooding across wide areas (University Corporation for Atmospheric Research [UCAR] 2017). Section 5.4.3, Risk Assessment - Flood, provides a discussion related to the impact of climate change due to increases in rainfall. An increase in storms will produce more wind events and may increase tornado activity. Additionally, increased temperatures will provide more energy to produce storms that generate tornadoes (Climate Central 2016). More strong wind and tornado events will cause all of the county's assets to experience additional risk for losses.

Change of Vulnerability since the 2015 HMP

Since the 2014 HMP, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates. The general building stock was also updated using 2021 building footprint and tax assessor data from Livingston County. Furthermore, the replacement cost values of the building inventory were updated using 2021 RS Means values. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to the 500-year mean return period wind event. Additionally, the building stock and critical facility inventories created for this HMP were assessed in Hazus v5.0.

Over time, Livingston County will obtain additional data to support the analysis of this hazard. Such data may include additional details on past hazard events and impacts; specific building information, such as type of construction; and details on protective features (for example, hurricane straps). Overall, this vulnerability assessment uses a more precise and thorough approach, which provides increased accuracy for estimated exposure and potential losses for Livingston County.

5.4.10 Severe Winter Storm

The following section provides the hazard profile and vulnerability assessment for the severe winter storm hazard of the Livingston County Hazard Mitigation Plan (HMP).

5.4.10.1 Hazard Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, climate change projections and the probability of future occurrences for the severe winter storm hazard.

Hazard Description

A winter storm is a weather event in which the main types of precipitation are snow, sleet or freezing rain. They can be a combination of heavy snow, blowing snow, and/or dangerous wind chills. There are three basic components needed to make a winter storm. Below freezing temperatures (cold air) in the clouds and near the ground are necessary to make snow and ice. Lift, something to raise the moist air to form clouds and cause precipitation, is needed. Examples of this is warm air colliding with cold air and being forced to rise over the cold dome or air flowing up a mountainside. The last thing needed to make a winter storm is moisture to form clouds and precipitation. Air blowing across a body of water, such as a large lake or the ocean (National Severe Storms Laboratory [NSSL] 2020).

Some winter storms are large enough to immobilize an entire region while others may only affect a single community. Winter storms are typically accompanied by low temperatures, high winds, freezing rain or sleet, and heavy snowfall. The aftermath of a winter storm can have an impact on a community or region for days, weeks, or even months; potentially causing cold temperatures, flooding, storm surge, closed and/or blocked roadways, downed utility lines, and power outages. For the purpose of this HMP update, and as deemed appropriate by Livingston County, the severe winter storm hazard includes heavy snow (snowstorms), blizzards, sleet, freezing rain, and ice storms. According to the 2019 New York State HMP (NYS DHSES 2019), winter storms are frequent events for the State of New York and occur from late October until mid-April. These types of winter events or conditions are further defined below.

Heavy Snow

According to the National Snow and Ice Data Center (NSIDC), snow is precipitation in the form of ice crystals. It originates in clouds when temperatures are below the freezing point (32 °F), when water vapor in the atmosphere condenses directly into ice without going through the liquid stage. Once an ice crystal has formed, it absorbs and freezes additional water vapor from the surrounding air, growing into a snow crystals or snow pallet, which then falls to the earth. Snow falls in different forms: snowflakes, snow pellets, or sleet. Snowflakes are clusters of ice crystals that form from a cloud. Snow pellets are opaque ice particles in the atmosphere. They form as ice crystals fall through super-cooled cloud droplets, which are below freezing but remain a liquid. The cloud droplets then freeze to the crystals. Sleet is made up of drops of rain that freeze into ice as they fall through colder air layers. They are usually smaller than 0.30 inch in diameter (NSIDC 2020).

Blizzards

A blizzard is a winter snowstorm with sustained or frequent wind gusts of 35 miles per hour (mph) or more, accompanied by falling or blowing snow reducing visibility to or below 0.25 mile. These conditions must be predominant over a 3-hour period to be considered a blizzard. Extremely cold temperatures are often associated with blizzard conditions, but are not a formal part of the definition. The hazard created by the combination of snow, wind, and low visibility significantly increases, however, with temperatures below 20 °F. A severe blizzard is categorized as having temperatures near or below 10 °F, winds exceeding 45 mph, and visibility

reduced by snow to near zero. Storm systems powerful enough to cause blizzards usually form when the jet stream dips far to the south, allowing cold air from the north to clash with warm air from the south. Blizzard conditions often develop on the northwest side of an intense storm system. The difference between the lower pressure in the storm and the higher pressure to the west creates a tight pressure gradient, resulting in strong winds and extreme conditions caused by the blowing snow (NSSL 2020).

Ice Storms

An ice storm is an event when damaging accumulations of ice are expected during freezing rain situations. Significant ice accumulations are typically 0.25 inch or greater (National Weather Service [NWS] n.d.). Heavy accumulations of ice can bring down trees, power lines, utility poles, and communication towers. Ice can disrupt communications and power for days. Even small accumulations of ice can be extremely dangerous to motorists and pedestrians (NSSL 2020).

Extent

The magnitude or severity of a severe winter storm depends on several factors including a region's climatological susceptibility to snowstorms, snowfall amounts, snowfall rates, wind speeds, temperatures, visibility, storm duration, topography, and time of occurrence during the day (e.g., weekday versus weekend), and time of season.

The extent of a severe winter storm can be classified by meteorological measurements and by evaluating its societal impacts. National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI) is currently producing the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two-thirds of the United States. The RSI ranks snowstorm impacts on a scale from 1 to 5. It is based on the spatial extent of the storm, the amount of snowfall, and the interaction of the extent and snowfall totals with population. The NCEI has analyzed and assigned RSI values since 1900. Table 5.4.10-1 presents the five RSI ranking categories (NOAA 2020).

Table 5.4.10-1. RSI Ranking Categories

Category	Description	RSI Value
1	Notable	1-3
2	Significant	3-6
3	Major	6-10
4	Crippling	10-18
5	Extreme	18.0+

Source: *NOAA-NCEI 2011*

Note: *RSI = Regional Snowfall Index*

The NWS operates a widespread network of observing systems such as geostationary satellites, Doppler radars, and automated surface observing systems that feed into the current state-of-the-art numerical computer models to provide a look into what will happen next, ranging from hours to days. The models are then analyzed by NWS meteorologists who then write and disseminate forecasts (NWS 2020).

The NWS uses winter weather watches, warnings and advisories to ensure that people know what to expect in the coming hours and days.

- A ***winter storm watch*** is issued when severe winter conditions (heavy snow, ice, etc.) may affect a certain area, but its occurrence, location, and timing are uncertain. A watch is issued to provide 24 to 72 hours of notice of the possibility of severe winter weather.

- A ***winter storm warning*** is issued when hazardous winter weather, in the form of heavy snow, heavy freezing rain, or heavy sleet, is imminent or occurring. A warning is usually issued 12 to 24 hours before the event is expected to begin.
- A ***winter weather advisory*** is issued when a hazardous winter weather event is occurring, is imminent, or has a greater than 80 percent chance of occurrence. Advisories are used to inform people that winter weather conditions are expected to cause significant inconveniences and that conditions may be hazardous. These conditions may refer to sleet, freezing rain, or ice storms, in addition to snow events.
- NWS may also issue a ***blizzard warning*** when snow and strong winds combine to produce the potential for blinding snow, deep drifts, and wind chill (NWS n.d.).

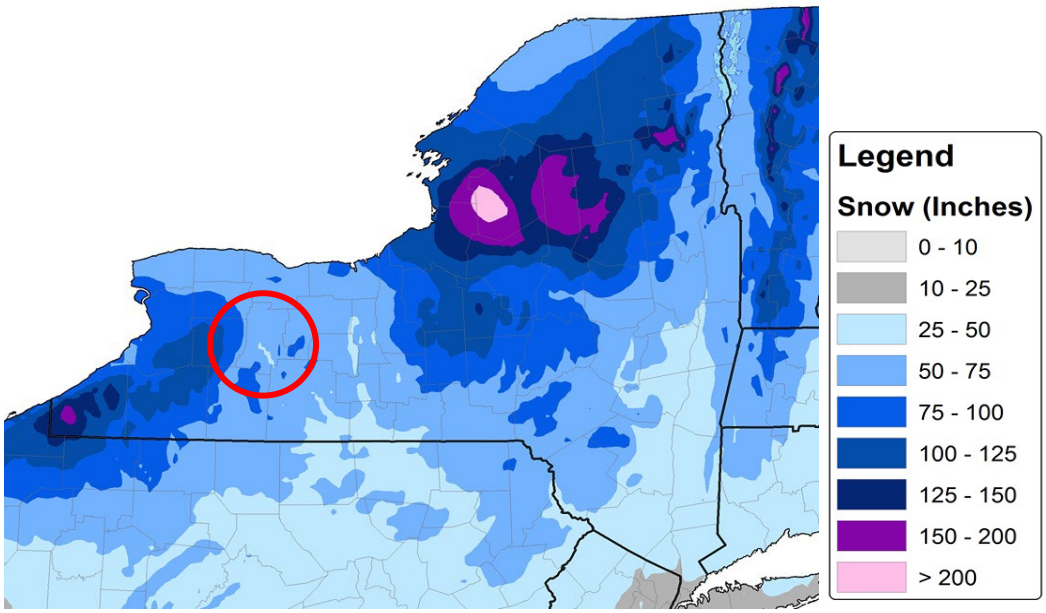
Location

The climate of New York State is marked by abundant ice storms and snowfall. Winter weather can reach New York State as early as October and is usually in full force by late November with average winter temperatures between 20 °F and 40 °F.

With the exception of coastal New York State, the state receives an average seasonal amount of 40 inches of snow or more. The average annual snowfall is greater than 70 inches over 60 percent of New York State's area, with Livingston County's average at less than 60-95 inches annually (NYS Division of Homeland Security and Emergency Services [DHSES]2014).

Figure 5.4.10-1, an annual average snowfall map, illustrates the annual average snowfall totals over a 50-year period for New York State. The general indication of the average annual snowfall map shows areas that are subject to a consistent risk for large quantities of snow (NYS DHSES 2014).

Figure 5.4.10-1. Annual Average Snowfall for New York State



Source: Cornell University, NYSkiBlog.com
Note: Livingston County is indicated by a red circle. Livingston County had an annual average snow accumulation of less than 60 to 95 inches.

New York State, including Livingston County is a prime area for freezing rain events. An average of 6 days of freezing rain occurs annually in Livingston County.

Previous Occurrences and Losses

Many sources provided winter storm information regarding previous occurrences and losses associated with winter storm events throughout Livingston County. With so many sources reviewed for this HMP update, loss and impact information for many events may vary. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

Between 1954 and 2019, Federal Emergency Management Agency (FEMA) included New York State in 276 winter-storm-related major disaster (DR) or emergency (EM) declarations. These events were classified as one or a combination of the following incidents: ice storm, severe storms, flooding, snowstorms, severe winter storm, severe blizzard, blizzard, snow, and winter storm. Generally, these disasters cover a wide region of the state; therefore, they may have impacted many counties. Livingston County was included in five of these declarations (Table 5.4.10-2).

Table 5.4.10-2. FEMA Declarations for Severe Winter Storm Events in Livingston County 1972 - 2021

Disaster Number	Event Date	Declaration Date	Incident Type	Title
DR-494	March 19, 1976	1976	Severe Ice Storm	Ice storm, Severe Storms & Flooding
DR-898	March 21, 1991	1991	Snow	Severe Winter Storm
EM-3107	March 17, 1993	1993	Snow	Severe Blizzard
EM-3138	March 10, 1999	1999	Snow	Snow
DR-1467	May 12, 2003	2003	Severe Ice Storm	Ice Storm

Source: FEMA 2021

The Secretary of Agriculture from the U.S. Department of Agriculture (USDA) is authorized to designate counties as disaster areas to make emergency loans to producers suffering losses in those counties and in counties that are contiguous to a designated county. Livingston County was included in four USDA declarations involving winter weather between 2012 and 2019 (Table 5.4.10-3)

Table 5.4.10-3. USDA Disaster Declarations 2012 - 2019

Declaration	Event Date	Declaration Date	Event Description
S3249/50	3/1/2012 – 4/30/2012	6/1/2012	Frosts, freezes, unseasonably warm temperatures, and excessive heat
S3777	11/17/2014 – 11/24/2014	12/10/2014	Excessive Snow, Flooding, Freeze, and High Winds
S3886	1/1/2015 – 5/24/2015	9/9/2015	Frost, Freeze, and Excessive Snow
S3885	5/1/2015-7/14/2015	9/9/2015	Excessive Rain, high Winds, Hail, Lightning, and Tornado

Source: USDA 2020a

USDA crop loss data provide another indicator of the severity of previous events. Agriculture-related disasters are quite common. Additionally, crop losses can have a significant impact on the economy by reducing produce sales and purchases. These impacts may have long-term consequences, particularly if crop yields are low the following years as well. Table 5.4.10-4 presents the crop losses from winter weather events in Livingston County, as reported by the USDA. This table includes information from 2014 to 2020.

Table 5.4.10-4. USDA Crop Losses from Severe Winter Storms in Livingston County 2014 - 2020

Year	Crop Type	Cause of Loss	Losses
2014	Corn	Cold Wet Weather	$35,000
2015	Wheat, corn, soybean, potatoes	Cold Wet Weather, Frost	$202,000
2016	Wheat, corn, soybeans	Cold Wet Weather	$1,300
2017	Corn, Soybeans, wheat	Cold Wet Weather	$1.8 million
2018	Wheat, corn	Cold Wet Weather	$111,000
2019	Wheat, corn, soybean	Cold Wet Weather, Cold Winter	$82,000

Source: USDA 2021

For this 2022 HMP update, severe winter storm events were summarized from 2014 to 2021 and are identified in Table 5.4.10-5. Events prior to 2014 are included in Appendix E. Not all events that have occurred in Livingston County are included because of the extent of documentation, and the fact that not all sources may have been identified or researched. Loss and impact information could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP. Detailed information on damages and impacts to each municipality are included in Section 9, Jurisdictional Annexes.

Table 5.4.10-5. Winter Storm Events Impacting Livingston County between 2014 and 2021

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Losses / Impacts
2/1/2015	Winter Storm	N/A	N/A	Low pressure tracked across Ohio and Pennsylvania to the Maryland coast. The low brought a general eight to fourteen inches of snow to the entire region. Heaviest amounts were along the southern tier counties and over the counties along the south shore of Lake Ontario.
2/8/2015	Winter Storm	N/A	N/A	Low pressure moved across Ohio and Pennsylvania to the Virginia Coast. The system brought a light general snowfall to the area. The northerly flow crossing the warmer waters of Lake Ontario and higher elevations resulted in enhanced snowfall amounts across parts of the Genesee Valley and northern Finger Lakes.
2/15/2016	Winter Storm	N/A	N/A	Low pressure moved north across central Pennsylvania and central New York. This brought all snow to western New York. Across central New York what started initially as snow changed to rain Tuesday morning (16th) then back to snow for the evening hours. Across the north country minor snow accumulations accompanied up to a half inch of ice. The axis of heaviest snow (eighteen to twenty-two inches) fell across the Monroe county and the city of Rochester. The heavy snow began to fall during the early morning hours bringing the morning commute to a standstill.
11/20/2016	Lake-Effect Snow	N/A	N/A	A strong cold front crossed the Lower Great Lakes from west to east during the day of the 19th. The airmass was only marginally cold by late in the day on the 19th, with lake effect rain mixed with wet snow developing off Lake Erie near Buffalo, changing to all snow across the higher terrain south of the city during the evening.
3/13/2017	Winter Storm	N/A	N/A	Low pressure over the Great Lakes combined with low pressure lifting north along the Atlantic coast to bring significant snowfall to the entire region. Snow began across the region during the late evening into the early overnight hours of the 13th-14th. The snow continued through the day Tuesday (14th) before tapering off during the afternoon of the 15th.
1/12/2018	Winter Storm	N/A	N/A	A developing winter storm brought first a wintry mix of precipitation during the evening of the 12th and then heavy snow through the morning of the 13th. Rain changed to a mix of freezing rain and snow during the evening. Ice accumulations up to a tenth of an inch were reported along the lake shore counties. Once the precipitation changed to snow, the heavy snow fell at one to two inches an hour during the overnight hours.
3/1/2018	Winter Storm	N/A	N/A	A weak low pressure strengthened as it moved across Pennsylvania and merged with a low along the eastern coast. The storm brought a blanket of heavy, wet snow across the entire region during from late afternoon on the first through the late morning through early afternoon of the second. There were also several reports of downed trees and wires due to the combination of the weight of the snow and the brisk winds that accompanied the storm. |
4/14/2018	Ice Storm	N/A	N/A	Two rounds of mixed winter precipitation moved over the area with warm air aloft overriding a deep layer of cold air at the surface. This resulted in sleet initially that transitioned to freezing rain before temperatures eventually increased above freezing.
11/15/2018	Winter Storm	N/A	N/A	A complex system moved into the area with wildly varying thermal profiles. An initial mid-level trough and surface low moved across the southeast United States that gave way to secondary cyclogenesis near the southern tip of the Delmarva. The secondary low then moved northward along the east coast to the Gulf of Maine. The system had very marginal cold air to work with, particularly in western New York.

Date(s) of Event	Event Type	FEMA Declaration Number (if applicable)	County Designated?	Losses / Impacts
1/19/2019	Winter Storm	N/A	N/A	A system tracked along the New York/Pennsylvania line and spread heavy snow across our region over the weekend. The low pressure track fit perfectly with climatology for widespread heavy snow in our area. The heaviest amounts that model solutions generally had across the western Southern Tier ended up being across the entirety of the Thruway corridor, resulting in over a foot of snow for much of the area.

Source(s): *NYS DHSES 2019; FEMA 2021; NWS 2021; NOAA-NCEI 2021*
FEMA *Federal Emergency Management Agency*
NOAA-NCEI *National Oceanic Atmospheric Administration – National Centers for Environmental Information*
NWS *National Weather Service*
NYS DHSES *New York State Division of Homeland Security and Emergency Services*
N/A *Not applicable*
T *Town*
V *Village*

Probability of Future Events

Winter storm hazards in New York State are virtually guaranteed yearly since the state is located at relatively high latitudes resulting in winter temperatures that range between 0 °F and 32 °F for a good deal of the fall through early spring season (late October until mid-April). In addition, the state is exposed to large quantities of moisture from both the Great Lakes and the Atlantic Ocean. While it is almost certain that a number of significant winter storms will occur during the winter and fall season, what is not easily determined is how many such storms will occur during that time frame.

According to the 2019 New York State HMP Update, between 1996 and 2017, Livingston County had 66 severe winter storm event, which resulted in approximately $4.1 million in property damage, accounting for $196,578 in annualized damage (NOAA-NCEI 2021).

For the 2022 HMP update, the most up-to-date data was collected to calculate the probability of future occurrence of winter storm events, of all magnitudes, for Livingston County. Information from NOAA-NCEI storm events database and the NYS 2019 HMP were used to identify the number of winter storm events that occurred between 1960 and 2021. Using these sources ensures the most accurate probability estimates possible. Table 5.4.10-6 below shows these statistics, as well as the annual average number of events and the estimated percent chance of an incident occurring in any given year.

Table 5.4.10-6. Probability of Future Occurrence of Severe Winter Storm Events

Hazard Type	Number of Occurrences Between 1996 and 2021	% Chance of Occurring in Any Given Year*
Severe Winter Storms	66	100%

Source: NOAA-NCEI 2021; NYS DHSES 2019
Note: Severe winter storm events include blizzard, heavy snow, ice storm, lake-effect snow, winter storm, and winter weather
**Estimate of the likelihood of an event to occur*

In Section 5.3, the identified hazards of concern for Livingston County were ranked using a variety of parameters. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Committee, the probability of occurrence for severe winter storms in the county is considered "frequent" (event that will occur in 25 years) (Table 5.3-2).

Climate Change Impacts

New York State averages more than 40 inches of snow each year. Snowfall varies regionally, based on topography and the proximity to large lakes and the Atlantic Ocean. Maximum annual snowfall is more than 165 inches in parts of the Adirondacks and Tug Hill Plateau, as well as in the westernmost parts of the state. The warming influence of the Atlantic Ocean keeps snow in the New York City and Long Island areas generally below 36 inches each year.

Climate change is beginning to affect both people and resources in New York State, and these impacts are projected to continue to grow. Impacts related to increasing temperatures and sea level rise are already being felt in the state. ClimAID: the Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision-makers with information on the state's vulnerability to climate change and to facilitate the development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA] 2014).

Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of Region 1, which includes western New York and the Great Lakes Plain. Some areas in this region account for the highest agricultural revenue in the state and climate change could affect

rainfall and increase the risk of summer drought. High-value crops could also need irrigation and grapes may be affected (NYSERDA 2014).

In ClimAID Region 1, temperatures are estimated to increase by 4.3 to 6.3 ºF by the 2050s, and 5.7 to 9.6 ºF by the 2080s (baseline of 47.7 ºF, middle range projection). Precipitation totals will increase between 4 and 10 percent by the 2050s and 6 to 13 percent by the 2080s (baseline of 34.0 inches, middle-range projection) (NYSERDA 2011).

It is uncertain how climate change will impact winter storms. Based on historical data, it is expected that the following will occur at least once per 100 years:

- Up to 4 inches of freezing rain in the ice band near central New York State, consisting of between 1 and 2 inches of accumulated ice over a 24-hour period
- Up to 2 feet of accumulated snow in the snow band in northern and western New York State over a 48-hour period (NYSERDA 2011).

New York State is already experiencing the effects of climate change during the winter season. Annual ice cover has decreased 71 percent on the Great Lakes since 1973. According to the 2019 NYS HMP, the Intergovernmental Panel on Climate Change (IPCC) has found that global average surface temperature has increased and that there has been a reduction of the annual duration of lake ice cover in the Northern Hemisphere, the impacts of this change on snowfall projections for New York State are unclear. This decreased lake ice extent could increase the quantity of lake effect snow events. Research also indicates that there may be a decrease in the number of heavy Lake Effect snowstorms as a result of air temperature warming (IPCC 2018).

5.4.10.2 Vulnerability Assessment

To understand risk, a community must evaluate the assets exposed or vulnerable in the identified hazard area. For the severe winter storm hazard, all of Livingston County has been identified as the hazard area. Therefore, all assets in the county (population, structures, critical facilities and lifelines), as described in Section 4, County Profile, are vulnerable to a winter storm event.

Impact on Life, Health and Safety

The entire population of Livingston County (63,591 people) is exposed to severe winter storm events (Census 2019). The homeless and elderly are considered most susceptible to this hazard. The elderly are considered susceptible to this hazard due to their increased risk of injuries and death from falls and overexertion and/or hypothermia from attempts to clear snow and ice. According to the 2019 American Community Survey 5-year estimate, there are 10,929 persons over 65 years old that reside in the County that are considered vulnerable to severe winter weather. In addition, severe winter storm events and their associated impacts to roads and utilities can reduce the ability of these populations to access emergency services.

The homeless and residents below the poverty level may not have access to housing or their housing could be less able to withstand cold temperatures (e.g., homes with poor insulation and heating supply). Residents with low incomes might not have access to housing or their housing can be less able to withstand cold temperatures (e.g., homes with poor insulation and heating supply). In Livingston County, the Village of Nunda has the highest concentration of population below the poverty level (i.e., 27.3 percent). Section 4, County Profile, displays the densities of low-income populations in Livingston County.

According to the NOAA National Severe Storms Laboratory (NSSL), every year, winter weather indirectly and deceptively kills hundreds of people in the United States every year, primarily from automobile accidents, overexertion and exposure. Winter storms are often accompanied by strong winds creating blizzard conditions

with blinding wind-driven snow, drifting snow and extreme cold temperatures and dangerous wind chill. They are considered deceptive killers because most deaths and other impacts or losses are indirectly related to the storm. People can die in traffic accidents on icy roads, heart attacks while shoveling snow, or of hypothermia from prolonged exposure to cold. Heavy accumulations of ice can bring down trees and power lines, disabling electric power and communications for days or weeks. Heavy snow can immobilize a region and paralyze a city, shutting down all air and rail transportation and disrupting medical and emergency services. Storms near the coast can cause coastal flooding and beach erosion as well as sink ships at sea. The economic impact of winter weather each year is huge, with costs for snow removal, damage and loss of business in the millions (NOAA NWS 2020).

Impact on General Building Stock

The entire general building stock inventory in Livingston County is vulnerable to the impacts of the severe winter storm hazard. In general, structural impacts include damage to roofs and building frames, rather than building content. Current modeling tools are not available to estimate specific losses for this hazard. As an alternate approach, this plan considers percentage damages that could result from severe winter storm conditions. Table 5.4.10-7 below summarizes percent damages that could result from severe winter storm conditions for the Planning Area's total general building stock. Given professional knowledge and the currently available information, the potential loss for this hazard is many times considered to be overestimated because of varying factors (building structure type, age, load distribution, building codes in place, etc.). Therefore, the following information should be used as estimates only for planning purposes with the knowledge that the associated losses for severe winter storm events vary greatly.

Table 5.4.10-7. General Building Stock Exposure and Estimated Losses from Severe Winter Storm Events

Jurisdiction	Total Replacement Cost Value (RCV)	1-Percent Exposure/Loss	5-Percent Exposure/Loss	10-Percent Exposure/Loss
Avon (T)	$1,324,846,766	$13,248,468	$66,242,338	$132,484,677
Avon (V)	$1,365,771,007	$13,657,710	$68,288,550	$136,577,101
Caledonia (T)	$792,755,652	$7,927,557	$39,637,783	$79,275,565
Caledonia (V)	$735,609,120	$7,356,091	$36,780,456	$73,560,912
Conesus (T)	$625,005,723	$6,250,057	$31,250,286	$62,500,572
Dansville (V)	$1,341,807,175	$13,418,072	$67,090,359	$134,180,717
Geneseo (T)	$1,161,720,041	$11,617,200	$58,086,002	$116,172,004
Geneseo (V)	$1,570,704,963	$15,707,050	$78,535,248	$157,070,496
Groveland (T)	$1,203,662,583	$12,036,626	$60,183,129	$120,366,258
Leicester (T)	$715,987,145	$7,159,871	$35,799,357	$71,598,715
Leicester (V)	$142,879,953	$1,428,800	$7,143,998	$14,287,995
Lima (T)	$859,636,929	$8,596,369	$42,981,846	$85,963,693
Lima (V)	$452,768,112	$4,527,681	$22,638,406	$45,276,811
Livonia (T)	$1,866,897,181	$18,668,972	$93,344,859	$186,689,718
Livonia (V)	$371,319,429	$3,713,194	$18,565,971	$37,131,943
Mount Morris (T)	$646,574,328	$6,465,743	$32,328,716	$64,657,433
Mount Morris (V)	$785,505,655	$7,855,057	$39,275,283	$78,550,565
North Dansville (T)	$497,159,183	$4,971,592	$24,857,959	$49,715,918
Nunda (T)	$544,934,442	$5,449,344	$27,246,722	$54,493,444
Nunda (V)	$392,488,596	$3,924,886	$19,624,430	$39,248,860
Ossian (T)	$488,703,931	$4,887,039	$24,435,197	$48,870,393
Portage (T)	$338,465,763	$3,384,658	$16,923,288	$33,846,576
Sparta (T)	$449,674,840	$4,496,748	$22,483,742	$44,967,484
Springwater (T)	$702,256,303	$7,022,563	$35,112,815	$70,225,630
West Sparta (T)	$423,213,015	$4,232,130	$21,160,651	$42,321,302
York (T)	$1,677,949,006	$16,779,490	$83,897,450	$167,794,901
Livingston County (Total)	**$21,478,296,842**	**$214,782,968**	**$1,073,914,842**	**$2,147,829,684**

Source: Livingston County 2021; RS Means 2021
Notes: T - Town; V - Village

A specific area that is vulnerable to the severe winter storm hazard is the floodplain. Severe winter storms can cause flooding through blockage of streams or through snow melt. At-risk residential infrastructure is presented in the section for the flood hazard (Section 5.4.3). Generally, losses resulting from flooding associated with severe winter storms should be less than that associated with a 100-year flood.

Impact on Critical Facilities and Lifelines

Full functionality of critical facilities such as police, fire and medical facilities is essential for response during and after a severe winter storm event. These critical facility structures are largely constructed of concrete and masonry; therefore, they should only suffer minimal structural damage from severe winter storm events. Because power interruption can occur, backup power is recommended. Infrastructure at risk for this hazard includes roadways that could be damaged due to the application of salt and intermittent freezing and warming conditions that can damage roads over time. Severe snowfall requires the clearing roadways and alerting citizens to dangerous conditions; following the winter season, resources for road maintenance and repair are required.

Heavy snow can immobilize a region and paralyze a city, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians. Bridges and overpasses are particularly dangerous because they can freeze before other surfaces if the temperature of their surfaces is already at or below freezing while it is freezing rain or sleeting (NSSL 2021).

Impact on Economy

The cost of snow removal, ice removal, and road repair due to the freeze/thaw process can drain local financial resources. The economy is also impacted by loss of commuters traveling into or out of the area for work or school. The loss of power and closure of roads prevents the commuter population from traveling to work within and outside of the County. Overall, the county includes snow removal costs in its annual budget, which can range between $30,000 up to $850,000 for the entire fiscal year (Livingston County 2021).

Impact on the Environment

Severe winter weather can have a major impact on the environment. Not only does winter weather create changes in natural processes, the residual impacts of a community's methods to maintain its infrastructure through winter weather maintenance may also have an impact on the environment. For example, an excess amount of snowfall and earlier warming periods may affect natural processes such as flow within water resources (U.S. Geological Survey [USGS] n.d.). Rain-on-snow events can also exacerbate runoff rates with warming winter weather. Consequentially, these flow rates and excess volumes of water can erode banks, tear apart habitat along the banks and coastline, and disrupt terrestrial plants and animals.

Furthermore, chemically based winter maintenance practices have its own effect on the natural environment. Melting snow and ice that carry deicing chemicals onto vegetation and into soils can contaminate the local waterways. Elevated salt levels may hinder vegetation from absorbing nutrients, slowing plant growth. Chloride concentrations are shown to be increasing with snow removal mechanisms such as salt, which is toxic to the aquatic species in the impacted water resources (EPA 2013; NHDES 2011).

Cascading Impacts on Other Hazards

Severe winter weather events may exacerbate flooding. As discussed, the freezing and thawing of snow and ice associated with winter weather events can create major flooding issues in the county. Maintaining winter weather hazards through snow and ice removal could minimize the potential risk of flooding during a warming period.

Future Changes That May Impact Vulnerability

Understanding future changes that affect vulnerability in the county can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. Changes in the natural environment and built environment and how they interact can also provide insight about ways to plan for the future.

Projected Development

As discussed and illustrated in Section 4 (County Profile), areas targeted for future growth and development have been identified across the County. Any areas of growth located could be potentially impacted by severe winter weather events; however, these structures will be built in accordance with the latest building codes.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the county has decreased by approximately 3-percent since 2010. While less people will reside in the county, those that remain are still vulnerable to severe winter weather. Refer to Section 4, County Profile, which includes a discussion on population trends for the county.

Climate Change

As discussed above, most studies project that the State of New York will see an increase in average annual temperatures and precipitation. Annual precipitation amounts in the region are projected to increase, primarily in the form of heavy rainfalls, which have the potential to freeze into heavy snowfall and icing. This increase in snow and ice could result in an increased risk to life and health, an increase in structural losses, a diversion of additional resources to response and recovery efforts, and an increase in business closures affected by severe winter events due to loss of service or access.

Change of Vulnerability Since the 2014 HMP

Since the 2014 HMP, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates. The general building stock was also updated using 2021 building footprint and tax assessor data from Livingston County. Furthermore, the replacement cost values of the building inventory were updated using 2021 RS Means values. Additionally, 2021 critical facility inventory data was provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD).

Overall, this vulnerability assessment uses a more precise and thorough approach, which provides increased accuracy for estimated exposure and potential losses for Livingston County.

5.4.10 Terrorism

The following section provides the hazard profile (hazard description, location, extent, previous occurrences and losses, probability of future occurrences, and impact of climate change) and vulnerability assessment for the terrorism hazard in Livingston County.

5.4.10.1 Hazard Profile

Description

According to the Federal Bureau of Investigation (FBI), terrorism is "the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."[1] Acts of terrorism include threats of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, cyber-attacks (computer-based attacks), and use of chemical, biological, nuclear, and radiological weapons (FEMA 2009). Various types of terrorism are discussed in the sections below.

Armed Attacks and Assassinations

Armed attacks include raids and ambushes. An assassination is the killing of a selected victim, usually by bombings or small arms. A drive-by shooting is a common technique employed by unsophisticated or loosely organized terrorist groups. Historically, terrorists have assassinated specific individuals for psychological effect.

Arson and Firebombing

Incendiary devices are inexpensive and easy to hide. Arson and fire-bombings are easily conducted by terrorist groups that may not be as well organized, equipped, or trained as a major terrorist organization. An act of arson or firebombing against a utility, hotel, government building, or industrial center portrays an image to the public that the ruling government is incapable of maintaining order.

Bioterrorism

Bioterrorism refers to intentional release of toxic biological agents to harm and terrorize civilians, in the name of a political or other cause. The U.S. Centers for Disease Control and Prevention (CDC) has classified the viruses, bacteria, and toxins that could be used in an attack. Category A Biological Diseases are most likely to cause the greatest harm. They include:

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum toxin*)
- Plague (*Yersinia pestis*)
- Smallpox (*Variola major*)
- Tularemia (*Francisella tularensis*)
- Hemorrhagic fever caused by Ebola virus or Marburg virus.

[1] National Institute of Justice. "Terrorism." http://www.nij.gov/topics/crime/terrorism/pages/welcome.aspx

Bombings

Bombings are the most common type of terrorist act. Typically, improvised explosive devices are inexpensive and easy to make. Modern devices are smaller and harder to detect, and have destructive capabilities. Terrorists responsible for this bombing can use materials readily available to the average consumer to construct a bomb.

Cyber Terrorism

Cyber terrorists use information technology to attack civilians and draw attention to the terrorists' cause. They may use information technology, such as computer systems or telecommunications, as a tool to orchestrate a traditional attack. More often, cyber terrorism refers to an attack on information technology itself in a way that would radically disrupt networked services. For example, cyber terrorists could disable networked emergency systems or hack into networks that house critical financial information. There is wide disagreement about the extent of the existing threat by cyber terrorists.

Ecoterrorism

Ecoterrorism is a term describing violence in the interests of environmentalism. In general, environmental extremists sabotage property to inflict economic damage on industries, businesses, or persons perceived as harming animals or the natural environment. Targets of ecoterrorist attacks have included fur companies, logging companies, and animal research laboratories.

Hijackings and Skyjackings

Hijacking is seizure by force of a surface vehicle, its passengers, or its cargo. Skyjacking is taking of an aircraft, which creates a mobile, hostage barricade situation; provides terrorists with hostages from many nations; and draws heavy media attention. Skyjacking also provides mobility for the terrorists to relocate the aircraft to a country that supports their cause, and provides them with a human shield, making retaliation difficult.

Kidnappings and Hostage-Takings

Terrorists use kidnapping and hostage-taking to establish a bargaining position and to elicit publicity. Kidnapping is one of the most difficult acts for a terrorist group to accomplish, but a successful kidnapping can gain terrorists money, release of jailed comrades, and publicity for an extended period. Hostage-taking involves seizure of a facility or location and taking hostages present in that facility. Unlike a kidnapping, hostage-taking provokes a confrontation with authorities. It forces authorities to make dramatic decisions or to comply with the terrorist's demands. It is overt and designed to attract and hold media attention. The intended target is the audience affected by the hostage's confinement, not the hostage.

Nuclear Terrorism

Nuclear terrorism refers to a number of different ways nuclear materials might be exploited as a terrorist tactic. These methods include attacking nuclear facilities, purchasing nuclear weapons, or building nuclear weapons or otherwise finding ways to disperse radioactive materials.

Location

Terrorism could occur anywhere in Livingston County, depending on the terrorist group's agenda. Any facility is vulnerable, as terrorists have historically sent chemical or biological agents through the mail. High-risk targets include local, county, state, or federal government facilities; major venues and gathering places; sites with historic, cultural, or other significance; and key infrastructure. Damage to or disruption of operations at government facilities could profoundly impact Livingston County's population, even if the terrorism event is relatively small-scale.

Extent

Any acts of terrorism can occur anywhere at any time of day. The National Terrorism Advisory System (NTAS) communicates information about terrorist threats by providing detailed information to the public, government agencies, first responders, airports and other transportation hubs, and the private sector. When a threat is posed, an NTAS Alert will be announced by the Secretary of Homeland Security and will be shared with the public. It may include specific information about the nature of the threat, including the geographic region, mode of transportation, or critical infrastructure potentially affected, as well as steps that individuals and communities can take to protect themselves and help prevent, mitigate, or respond to the threat. The alert indicates whether the threat is elevated or imminent. An elevated threat is issued when no specific information is available about timing or location. An imminent threat is issued when the threat is believed to be impending or to very soon result in an incident. Alerts will be posted online and released to the news media for distribution. The United States Department of Homeland Security (USDHS) will also distribute alerts through its social media channels (USDHS 2013).

The effect of a terrorism event can vary depending on the type of attack and magnitude of the event or events. A terrorism event can create fear among members of the public about using mass transportation or leaving their homes in the event of a biological or nuclear attack. Communication systems, both public and private, can fail because of an overwhelming amount of use or damage to the communications infrastructure. Healthcare facilities can become quickly inundated and must be prepared to triage injured patients, handle mass casualties, and conduct decontamination operations.

Most terrorist attacks occur with very little, if any, advanced warning. However, thwarting terrorist attacks is possible through aggressive intelligence monitoring and monitoring of individuals who exhibit radical tendencies. Warning signs of some terrorist attacks may appear, such as a suspicious package left unattended. Local, state, and federal officials, as well as the public, are responsible for recognizing warning signs of terrorism incidents and for taking appropriate actions to mitigate against possible attacks.

Previous Occurrences and Losses

Between 1952 and 2021, FEMA issued two major disaster declarations as a result of terrorism in New York State. According to the 2017-2020 New York State Homeland Security Strategy, New York has been identified as the most likely target of terrorism within the United States. However, the County has not experienced any acts of terrorism.

Probability of Future Events

Potential for future terrorism incidents in Livingston County is difficult to predict. Efforts of local, state, and federal officials must be coordinated to prevent occurrences of future terrorist incidents. However, despite the best efforts of these entities, the reality is that a terrorist attack may occur in Livingston County or the surrounding areas.

Identified hazards of concern for Livingston County were ranked in Section 5.3. Probability of occurrence, or likelihood of an event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Committee, probability of occurrence of terrorism events in the County is considered “Rare” (not likely to occur within a particular year)

Climate Change Impacts

No climate change impacts are associated with the hazard because terrorism is a human-caused hazard.

5.4.10.2 Vulnerability Assessment

To understand risk, a community must evaluate what assets are exposed or vulnerable in the hazard area identified. All of Livingston County has been identified as the hazard area for terrorism events. Therefore, all assets in the County (population, structures, critical facilities and lifelines), as described in the County profile, are vulnerable.

Impact on Life, Health, and Safety

For this HMP, the entire population in Livingston County is considered vulnerable to terrorism events. However, it can be inferred that individuals living in highly populated areas will have a greater exposure to terrorist incidents than those living in rural areas because terrorists typically prefer to affect the greatest number of individuals at a given location. Refer to Section 4 for a summary of population statistics for the County. A large-scale incident could kill or injure many residents in the immediate vicinity of the attack and could also affect people at a distance from the initial event.

Impact on General Building Stock

All building stock in the County is exposed and vulnerable to the terrorism hazard because of accessibility, design, availability to roof access, driveways underneath buildings, unmonitored areas, proximities of structures to transportation routes, underground pipelines, and potential for a terrorist to strike any structure randomly. Refer to Section 4, which summarizes the building inventory in Livingston County.

Impact on Critical Facilities and Lifelines

Critical facilities and lifelines are exposed to terrorist attacks, effects of which could be catastrophic. Dams, power stations, and government facilities are all examples of critical infrastructure and facilities that are vulnerable. Additionally, communications systems, first-responder stations, and emergency operations centers are all vulnerable to terrorist attacks. Disrupting one of these facilities or destroying critical infrastructure could result in devastating, cascading impacts on Livingston County. All critical facilities in the County are at risk to impacts from the terrorism hazard.

Impact on the Economy

Measuring the economic impact of a terrorist attack on Livingston County is difficult. The initial impact can be measured in immediate costs, such as costs related to response to the event and those associated with immediate loss of productivity that results from closed businesses. The full economic impact includes long-term costs such as terrorism mitigation activities.

Cascading Impacts on Other Hazards

Terrorism can impact utility failure events. Attacks on utilities can have a direct impact on utility failure or shutdown if the terrorism cannot be mitigated. Refer to Section 5.4.12 Utility Failure for more information about this hazard of concern.

Future Changes that May Impact Vulnerability

Understanding future changes that effect vulnerability in the county can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The county considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population

- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

As discussed and illustrated in Section 4 (County Profile), areas targeted for future growth and development have been identified across the county. Areas of growth may become a target for terrorism depending on the type of development and the economic impacts it will have on Livingston County. Refer to Section 4, and Volume II Section 9 for more information about the potential new development in Livingston County.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. Even though the population has seen a slight decrease in the county, all persons living or traveling within Livingston County are at risk to terrorism events. Refer to Section 4, County Profile, which provides additional discussion on population trends.

Climate Change

There are no known impacts climate change will have on terrorism.

Change of Vulnerability Since the 2015 HMP

Overall, the County's vulnerability to terrorism has not changed since the 2015 HMP, and the entire County will continue to be exposed and vulnerable to terrorism events.

5.4.12 Utility Failure

This section provides the hazard profile (hazard description, extent, location, previous occurrences and losses, probability of future events, and climate change impacts) and vulnerability assessment for the utility failure hazard in Livingston County.

5.4.12.1 Hazard Profile

Description

A utility failure, or power failure, is defined as any interruption or loss of electrical service caused by disruption of power transmission from an accident, sabotage, natural hazards, or equipment failure (also referred to as a loss of power or power outage). A significant power failure is defined as any incident of a long duration that would require involvement of local and/or state emergency management organizations to coordinate provision of food, water, heating, cooling, and shelter.

Widespread power outages can occur without warning or as a result of a natural disaster. Generally, warning times will be short in the case of technological failure, such as a fire at a sub-station, traffic accident, human error, or terrorist attack. In cases where a power failure is caused by natural hazards, greater warning time is possible. For example, high-wind events such as tornados and hurricanes often cause widespread power failure and are frequently forecasted before they affect a community. Additionally, severe winter weather conditions, such as ice storms, blizzards, and snowstorms, often cause power failure. In most cases, incidents such as these afford ample warning time, allowing power response crews to stage resources in preparation for power failure.

Power failures can cause secondary hazards that affect health of residents. One potential secondary hazard includes chemical accidents, which occur after restoration of power to industrial facilities. Power interruptions at chemical handling plants are of particular concern because of the potential for a chemical spill during restart (U.S. Environmental Protection Agency [EPA] 2001). Chemical spills can exert significant health and environmental impacts.

Another secondary hazard that can result from power failure is loss of communications capability by first responders, which may in turn negatively affect public safety. Backup systems, such as amateur radio operators, may be required during a disaster to augment communications capabilities. Power outages can also lead to instances of civil disturbance, such as looting.

Wastewater and potable water utility interruption may occur as a result of a power failure. These critical utilities are essential to community continuity and recovery. Interruption of service may result in cascading economic and environmental impacts.

Power failure can significantly affect health of the community. During periods of extreme heat or extreme cold, vulnerable populations, such as the elderly and medically frail, can suffer during power failures and are susceptible to hypothermia or heat stroke. Additionally, power failure can lead to food spoilage, which also negatively impacts public health.

Power failure may also lead to an increase in traffic accidents because of lack of functioning traffic control devices such as stoplights and railroad crossing advisory signals. Power outages of long duration will force law enforcement officials to man traffic control points to prevent accidents, which may delay or prevent those officers from responding to other emergency incidents.

Extent

The extent and severity of a power outage depends on the cause, location, duration, and time of year. An incident can range from a small, localized event to a countywide power outage. Impacts from an outage can be significant to the county and its residents. Power outages typically occur because of, or in combination with, other emergency or disaster incidents, such as severe weather and flooding, and can exacerbate such emergencies. Severity of an incident will also depend on the electrical distribution system affected.

Power failures lead to inability to use electric-powered equipment, such as lighting; heating, ventilation, and air conditioning (HVAC) units and necessary equipment; communication equipment (telephones, computers, etc.); fire and security systems; small appliances (refrigerators and sterilizers); and medical equipment. Interruption of service for any of these types of equipment can lead to a number of issues including food spoilage, loss of heating and cooling, basement flooding due to sump pump failure, and loss of water due to well pump failure.

Location

Utility failures in Livingston County are usually localized and are typically the result of a natural hazard event involving high winds or ice storms. The primary electricity and gas utility providers in Livingston County are National Grid and NYSEG. Table 5.4.12-1 provides the electric and gas utility providers serving the towns and villages in Livingston County.

Table 5.4.12-1. Electric and Gas Utility Providers in Livingston County

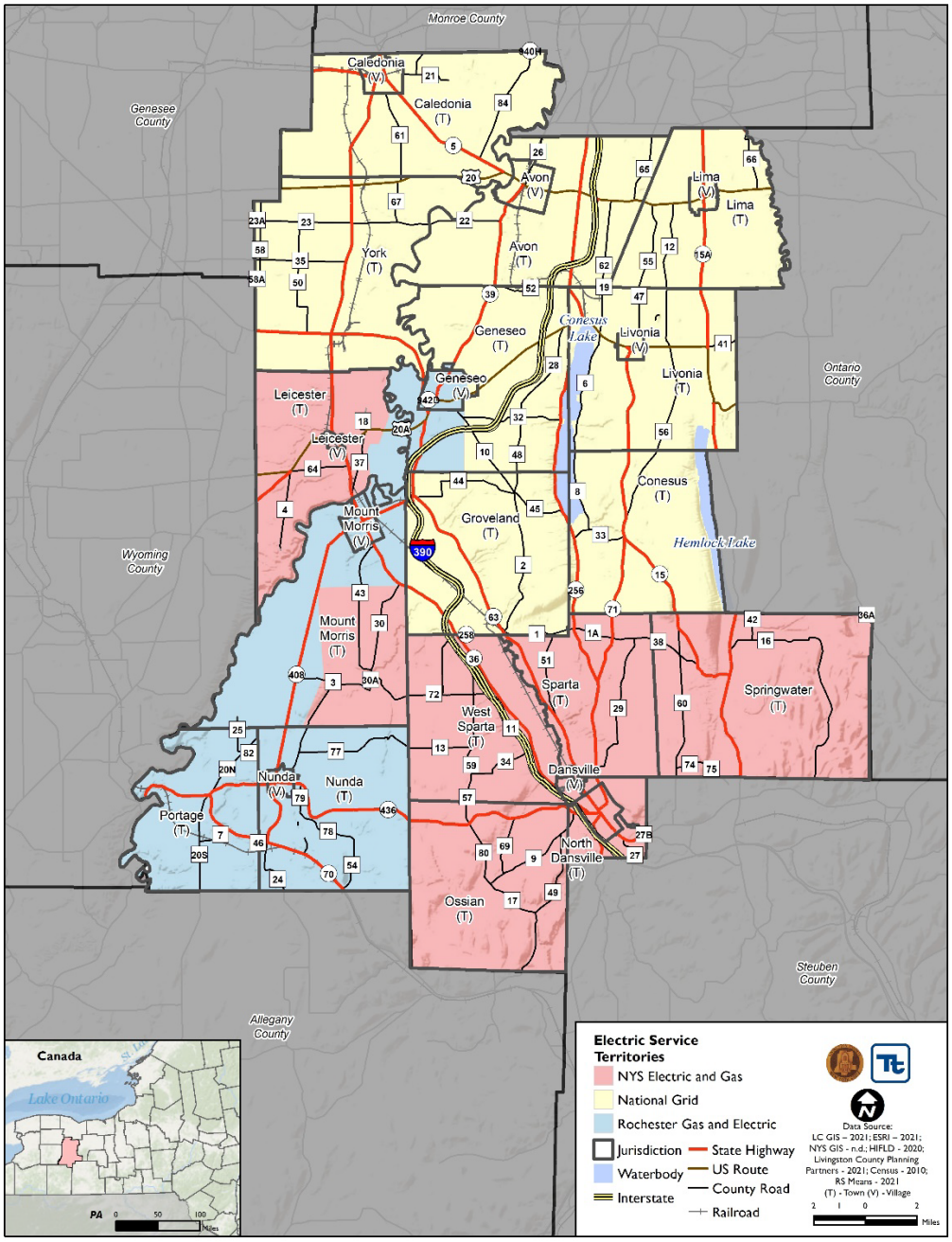
Jurisdiction	Rochester Gas & Electric	New York State Gas and Electric Corporation	National Grid
Avon (T)			X
Avon (V)			X
Caledonia (T)			X
Caledonia (V)			X
Conesus (T)			X
Dansville (V)		X	
Geneseo (T)	X		X
Geneseo (V)	X		X
Groveland (T)			X
Leicester (T)	X	X	
Leicester (V)		X	
Lima (T)			X
Lima (V)			X
Livonia (T)			X
Livonia (V)			X
Mount Morris (T)	X	X	
Mount Morris (V)	X		
North Dansville (T)		X	
Nunda (T)	X		
Nunda (V)	X		
Ossian (T)		X	
Portage (T)	X		
Sparta (T)		X	
Springwater (T)		X	

Jurisdiction	Rochester Gas & Electric	New York State Gas and Electric Corporation	National Grid
West Sparta (T)		X	
York (T)			X

Source: Livingston County GIS 2021; NYSERDA 2019; Middlebury n.d.; Warsaw n.d.

Some areas depend on residential propane tanks for gas service. These companies can generally handle minor interruptions of service. Interruptions are possible anywhere utility service is provided. Figure 5.4.12-1 shows the electric service territories in Livingston County.

Figure 5.4.12-1. Electric Service Territories in Livingston County



The Livingston County Water & Sewer Authority (the Authority) is a public benefit corporation that was established in 1995 by an act of the State Legislature. The Authority's primary responsibilities are to construct, improve, maintain, develop, expand and rehabilitate water and sewerage facilities. The Authority currently operates and maintains: two wastewater treatment plants, approximately 50 miles of sanitary sewer collection and conveyance piping, and 45 sewage pump stations; approximately 75 miles of water distribution and transmission piping, 12 water storage tanks, 7 booster pump stations, and 5 re-chlorination stations. The Authority is providing water services to approximately 3558 water accounts. The Authority's water customers are located within the Village of Livonia and portions of the Towns of Avon, Caledonia, Conesus, Geneseo, Groveland, Livonia, Mount Morris, and Sparta. The Authority is providing sewer services to approximately 3,515 sewer accounts. The Authority's sewer customers are located within the Village of Livonia and portions of the Towns of Livonia, Conesus, Avon, Groveland, Leicester, and Sparta. The Authority is also responsible for the operation and maintenance of the flood gates in Conesus Creek at the outlet of Conesus Lake. This is accomplished through an agreement between the Authority and the Conesus Lake Compact (Towns of Conesus, Geneseo, Groveland, and Livonia)

Previous Occurrences and Losses

Between 1954 and 2021, the Federal Emergency Management Agency (FEMA) included New York State in one emergency declaration (EM-3186 in 2003 – the Great Northeast Blackout) classified solely as a power outage. Generally, utility-failure disasters have covered a wide region of the state; therefore, they may have impacted many counties. While not all New York counties were included in the disaster declaration, Livingston County was included in this declaration (FEMA 2021).

For this 2022 HMP update, known utility failure events that have impacted Livingston County between 2015 and 2021 are identified in Table 5.4.12-2. Because information regarding specific details of utility failures in the county is scarce, knowledge of previous occurrences and losses associated with these events is limited. Therefore, Table 5.4.12-2 may not include all events that have occurred in the county.

Table 5.4.12-2. Utility Failure Events in Livingston County, 2015 to 2021

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 13, 2021	Thunderstorm Wind	-	-	Trees and powerlines were reported down along Country Club Road and Lima Road.
August 27, 2020	Thunderstorm Wind	-	-	Trees and wires were reported down.
July 19, 2020	Thunderstorm Wind	-	-	Trees, poles, and wires down in Leicester.
August 18, 2019	Thunderstorm Wind	-	-	Trees and power lines were reported down in Mount Morris and the Town of Nunda.
August 16, 2019	Thunderstorm Wind	-	-	A tree was reported down and on fire from the electrical wires it took down.
August 8, 2019	Thunderstorm Wind	-	-	Trees and wires were reported down.
May 25, 2019	Thunderstorm Wind	-	-	Trees and wires were reported down.
February 25, 2019	High Wind	-	-	Many reports were received of trees and wires down throughout the county causing substantial structural damage to homes and businesses. Thousands were reported without power.

Table 5.4.12-2. Utility Failure Events in Livingston County, 2015 to 2021

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 1, 2019	High Wind	-	-	Trees and wires were reported down across the county.
September 21, 2018	Thunderstorm Wind	-	-	Multiple trees and wires were reported down.
April 14, 2018	Ice Storm	-	-	Freezing rain combined with wind caused multiple trees and power lines to fall.
April 4, 2018	High Wind	-	-	Trees and wires down throughout the county
March 1, 2018	Winter Storm	-	-	Trees and wires down throughout the county
October 15, 2017	Thunderstorm Wind	-	-	The thunderstorm winds downed trees and power lines throughout the region.
July 20, 2017	Thunderstorm Wind	-	-	Law enforcement reported trees and wires down by thunderstorm winds.
June 18, 2017	Thunderstorm Wind	-	-	Law enforcement reported trees and wires downed by thunderstorm winds on Eagle Point Road.
June 15, 2017	Thunderstorm Wind	-	-	Trees and wires down throughout the county
May 18, 2017	Thunderstorm Wind	-	-	Trees and wires down throughout the county
May 1, 2017	Thunderstorm Wind	-	-	Trees and wires down throughout the county
March 8, 2017	High Wind	-	-	Trees and power lines downed throughout the region.
March 2, 2017	High Wind	-	-	Trees and wires were downed by strong winds in Caledonia.
August 13, 2016	Thunderstorm Wind	-	-	Power outages were scattered throughout the region.
June 20, 2016	Thunderstorm Wind	-	-	Law enforcement reported trees and power lines down by thunderstorm winds.
May 29, 2016	Thunderstorm Wind	-	-	Law enforcement reported trees downed by thunderstorm winds.
September 9, 2015	Thunderstorm Wind	-	-	Trees and wires down throughout the county
June 23, 2015	Thunderstorm Wind	-	-	Trees and wires down throughout the county
June 12, 2015	Thunderstorm Wind	-	-	Law Enforcement reported trees and wires downed by thunderstorm winds on Coffee Hill Road.
June 10, 2015	Thunderstorm Wind	-	-	Law enforcement reported numerous trees and wires down from thunderstorm winds near Avon. Trees damaged several parked cars.
June 8, 2015	Thunderstorm Wind	-	-	Thunderstorm winds down large trees and limbs in the Main Street area of Hemlock.

Source: NOAA-NCEI 2021; FEMA 2021
mph Miles per Hour
NCEI National Centers for Environmental Information
NOAA National Oceanic and Atmospheric Administration

Probability of Future Events

While the probability of future utility failure incidents in Livingston County is difficult to predict, the historical record indicates that previous utility failures have occurred as a result of high winds, thunderstorm winds, and winter weather. As infrastructure ages beyond its intended lifespan, it is likely to become less reliable leading to a higher likelihood of failure Data were not readily available on the frequency of smaller utility interruptions across the County; however, it is reasonable to assume that utility failure events of shorter duration will continue to occur in the future. In addition, future changes in climate may also impact the frequency and probability of future utility failure occurrences.

Section 5.3 of this HMP lists the ranking of all identified hazards of concern for Livingston County. Probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Partnership, probability of occurrence of utility failures in the County is considered "frequent" (likely to occur within 25 years).

Climate Change Impacts

Climate change is beginning to affect both people and resources in New York State, and these impacts are projected to continue and become more significant. Impacts related to increasing temperatures and sea level rise are already evident in the state. The Integrated Assessment for Effective Climate Change in New York State (ClimAID) was undertaken to provide decision makers with information on the state's vulnerability to climate change, and to facilitate development of adaptation strategies informed by both local experience and scientific knowledge (New York State Energy Research and Development Authority [NYSERDA] 2014).

Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of Region 1, Western New York and Great Lakes Plain. Some characteristics and issues associated with climate change in this region include relatively low rainfall, increased summer drought risk, high-value crops requiring irrigation, and projected improved condition for grapes (NYSERDA 2014). This region contains an area producing the highest agricultural revenue in the state..

Temperatures are expected to increase throughout the State by 2º F to 3.4º F by the 2020s, 4.1° F to 6.8° F by the 2050s, and 5.3° F to 10.1° F by the 2080s. The lower ends of these ranges assume lower greenhouse gas emissions scenarios, and the higher ends assume higher greenhouse gas emissions scenarios. Annual average precipitation is projected to increase by up to 1 to 8 percent by the 2020s, up to 3 to 12 percent by the 2050s, and up to 4 to 15 percent by the 2080s. By the end of the century, the greatest increases in precipitation are projected to be in the northern parts of the State. Although seasonal projections are less certain than annual results, this additional precipitation will most likely occur during the winter months, with the possibility of slightly reduced precipitation projected for the late summer and early fall. Table 5.4.12-3 lists projected precipitation changes within the Western New York Great Lakes ClimAID Region (NYSERDA 2014).

Table 5.4.12-3. Projected Seasonal Precipitation Change in Region 1, 2020-2100 (% change)

Baseline (1971-2000) 34.0 inches	Low Estimate (10th Percentile)	Middle Range (25th to 75th Percentile)	High Estimate (90th Percentile)
2020s	0 percent	+ 2 to + 7 percent	+ 8 percent
2050s	+ 2 percent	+ 4 to + 10 percent	+ 12 percent
2080s	+ 1 percent	+ 4 to + 13 percent	+ 17 percent
2100	- 3 percent	+ 4 to + 19 percent	+ 24 percent

Source: NYSERDA 2014

Climatologists predict an increase in the number and intensity of severe weather events. More storms with higher winds will increase the chance that the power infrastructure will be impacted. Extreme temperatures are

predicted to increase as well. During the hot summer months, potential for power overload will increase as demand for power increases. Additionally, climatologists predict an increase in precipitation, which may lead to more winter weather, thus causing additional power failures.

5.4.12.2 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed or vulnerable within the identified hazard area. For the utility failure hazard, all of Livingston County has been identified as the hazard area. Therefore, all assets in the County (population, structures, critical facilities, and lifelines), as described in the County Profile (Section 4), are vulnerable to a utility failure.

Impacts on Life, Health, and Safety

The entire county is vulnerable to the utility failure hazard. Loss of power can exert serious impacts on the health and welfare of residents, continuity of businesses, and ability of public safety agencies to respond to emergencies. Individuals with medical needs are vulnerable to power failures, because medical equipment (such as oxygen concentrators) requires electricity to operate. Elderly residents are also vulnerable to the effects of power failure, as power failure could expose older residents to extreme heat or extreme cold. According to the U.S. Census 2020 decennial census population estimates, there are 27,113 housing units in Livingston County (U.S. Census 2020). Most of these housing units rely on electricity to power in-home heating systems. Individuals living in these households will be exposed to significantly colder (winter months) or hotter (summer months) indoor temperatures during a utility failure. Those that use utility gas for home heating will be less vulnerable.

During power failure events, water purification systems may not function. Further, populations relying on private wells will not have access to potable water. Many power outage events are caused by storm events that can lead to flooding. Without electricity, residents would be unable to pump water from their basements, potentially causing structural and content damage to their homes. Section 5.4.3 (Flood) includes a more detailed discussion of the County's vulnerability to the flood hazard.

Individuals with medical needs are vulnerable to power failures, because medical equipment (such as oxygen concentrators) requires electricity to operate. The elderly population is also vulnerable to the effects of power failure, as power failure could expose older residents to extreme heat or extreme cold. During power failure events, water purification systems may not function. Further, populations relying on private wells will not have access to potable water. Many power outage events are caused by storm events that can lead to flooding. Without electricity, residents would be unable to pump water from their basements, potentially causing structural and content damage to their homes.

Impacts on General Building Stock

The entire building stock of Livingston County is exposed and is considered vulnerable to the utility failure hazard. The County Profile (Section 4 of this HMP) summarizes the building inventory of the county. Impacts sustained from utility interruption are likely to be secondary impacts. Should potable water distribution be reduced or not available, then structures could be at increased risk for structural fire since current fire suppression is dependent accessing water supply from hydrants.

Impacts on Critical Facilities and Lifelines

During a power outage event, the County may undergo losses because of an interruption of critical services. Further, increased costs, such as providing shelters and costs related to cooling and heating centers may be incurred. Extended power outages will require officials to shelter victims who require heat and power for

activities of daily living. Power interruptions can cause economic impacts stemming from lost income and spoiled food and other goods, costs to the owners/operators of the utility facilities, and costs to government and community service groups.

Backup power is recommended for critical facilities and infrastructure. Loss of power can have serious impacts on the health and welfare of residents, continuity of business, and the ability of public safety agencies to respond to emergencies. Interruption of utility gas or water distribution could also reduce the effectiveness of critical facilities to operate at full capacity.

Interruption of potable water distribution also has a considerable impact on the firefighting capabilities of many fire departments within Livingston County. Livingston County's fire departments rely on the pressurized water system that supplies the fire hydrant connections for fire suppression. Most of the firefighting apparatus in the county relies on these fire department connections for adequate fire suppression. Should frequent or widespread water interruption occur, there will be an increased risk for structural fire and wildfire occurrence within the county.

Impact on Economy

A prolonged power failure in Livingston County may impact the County's economy. All roadway systems and supporting resources provide services locally, regionally, nationally, and internationally. Disruption in any of these services would mean that many workers, residents, and travelers would not be able to go where needed.

Power interruptions can cause economic impacts stemming from lost income, spoiled food and other goods, costs to the owners/operators of the utility facilities, and costs to government and community service groups. Interruption of utility gas or potable water distribution could also cause significant economic impacts such as additional costs for bringing in water tenders to maintain fire suppression capabilities; opening additional warming centers should electric and utility gas utility be interrupted to residential areas; and distribution of potable water for public consumption. Significant costs could be associated with reimbursing fire departments from other counties within New York to travel, staff, and maintain water tenders within Livingston County during the duration of a water outage event.

Potential modeling of economic impacts from utility interruption would be developed by calculating interruption of service costs derived from a standard value per person per day multiplied out by the number of customers served. This would help to provide an estimate of the impact of the interrupted utility service but may not be representative of the complete economic impact of a prolonged utility interruption. For example, FEMA's benefit-cost analysis (BCA) methodology measures the loss of electrical service on a per-person-per-day-of-lost-service basis for the service area affected. The FEMA BCA Toolkit version 6.0 uses the following standard values to estimate cost of utility usage per person per day (FEMA 2020):

- Electric: $174.00
- Potable Water: $114.00
- Wastewater: $58.00

Impact on the Environment

At this time, there are no known impacts to the environment caused by utility failures.

Future Changes that May Impact Vulnerability

Understanding future changes that impact vulnerability in the county can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place. The county considered the following factors to examine potential conditions that may affect hazard vulnerability:

- Potential or projected development
- Projected changes in population
- Other identified conditions as relevant and appropriate, including the impacts of climate change

Projected Development

Any areas of growth could be potentially impacted by utility failures because the entire County is exposed and vulnerable. However, because of increased standards and codes, new development may be less vulnerable to utility failures compared to the aging building stock in the County. Section 4, County Profile, provides more information about the new development plans for Livingston County.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the County has decreased by approximately 3-percent since 2010. Even though the population is decreasing in Livingston County, persons that more into older properties that do not meet existing codes are at greater risk of experiencing utility failure events. Section 4, County Profile, provides additional discussion on population trends.

Climate Change

Several implications for climate change are related to the power failure hazard. Providing projections of future climate change for a specific region is challenging. Shorter term projections are more closely tied to existing trends making longer term projections even more challenging. The further out a prediction reaches, the more subject to changing dynamics it becomes.

Climatologists predict an increase in the number and intensity of severe weather events. More storms with higher winds will increase the chance that the power infrastructure will be impacted. Extreme temperatures are predicted to increase as well. During the hot summer months, the potential for power overload will increase as demand for power increases. Additionally, climatologists predict an increase in precipitation, which may lead to more winter weather causing additional power failures and utility interruptions.

Changes in Vulnerability Since the 2015 HMP

Since the 2014 analysis, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates (American Community Survey 2019) and the U.S. 2020 Decennial Census Data. Overall, this vulnerability assessment uses a more accurate and updated building inventory than that used in the 2015 HMP. This information provides more accurate exposure and potential loss estimates for Livingston County.

5.4.13 Wildfire

This section provides a profile and vulnerability assessment of the wildfire hazard for the Livingston County Hazard Mitigation Plan (HMP).

5.4.13.1 Hazard Profile

This section provides information regarding the description, extent, location, previous occurrences and losses, and the probability of future occurrences for the wildfire hazard.

Hazard Description

According to the New York State NYS (HMP), wildfire is defined as an uncontrolled fire spreading through natural or unnatural vegetation that can threaten lives and property if not contained. Wildfires are commonly termed forest fires, brush fires, grass fires, wildland-urban interface (WUI) fires, range fires, or ground fires. Wildfires do not include fires naturally or purposely ignited to manage vegetation for one or more benefits (NYS Division of Homeland Security and Emergency Services [DHSES] 2014). Although destructive fires do not occur annually, the state's fire history shows a cycle of outbreaks that have caused death, property loss, forest destruction, and air pollution (NYS DHSES 2019).

The NYS Forest Ranger force is a division of NYS Department of Environmental Conservation (NYS DEC). It has fought fires and retained records for more than 125 years. During the 25-year period 1993-2017, division records indicate that rangers suppressed 5,423 wildfires that burned a total of 52,580 acres (NYSDEC 2018). Currently, more than 1,700 fire departments respond to an average of 4,500 wildfires each year. Forest Rangers respond to approximately 3 percent of all wildfires; however, Rangers help contain 33 percent of all wildfire acres (NYSDEC 2018).

Extent

The extent (that is, magnitude or severity) of wildfires depends on weather and human activity. Wildfire behavior and ecological factors that contribute to the severity of wildfires is discussed below.

Wildfire Behavior and Fire Ecology

Fire behavior is defined as the way fuel ignites, flame develops, and fire spreads; this behavior depends on interactions between fuel, weather, and topography. Fire behavior is one of the most important aspects of wildfires because almost all actions in response to a fire depend on how it behaves. Success in pre-suppression planning and actual suppression of wildfires is directly related to how well fire managers understand and can predict fire behavior.

Potential for wildfire and its subsequent development (growth) and severity are controlled by the three principal factors: topography, fuel, and weather. Each of these factors are described below:

Topography – Topography can powerfully influence wildfire behavior. Movement of air over the terrain tends to direct a fire's course. A gulch or canyon can funnel air and act as a chimney, intensifying fire behavior and inducing faster spread. Saddles on ridgetops tend to offer lower resistance to passage of air and draw fires. Solar heating of drier, south-facing slopes produces upslope thermal winds that can complicate behavior. Slope is an important factor. If the percentage of uphill slope doubles, the rate the wildfire spreads will most likely double as well. Terrain can also inhibit wildfires; fire travels downslope much more slowly than upslope, and ridgetops often mark the end of a wildfire's rapid spread (Federal Emergency Management Agency [FEMA] 1997).

Fuel – Fuels are classified by weight or volume (fuel loading) and by type. Fuel loading is a term used to describe the amount of vegetative material available. If the fuel amount doubles, energy released can also double. Each fuel type is given a burn index (an estimate of amount of potential energy that may be released), effort required to ignite a fire in each fuel and expected flame length. Different fuels have different burn qualities, and some burn more easily than others. Grass fires release relatively little energy but can sustain very high rates of spread (FEMA 1997). According to the U.S. Forest Service (USFS), a forest stand may consist of several layers of live and dead vegetation in the understory (surface fuels), mid-story (ladder fuels), and overstory (crown fuels):

- Surface fuels consist of grasses, shrubs, litter, and woody material lying on the ground. Surface fires burn low vegetation, woody debris, and litter. Under the right conditions, surface fires reduce likelihood that future wildfires will grow into crown fires.
- Ladder fuels consist of live and dead small trees and shrubs; live and dead lower branches from larger trees, needles, vines, lichens, mosses; and any other combustible biomass between the top of surface fuels and bottom of overstory tree crowns.
- Crown fuels are suspended above the ground in treetops or other vegetation and consist mostly of live and dead fine material. When historically low-density forests become overcrowded, tree crowns may merge and form a closed canopy. Tree canopies constitute the primary fuel layer in a forest crown fire (USFS 2003).

Fire behavior is strongly influenced by these fuels.

Weather / Air Mass – Weather is the most important factor influencing fire behavior, but it is always changing. Air mass, defined by the National Weather Service (NWS) as a body of air covering a relatively wide area and exhibiting horizontally uniform properties, can affect wildfire through climatic factors that include temperature and relative humidity, local wind speed and direction, cloud cover, precipitation amount and duration, and stability of the atmosphere at the time of the fire (NWS 2009). Extreme weather leads to extreme events, and often a subsidence of severe weather marks the end of a wildfire's growth and the beginning of successful containment. High temperatures and low humidity can produce vigorous fire activity. Fronts and thunderstorms can produce winds that radically and suddenly change in speed and direction, causing similar changes in fire activity. The rate of spread of a fire varies with wind velocity. Winds may play a dominant role in directing the course of a fire. The most damaging firestorms are typically marked by high winds (FEMA 1997).

Several tools are available to estimate fire potential, extent, danger, and growth, including the following:

The ***Wildland Fire Assessment System (WFAS)*** is an Internet-based information system that provides a national view of weather and fire potential, including national fire danger, weather maps, and satellite-derived "greenness" maps (USFS No Date [n.d.]).

The ***Fire Potential Index (FPI)*** is derived by combining information on daily weather and vegetation conditions and can identify areas most susceptible to fire ignition (Burgan et al. 2000).

Fuel Moisture (FM) content measures the quantity of water in a fuel particle expressed as a percent of oven-dry weight of the fuel particles. It is an expression of cumulative effects of past and present weather events used to help evaluate the effects of current or future weather on fire potential (Burgan et al. 2000).

The ***Keetch-Byram Drought Index (KBDI)*** is designed for fire potential assessment and is a number representing the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency in deep duff and upper soil layers (USFS n.d.).

The ***Haines Index***, also known as the Lower Atmosphere Stability Index, is a fire weather index based on stability and moisture content of the lower atmosphere that measures potential for existing fires to become large fires (USFS n.d.).

The ***Buildup Index (BUI)*** is a number that reflects combined cumulative effects of daily drying and precipitation in fuels with a 10-day time lag constant (North Carolina Forest Service 2007).

The ***Fire Danger Rating*** in New York State is established using information from the National Fire Danger Rating System (NFDRS) and considers current and antecedent weather, fuel types, and both live and dead fuel moisture. This information is provided by local station managers (USFS n.d.) in each of the ten regions of New York State. Livingston County is in the Southern Tier Fire Rating Danger Area. Table 5.4.13-1 lists fire danger ratings and color codes, also used by the NYSDEC to update its fire danger rating maps, identified later in this section.

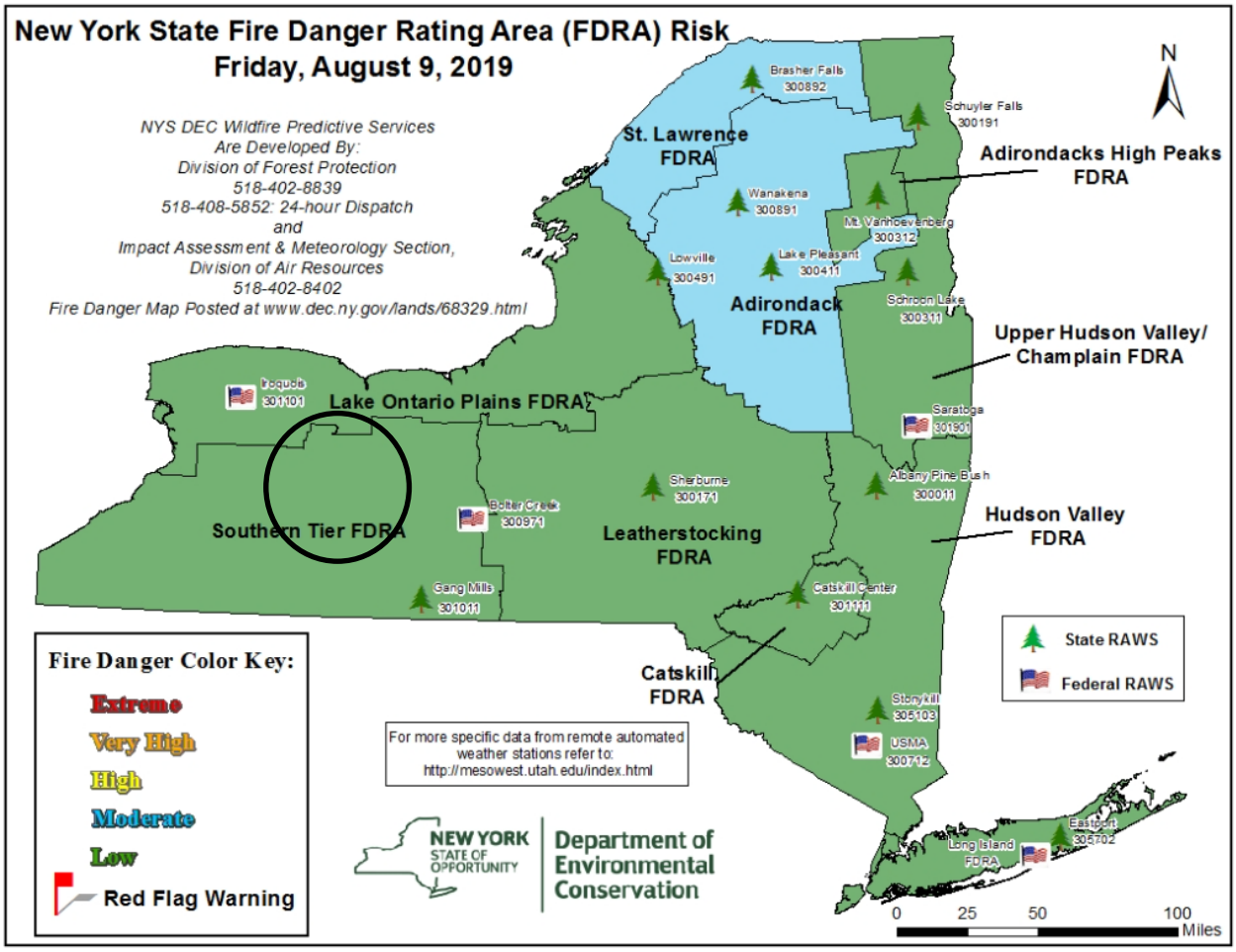
Table 5.4.13-1. Description of Fire Danger Ratings in New York State

Adjective Rating Class and Color Code	Class Description
Red Flag	A short-term, temporary warning, indicating presence of a dangerous combination of temperature, wind, relative humidity, fuel, or drought conditions that can contribute to new fires or rapid spread of existing fires. A Red Flag Warning can be issued at any fire danger level.
Extreme (Red)	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class. Direct attack is rarely possible and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.
Very High (orange)	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics such as long-distance spotting and fire whirlwinds when they burn into heavier fuels.
High (yellow)	All fine dead fuels ignite readily, and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly, and short-distance spotting is common. High intensity burning may develop on slopes or in concentrations of fine fuels. Fires may become serious and their control difficult unless they are attacked successfully while small.
Moderate (blue)	Fires can start from most accidental causes, but except for lightning fires in some areas, the number of starts is generally low. Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur but is not persistent. Fires are not likely to become serious and control is relatively easy.
Low (green)	Fuels do not ignite readily from small firebrands, although a more intense heat source (such as lightning) may start fires in duff or punky woodland areas. Fires in open cured grasslands may burn freely a few hours after rain, but wood fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.

Source: NYS DHSES 2014

Figure 5.4.13-1 shows Fire Danger Rating Areas (FDRA) in New York State as well the fire danger risk within each area on August 9, 2019, as an example. NYS DEC stopped issuing these maps until Spring 2022.

Figure 5.4.13-1. New York State Fire Danger Rating Areas



Source: NYSDEC 2020 Note: The black oval indicates the location of Livingston County.

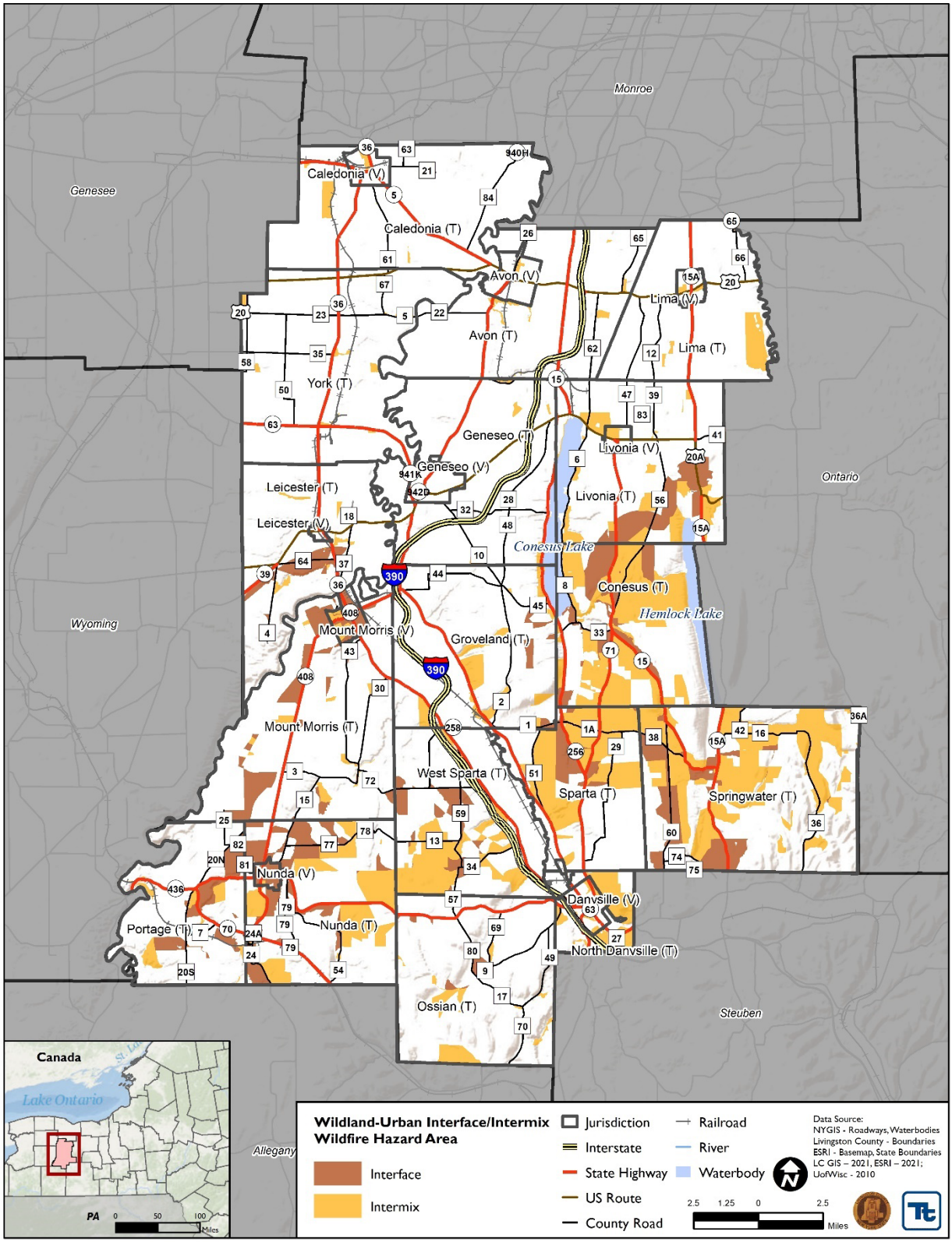
Location

Wildfires occur in Livingston County. Many areas in the county, particularly those that are heavily forested or contain large tracts of brush and shrubs, are prone to fires (NYSDEC 2018). In New York State, NYSDEC's Division of Forest Protection (Forest Ranger Division) is designated as the state's lead agency for wildfire mitigation. The Forest Ranger Division for Livingston County is Region 8: Finger Lakes Region. The boundaries of the FDRAs do not match the Forest Ranger Division boundaries.

Wildland-Urban Interface in New York State/Livingston County

As shown in Figure 5.4.13-2, the Wildlife-Urban Interface is divided into two categories: interface and intermix. The Interface WUI zone is land that stands between the undeveloped, natural land and developed, urban areas. The Intermix WUI zone is an area where human habitation is mixed with areas of flammable wildland vegetation. Intermix areas have more than one house per 40 acres and have more than 50-percent vegetation. Interface areas have more than one house per 40 acres, have less than 50-percent vegetation, and are within 1.5 miles of an area over 1,235 acres that is more than 75-percent vegetated (Stewart et al. 2007). The California Fire Alliance determined that 1.5 miles is the approximate maximum distance that firebrands can be carried from a wildland fire to the roof of a house. Therefore, even structures not within the forest are at risk from wildfire. Approximately 12.6-percent of the County's land area is within the Intermix WUI, and 6.1-percent of the land area is within the Interface WUI.

Figure 5.4.13-2. Interface/Intermix WUI Hazard Areas in Livingston County

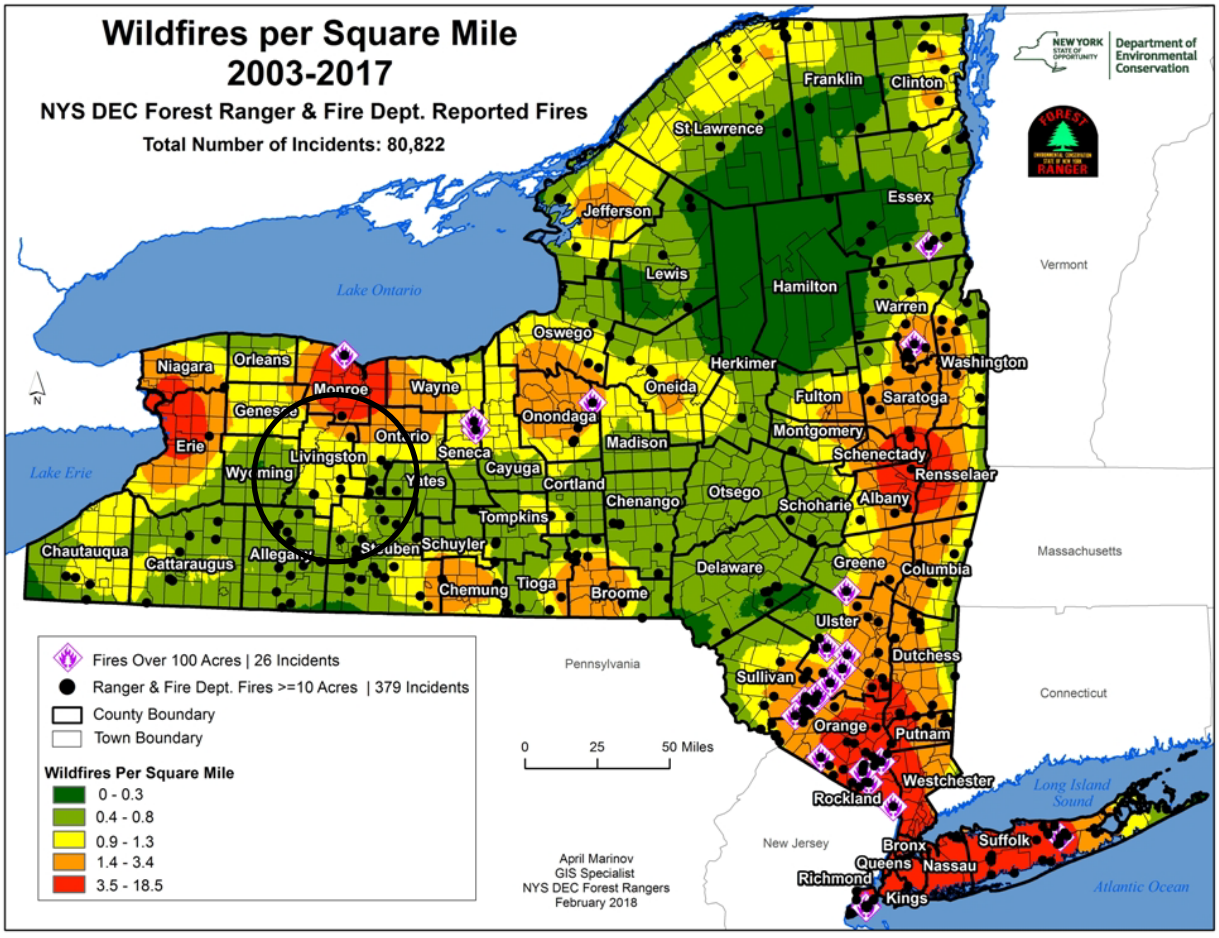


Previous Occurrences and Losses

Only limited historical information can be found on previous occurrences and losses associated with wildfires throughout New York State and Livingston County. Between 1954 and 2021, NYS was not included in any wildfire-related major disaster (DR) or emergency (EM) declarations (FEMA 2021).

Determinations of wildfire occurrences in New York State are based on two data sources: the New York State Forest Ranger force, and the New York State Office of Fire Prevention and Control (NYS OFP&C). According to Ranger Division wildfire occurrence data from 1993 through 2017, 95 percent of wildfires in the state were human caused; the remaining 5 percent resulted from lightning. Regarding human-caused fires, debris burning accounted for 33 percent, incendiary fires accounted for 16 percent, campfires accounted for 16 percent, and smoking accounted for 6 percent (NYSDEC 2018). Figure 5.4.13-3 illustrates occurrences of wildfires in NYS between 2003 and 2017 (the most current data available). This figure reveals occurrences of between 0.4 and 3.4 wildfires per square mile from 2003 to 2017 within Livingston County municipalities.

Figure 5.4.13-3. Wildfire Occurrences in New York State, 2003-2017



Source: NYSDEC 2018. Note: The black oval indicates the location of Livingston County.

Probability of Future Occurrences

According to the NYS Forest Ranger Division, wildfire occurrence data from 2003 to 2018 have shown that NYS, including Livingston County, is susceptible to wildfires. Forty-seven percent of all fire department response to wildfires occur from March 15 through May 15. Beginning in 2010, NYS enacted revised open-

burning regulations that ban brush burning statewide during this time period. Forest Ranger data indicate that this new statewide ban resulted in 74 percent fewer wildfires caused by debris burning in upstate New York from 2010 to 2012. Forest Ranger and fire department historical fire occurrence data recorded after the new burn ban regulations were enacted in 2010 will serve as a benchmark for analyses of wildfire occurrence (NYS DHSES 2014).

Nationally, wildfire risk is increasing, and wildfire experts point to the following four reasons:

- The way forests were handled in the past allowed fuel in the form of fallen leaves, branches, and plant growth, to accumulate. Now this fuel is lying around the forest with potential to "feed" a wildfire.
- Increasingly hot, dry weather has occurred and will continue to occur within the United States.
- Weather patterns across the country are changing.
- More homes are built within WUI areas, meaning that homes are built closer to wildland areas where wildfires can occur (NYS DHSES 2014).

Annual small wildfires likely will occur throughout Livingston County. However, advanced methods of wildfire management and control and better understanding of fire ecosystems should reduce the number of devastating fires in the future (NYS DHSES 2014).

Hazards of concern identified for Livingston County were ranked in Section 5.3. Probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records and input from the Planning Partnership, probability of occurrence of wildfire within the county is considered "occasional" (between 10 and 100% annual probability of a hazard event occurring), as presented in Table 5.3-2.

Climate Change Impacts

Climate change can make forests more susceptible to wildfires due to changing precipitation patterns, in addition to the projected temperature increases. Climate also affects frequency and severity of many forest disturbances, such as infestations, invasive species, wildfires, and storm events.

Each region in New York State, as defined by ClimAID, has attributes that will be affected by climate change. Livingston County is part of geographical Region 1, Western New York and the Great Lakes Plain. Some of the issues in this region, affected by climate change, include relatively low rainfall and increased summer drought risk, the need for irrigation for high-value crops, and improved conditions for grapes (NYSERDA 2014).

Temperatures and precipitation amounts are expected to increase throughout the State, as well as within Region 1. The State's temperature is expected to rise between 2.0 and 3.4 degrees Fahrenheit (ºF) through the 2020s, between 4.1 and 6.8 ºF by the 2050s, and between 5.3 and 10.1 ºF by the 2080s. The lower ends of these ranges assume lower greenhouse gas emissions scenarios, and the higher ends of these ranges assume higher greenhouse gas emission scenarios. By the end of the century, the greatest warming is projected to be in the northern parts of the State. (NYSERDA 2014).

Within Region 1, temperatures are anticipated to increase between 3.7 and 7.3 ºF by the 2050s, and between 4.2 and 12.0 ºF by the 2080s (baseline of 47.7ºF). Precipitation totals will increase between 0 and 10 percent by the 2050s, and between 0 and 15 percent by the 2080s (baseline of 37 inches). Table 5.4.13-2 lists projected seasonal precipitation changes within the Western New York and Great Lakes Plain ClimAID Region (NYSERDA 2014).

Extreme heat events and heat waves are also projected to increase, as listed in Table 5.4.13-2 below. Prolonged heat waves are likely to generate a greater number of wildfires. Stronger winds from larger storms may lead to more fallen branches for wildfires to consume. Increases in rain and snow events prime forests for fire by

supporting growth of more fuel. Drought and warmer temperatures lead to drier forest fuels (NYS DHSES 2014).

Table 5.4.13-2. Extreme Event Projections for ClimAID Region 1

Middle Range (25th to 75th Percentile)	2020s	2050s	2080s
Days over 90 °F (8 days)	14 to 17	22 to 34	27 to 57
# of Heat Waves (0.7 heat waves)	2 to 2	3 to 4	3 to 8
Duration of Heat Waves (4 days)	4 to 4	4 to 5	5 to 6
Days below 32 °F (133 days)	103 to 111	84 to 96	68 to 88
Days over 1" Rainfall (5 days)	5 to 5	5 to 5	5 to 6
Days over 2" Rainfall (0.6 days)	0.6 to 0.7	0.6 to 0.8	0.6 to 0.9

Source: NYSERDA 2014

Fire potential depends on climate variability, local topography, and human intervention. Climate change can affect multiple elements of the wildfire system: fire behavior, ignitions, fire management, and vegetation fuels. Hot, dry spells create highest fire risk. With temperatures increasing in New York State, wildfire danger may intensify with warming and drying of vegetation. When climate alters fuel loads and fuel moisture, the susceptibility of forest to wildfires is changed. Climate change also may increase winds that spread fires. Faster fires are harder to contain, and thus are more likely to expand into residential neighborhoods.

5.4.13.2 Vulnerability Assessment

To understand risk, a community must evaluate the assets that are exposed and vulnerable in the identified hazard area. A spatial analysis was conducted using the University of Wisconsin 2010 Wildland-Urban Interface/Intermix spatial layer. For the purposes of the assessment, an asset (population, structures, critical facilities, and lifelines) is considered exposed and potentially vulnerable to the wildfire hazard if it is in the Interface or Intermix WUI hazard areas.

Impact on Life, Health, and Safety

Wildfires have the potential to impact human health and life of residents and responders, structures, infrastructure, and natural resources. The most vulnerable populations include emergency responders and persons living within a short distance of the interface between the built environment and the wildland environment. First responders are exposed to the dangers from the initial incident and after-effects from smoke inhalation and heat stroke. Table 5.4.13-3 summarizes the estimated population exposed to the wildfire hazard by jurisdiction.

Based on the analysis, an estimated 18,171 residents, or approximately 28.6-percent of the County's population, are in the Interface/Intermix WUI hazard areas. Overall, the Village of Mount Morris has the greatest number of individuals located in the wildfire hazard areas (2,931 persons).

Of the population exposed, the most vulnerable include the economically disadvantaged and the population over age 65. Livingston County is home to 7,572 persons in poverty and 10,929 persons over 65 years old (American Community Survey 2019). Economically disadvantaged populations are more vulnerable because they are likely to evaluate their risk and make decisions to evacuate based on net economic impacts on their families. The

population over age 65 is also more vulnerable because they are more likely to seek or need medical attention that may not be available due to isolation during a wildfire event, and they may have more difficulty evacuating. Smoke and air pollution from wildfires can be a severe health hazard, especially for sensitive populations, including children, the elderly, and those with respiratory and cardiovascular diseases. Smoke generated by wildfire consists of visible and invisible emissions that contain particulate matter (soot, tar, water vapor, and minerals), gases (carbon monoxide, carbon dioxide, nitrogen oxides), and toxics (formaldehyde, benzene). Emissions from wildfires depend on the type of fuel, the moisture content of the fuel, the efficiency (or temperature) of combustion, and the weather. Public health impacts associated with wildfire include difficulty breathing, odor, and reduction in visibility.

Table 5.4.13-3. Estimated Population Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area

Jurisdiction	Total Population (American Community Survey 2015-2019)	Estimated Population Located Within the Wildland-Urban Interface/Intermix Wildfire Fuel Hazard Area	
		Number of People	Percent of Total
Avon (T)	3,637	334	9.2%
Avon (V)	3,260	273	8.4%
Caledonia (T)	2,060	82	4.0%
Caledonia (V)	2,078	243	11.7%
Conesus (T)	2,325	1,874	80.6%
Dansville (V)	4,586	282	6.2%
Geneseo (T)	2,540	430	16.9%
Geneseo (V)	8,095	0	0.0%
Groveland (T)	3,241	1,492	46.0%
Leicester (T)	1,798	415	23.1%
Leicester (V)	518	21	4.1%
Lima (T)	1,833	116	6.3%
Lima (V)	2,278	499	21.9%
Livonia (T)	6,231	1,939	31.1%
Livonia (V)	1,353	133	9.8%
Mount Morris (T)	1,340	478	35.7%
Mount Morris (V)	2,931	2,931	100.0%
North Dansville (T)	696	258	37.0%
Nunda (T)	1,716	1,186	69.1%
Nunda (V)	1,211	1,179	97.3%
Ossian (T)	701	108	15.3%
Portage (T)	837	408	48.7%
Sparta (T)	1,591	859	54.0%
Springwater (T)	2,233	1,688	75.6%
West Sparta (T)	1,229	744	60.5%
York (T)	3,273	202	6.2%
Livingston County (Total)	**63,591**	**18,171**	**28.6%**

Source: American Community Survey 2019; University of Wisconsin 2010
Notes: % - Percent; T – Town; V – Village; WUI - Wildland-Urban Intermix/Interface

Impact on General Building Stock

The most vulnerable structures to wildfire events are those within Interface/Intermix WUI hazard area. Buildings constructed of wood or vinyl siding are generally more likely to be impacted by the fire hazard than buildings constructed of brick or concrete. To estimate the buildings located in the wildfire hazard area, the Interface/Intermix WUI hazard areas were overlaid upon the updated building inventory at the structure level. The replacement cost value of the structures with centers in the Interface and Intermix WUI hazard areas were totaled (Table 5.4.13-4). Overall, 10,781 buildings with a replacement cost value of $4.6 billion is located in

the wildfire hazard areas in Livingston County. The Town of Conesus has the greatest number of structures located in the wildfire hazard area (i.e., 1,414 buildings, approximately $477 million).

Table 5.4.13-4. Total Number of Buildings and Building Stock Replacement Cost Value Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Estimated Building Stock Located Within the Wildland-Urban Interface/Intermix Wildfire Fuel Hazard Area			
			Number of Buildings Within the Wildfire Hazard Area	Percent of Total	Total Replacement Cost Value of Buildings Located Within the Wildfire Hazard Area	Percent of Total
Avon (T)	2,149	$1,324,846,766	172	8.0%	$88,686,524	6.7%
Avon (V)	1,245	$1,365,771,007	94	7.6%	$38,134,282	2.8%
Caledonia (T)	1,362	$792,755,652	41	3.0%	$14,822,666	1.9%
Caledonia (V)	979	$735,609,120	111	11.3%	$43,653,964	5.9%
Conesus (T)	1,774	$625,005,723	1,414	79.7%	$477,449,903	76.4%
Dansville (V)	1,950	$1,341,807,175	119	6.1%	$56,850,384	4.2%
Geneseo (T)	1,753	$1,161,720,041	216	12.3%	$70,555,908	6.1%
Geneseo (V)	1,329	$1,570,704,963	0	0.0%	$0	0.0%
Groveland (T)	1,330	$1,203,662,583	431	32.4%	$166,611,927	13.8%
Leicester (T)	1,214	$715,987,145	243	20.0%	$89,658,383	12.5%
Leicester (V)	240	$142,879,953	10	4.2%	$3,641,072	2.5%
Lima (T)	1,436	$859,636,929	75	5.2%	$26,003,348	3.0%
Lima (V)	777	$452,768,112	152	19.6%	$64,638,277	14.3%
Livonia (T)	3,888	$1,866,897,181	1,190	30.6%	$528,305,186	28.3%
Livonia (V)	569	$371,319,429	62	10.9%	$46,078,411	12.4%
Mount Morris (T)	1,115	$646,574,328	401	36.0%	$164,142,640	25.4%
Mount Morris (V)	1,337	$785,505,655	1,331	99.6%	$779,937,585	99.3%
North Dansville (T)	607	$497,159,183	195	32.1%	$77,594,850	15.6%
Nunda (T)	1,354	$544,934,442	927	68.5%	$380,551,943	69.8%
Nunda (V)	641	$392,488,596	623	97.2%	$382,865,729	97.5%
Ossian (T)	817	$488,703,931	100	12.2%	$45,858,009	9.4%
Portage (T)	620	$338,465,763	275	44.4%	$147,711,065	43.6%
Sparta (T)	1,151	$449,674,840	608	52.8%	$208,528,558	46.4%
Springwater (T)	1,822	$702,256,303	1,323	72.6%	$471,497,256	67.1%
West Sparta (T)	1,010	$423,213,015	556	55.0%	$186,229,920	44.0%
York (T)	2,183	$1,677,949,006	112	5.1%	$43,591,701	2.6%
Livingston County (Total)	**34,652**	**$21,478,296,842**	**10,781**	**31.1%**	**$4,603,599,493**	**21.4%**

Source: University of Wisconsin 2010; Livingston County 2021; RS Means 2021
Notes: % - Percent; T – Town; V – Village; WUI – Wildland-Urban Interface/Intermix

Impact on Critical Facilities and Lifelines

It is recognized that several critical facilities are in the wildfire hazard area and are also vulnerable to the threat of wildfire. Majority of the critical facilities exposed to the wildland urban interface/intermix hazard areas are bridges and dams. Table 5.4.13-5 summarizes critical facilities located within the wildfire hazard areas by jurisdiction. Overall, 187 critical facilities are located in the wildfire hazard area. Of these facilities, 177 are considered lifelines for the county. The Village of Mount Morris has the greatest number of critical facilities and lifelines built in the Interface/Intermix WUI hazard areas (i.e., 26 total facilities, 22 are lifelines). The

critical facilities are also categorized into FEMA lifeline groupings and are summarized in Table 5.4.13-6. Refer to Appendix F for a distribution of the critical facilities listed by critical facility type that are located in the wildfire hazard areas.

Table 5.4.13-5. Number of Critical Facilities and Lifelines Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area

Jurisdiction	Total Critical Facilities Located in Jurisdiction	Total Lifelines Located in Jurisdiction	Number of Critical Facilities and Lifeline Facilities Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area			
			Critical Facilities	Percent of Total Critical Facilities	Lifelines	Percent of Total Lifelines
Avon (T)	51	46	4	7.8%	4	8.7%
Avon (V)	36	27	0	0.0%	0	0.0%
Caledonia (T)	19	16	0	0.0%	0	0.0%
Caledonia (V)	28	25	1	3.6%	1	4.0%
Conesus (T)	26	26	16	61.5%	16	61.5%
Dansville (V)	46	37	2	4.3%	2	5.4%
Geneseo (T)	48	45	2	4.2%	2	4.4%
Geneseo (V)	46	39	0	0.0%	0	0.0%
Groveland (T)	63	59	12	19.0%	12	20.3%
Leicester (T)	26	26	1	3.8%	1	3.8%
Leicester (V)	13	13	2	15.4%	2	15.4%
Lima (T)	16	14	0	0.0%	0	0.0%
Lima (V)	21	19	0	0.0%	0	0.0%
Livonia (T)	70	65	20	28.6%	20	30.8%
Livonia (V)	16	12	1	6.3%	1	8.3%
Mount Morris (T)	30	29	10	33.3%	10	34.5%
Mount Morris (V)	28	24	26	92.9%	22	91.7%
North Dansville (T)	35	31	10	28.6%	9	29.0%
Nunda (T)	25	25	11	44.0%	11	44.0%
Nunda (V)	23	20	21	91.3%	18	90.0%
Ossian (T)	20	20	1	5.0%	1	5.0%
Portage (T)	23	22	7	30.4%	6	27.3%
Sparta (T)	18	18	9	50.0%	9	50.0%
Springwater (T)	27	26	19	70.4%	18	69.2%
West Sparta (T)	25	25	8	32.0%	8	32.0%
York (T)	58	54	4	6.9%	4	7.4%
Livingston County (Total)	**837**	**763**	**187**	**22.3%**	**177**	**23.2%**

Source: Livingston County Planning Partners 2021; HIFLD 2020;.University of Wisconsin 2010
Notes: T – Town; V – Village; % - Percent

Table 5.4.13-6. Number of Lifelines Categorized by FEMA Lifeline Category Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area

FEMA Lifeline Category	Number of Lifelines	Number of Lifelines Located in the Wildland-Urban Interface/Intermix Wildfire Fuel Hazard Area
Communications	72	19
Energy	18	3
Food, Water, Shelter	100	32
Hazardous Materials	50	7
Health and Medical	36	5
Safety and Security	269	67
Transportation	218	44
Livingston County (Total)	**763**	**177**

Source: Livingston County Planning Partners 2021; HIFLD 2020; University of Wisconsin 2010; FEMA 2021

Impact on the Economy

Wildfire events can have major economic impacts on a community from the initial loss of structures and the subsequent loss of revenue from destroyed business. These events may cost thousands of taxpayer dollars to suppress and control and may involve hundreds of operating hours on fire apparatus and thousands of volunteer man hours from the volunteer firefighters. There are also many direct and indirect costs to local businesses that excuse volunteers from working to fight these fires. Due to a lack of data regarding past structural and economic losses specific to Livingston County or its municipalities, it is not possible to estimate future losses due to wildfire events currently.

Impact on the Environment

According to the USFS, post-fire runoff polluted with debris and contaminates can be extremely harmful to ecosystem and aquatic life (USGS n.d.). The age and density of infrastructure within Livingston County can exacerbate consequences of fires on the environment because of the increased amount of chemicals and contaminates that would be released from burning infrastructure. These chemicals, such as iron lead, and zinc, may leach into the stormwater, contaminate nearby streams, and impair aquatic life.

Cascading Impacts on Other Hazards

Wildfires result in the uncontrolled destruction of forests, brush, field crops, grasslands, real estate, and personal property, and have secondary impacts on other hazards such as flooding, by removing vegetation and destroying watersheds.

Future Changes That May Impact Vulnerability

Understanding future changes that effect vulnerability in the county can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. Changes in the natural environment and built environment and how they interact can also provide insight about ways to plan.

Projected Development

As discussed in Section 4, areas targeted for future growth and development have been identified across the county. Any areas of growth located in the Interface/Intermix WUI hazard areas could be at risk. The maps in each jurisdictional annex (Section 9 of this HMP) show the new development project areas and their proximity to the Interface/Intermix WUI hazard areas.

Projected Changes in Population

According to the 2019 American Community Survey 5-year population estimates, the population of the county has decreased by approximately 3-percent since 2010. While less people will reside in the county, those that remain may move into areas that are susceptible to wildfire events. Section 4, County Profile, provides additional discussion on population trends.

Climate Change

As discussed above, most studies project that the State of New York will see an increase in average annual temperatures and precipitation. Changes in temperature can influence how fire interacts with the surrounding natural habitat and built environment. Fire interacts with climate and vegetation (fuel) in predictable ways. Understanding the climate/fire/vegetation interactions is essential for addressing issues associated with climate change that include:

- Effects on regional circulation and other atmospheric patterns that affect fire weather
- Effects of changing fire regimes on the carbon cycle, forest structure, and species composition, and
- Complications from land use change, invasive species and an increasing WUI (USFS 2020).

Fire occurrence and/or area burned could increase across the U.S. due to the increase of lightning activity, the frequency of surface pressure and associated circulation patterns conductive to surface drying, and fire-weather conditions, in general, which is conductive to severe wildfires. Warmer temperatures will also increase the effects of drought and increase the number of days each year with flammable fuels and extending fire seasons and areas burned (USFS, 2020).

Future changes in fire frequency and severity are difficult to predict. Global and regional climate changes associated with elevated greenhouse gas concentrations could alter large weather patterns, thereby affecting fire-weather conducive to extreme fire behavior (USFS, 2020).

Change of Vulnerability Since the 2015 HMP

Since the 2014 HMP, population statistics have been updated using the 5-Year 2015-2019 American Community Survey Population Estimates. The general building stock was also updated using 2021 building footprint and tax assessor data from Livingston County. Furthermore, the replacement cost values of the building inventory were updated using 2021 RS Means values. 2021 critical facility inventory data provided by the Livingston County Planning Partners and the Homeland Infrastructure Foundation-Level Data (HIFLD) were used to assess the number of critical facilities and lifelines at risk to the 2010 University of Wisconsin wildfire hazard areas.

Overall, this vulnerability assessment uses a more precise and thorough approach, which provides increased accuracy for estimated exposure and potential losses for Livingston County.

SECTION 6. MITIGATION STRATEGIES

This section presents mitigation strategies for Livingston County to reduce potential exposure and losses identified as concerns in the Risk Assessment portion of this plan. The Steering Committee reviewed the Risk Assessment

to identify and develop these mitigation actions, which are presented herein.

This section includes:

1. Background and Past Mitigation Accomplishments
2. General Mitigation Planning Approach
3. Review and Update of Mitigation Goals and Objectives
4. Capability Assessment
5. Mitigation Strategy Development and Update

Hazard mitigation reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation actions address a range of impacts, including impacts on the population, property, the economy, and the environment.

Mitigation actions can include activities such as: revisions to land-use planning, training and education, and structural and nonstructural safety measures.

6.1 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

In accordance with the requirements of the Disaster Mitigation Act of 2000 (refer to Section 1 for more detail on DMA 2000), a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this plan update. Through previous and ongoing hazard mitigation activities, the county has demonstrated that it is proactive in protecting its physical assets and citizens against losses from natural hazards. Examples of previous and ongoing actions and projects include the following:

- The Livingston County Planning Department hosts the LET'S Plan! Training Series on an annual basis to increase public and municipal awareness of land use laws, subdivision laws, and zoning.
- All municipalities participating in this plan participate in the NFIP, which requires adoption of FEMA floodplain mapping and certain minimum construction standards for building within the floodplain.
- The county and municipalities have implemented mitigation actions to protect critical facilities and infrastructure throughout the county. These actions include installation of backup power generation and enhancing security systems.
- The county developed initial maps depicting utility lines to give emergency crews immediate access during emergencies. The maps are being updated on a regular basis.
- Emergency drills and exercises are conducted at schools.
- The county established evacuation plans for each village and town. The plans include considerations for pets and individuals with access and functional needs. Evacuation plans and routes are maintained in the County EOP.
- Regular maintenance of sewer lines includes installation of check valves and upgrading infrastructure as needed.
- The county Planning Department maintains a countywide geographic information system (GIS) that allows the county and municipalities to share data during an emergency.
- The county has implemented a dialogic notification system (Reverse 911) to notify residents of an emergency.
- The county facilitated the development of the original Livingston County Multi-Jurisdictional Hazard Mitigation Plan. The current planning process represents the regulatory 5-year plan update process,

which includes participation of the 26 municipalities in the county, along with key county and regional stakeholders.

- Reports, plans, and studies relating to or including information on natural hazards or natural hazard policies affecting Livingston County have been reviewed and incorporated into this plan update as appropriate, as discussed in Section 3 (Planning Process) and References.
- The most current flood insurance rate maps (FIRMs) for municipalities within Livingston County range from 1978 to 2010.
- The Livingston County Planning Department
    - Provides technical assistance on land use regulations, economic development, and environmental protection to municipalities
    - Provides staff assistance to 5 committees: the Agriculture and Farmland Protection Board, the Conesus Lake Watershed Council, the County Planning Board, the Environmental Management Council, the Transportation Advisory Committee
    - Assists county offices with GIS mapping, research, and analysis
    - Administers grants, creates and develops plans for Capital Improvement
    - Provides land use training through the "LET'S Plan!" training program
- Livingston County, working along with the inclusive municipalities, conducts and facilitates community and public education and outreach to include, but not be limited to, the following to promote and effect natural hazard risk reduction:
    - Contact each municipality to encourage them to provide and maintain links to the Livingston County HMP website (this was done during update).
    - Work with regional agencies, neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.
- Livingston County works to promote awareness and use of "Hyper-Reach", an emergency notification system that allows the Emergency Communications Center to alert residents to emergency situations via telephone call, text message, or email. The county also provides emergency information and road closures on their website.

6.2 GENERAL MITIGATION PLANNING APPROACH

The overall approach used to update local hazard mitigation strategies for the county are based on FEMA and NYS regulations and guidance regarding local mitigation plan development, including:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning)
- FEMA *Local Mitigation Planning Handbook*, March 2013
- FEMA *Local Mitigation Plan Review Guide*, October 1, 2011
- FEMA *Integrating Hazard Mitigation into Local Planning*, March 1, 2013
- FEMA *Plan Integration: Linking Local Planning Efforts*, July 2015
- FEMA *Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3), April 2003
- FEMA *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*, January 2013
- NYS DHSES *New York State Hazard Mitigation Planning Standards*, 2017
- NYS DHSES *New York State Hazard Mitigation Planning Standards Guide*, 2017

The mitigation strategy update approach includes the following steps that are further detailed in later subsections of this section:

- Section 6.3 - Review and update of mitigation goals and objectives

- Section 6.4 - Identify mitigation capabilities and evaluate their capacity and effectiveness to mitigate and manage hazard risk
- Section 6.5 - Prepare an implementation strategy, including:
  - Identification of progress on previous county and local mitigation strategies
  - Development of updated county and local mitigation strategies
  - Prioritization projects and initiatives in the updated mitigation strategy

6.3 REVIEW AND UPDATE OF MITIGATION GOALS AND OBJECTIVES

FEMA defines ***Goals*** as general guidelines that explain what should be achieved. Goals are usually broad, long-term, policy statements, and represent a global vision.

FEMA defines ***Objectives*** as strategies or implementation steps to attain mitigation goals. Unlike goals, objectives are specific and measurable, where feasible.

FEMA defines ***Mitigation Actions*** as specific actions that help to achieve the mitigation goals and objectives.

This section documents the efforts to develop hazard mitigation goals and establish objectives to reduce or avoid long-term vulnerabilities to the identified hazards.

6.3.1 Goals and Objectives

According to CFR 201.6(c)(3)(i): "The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards." The mitigation goals were developed based on the risk assessment results, discussions, research, and input from the committee, existing authorities, polices, programs, resources, stakeholders, and the public. The Steering Committee reviewed the 2015 goals and objectives and made revisions for the 2022 update based on the risk assessment results, discussions, research, and input from amongst the committee, existing authorities, polices, programs, resources, stakeholders and the public. For the purposes of this plan, goals and objectives are defined as follows:

Goals are general guidelines that explain what is to be achieved. They are usually broad, long-term, policy-type statements and represent global visions. Goals help define the benefits that the plan is trying to achieve. The success of the plan, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of hazard mitigation).

Objectives are short-term aims which, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are a stand-alone measurement of the effectiveness of a mitigation action, rather than as a subset for a goal. The objectives also are used to help establish priorities.

During the 2022 plan update process, the Steering Committee reviewed the goals and objectives established in the 2015 HMP. These goals and objectives were reviewed in consideration of the hazard events and losses since the 2015 plan, the updated hazard profiles and vulnerability assessment, the goals and objectives established in the New York State 2019 HMP, county and local risk management plans, as well as direct input on how the county and municipalities need to move forward to best manage their hazard risk. Amendments include additions/edits to goals and/or objectives to express the Planning Partnership's interests in integrating this plan with other planning mechanisms/programs, and to support mitigation through the protection and preservation of natural systems, including particular reference to certain goals and objectives in the NYS 2019 HMP update, as identified in the table below.

As a result of this review process, the goals and objectives for the 2022 update have been amended, as presented in Table 6-1.

Table 6-1. Livingston County Hazard Mitigation Plan Goals and Objectives

Goals	Objectives
Goal 1: Protect life, property, and critical infrastructure from hazard impacts.	Objective 1.1 – Retrofit critical facilities and community assets to protect against hazard impacts.
	Objective 1.2 – Work with residents and business owners to make their structures more hazard resistant.
	Objective 1.3 – Enhance stormwater management infrastructure.
	Objective 1.4 – Ensure that critical facilities can continue to function during and after hazard impacts.
	Objective 1.5 – Acquire, retrofit, or relocate structures from hazard-prone areas.
	Objective 1.6 – Encourage residents and business owners to insure their property against hazard impacts, including through flood insurance through the National Flood Insurance Program (NFIP).
Goal 2: Reduce the risk of hazards on life, property, and the environment.	Objective 2.1 – Develop and/or update local regulations based on current information and best practices to help prevent hazard impacts.
	Objective 2.2 – Maintain natural waterways and drainage systems to reduce the impacts of hazards.
Goal 3: Educate the public, officials, and other stakeholders about the hazards they face and what can be done to mitigate hazard impacts.	Objective 3.1 – Ensure that local officials attend current training on regulatory issues, best practices, and resources available to address hazards.
	Objective 3.2 – Educate individuals throughout the County on the hazards they face and what property protection measures they can take to lessen the impact of hazards.

6.4 CAPABILITY ASSESSMENT

According to FEMA's *Mitigation Planning How-To Guide #3*, a capability assessment is an inventory of a community's missions, programs, and policies and an analysis of its capacity to carry them out. This assessment is an integral part of the planning process. The assessment process enables identification, review, and analysis of current local and state programs, policies, regulations, funding, and practices that could either facilitate or hinder mitigation.

During the original planning process, the county and participating jurisdictions identified and assessed their capabilities in the areas of existing programs, policies, and technical documents. By completing this assessment, each jurisdiction learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that may exist on undertaking actions
- The range of local and/or state administrative, programmatic, regulatory, financial and technical resources available to assist in implementing their mitigation actions
- Actions deemed infeasible as they are currently outside the scope of capabilities
- Types of mitigation actions that may be technically, legally (regulatory), administratively, politically, or fiscally challenging or infeasible
- Opportunities to enhance local capabilities to support long term mitigation and risk reduction.

During the plan update process, all participating jurisdictions were tasked with developing or updating their capability assessment, paying particular attention to evaluating the effectiveness of these capabilities in supporting hazard mitigation, and identifying opportunities to enhance local capabilities.

County and municipal capabilities in the Planning and Regulatory, Administrative and Technical, and Fiscal arenas are provided in the Capability Assessment section of each jurisdictional annex (Section 9). Within each annex, participating jurisdictions identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework ("integration capabilities"), and how they intend to promote this integration ("integration actions"). A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 7 (Plan Maintenance).

A summary of the various federal, state, county, and local planning and regulatory, administrative and technical, and fiscal programs available to promote and support mitigation and risk reduction in Livingston County are presented below.

6.4.1 Planning and Regulatory Capabilities - County and Local

Municipal Land Use Planning and Regulatory Authority

The county and municipalities have various land use planning mechanisms that can be leveraged to mitigate flooding and support natural hazard risk reduction. Specific county and local planning and regulatory capabilities are identified in their jurisdictional annexes in Section 9. These include but are not limited to comprehensive plans, flood damage prevention ordinances, local codes and regulations, stormwater regulations, and municipal level plans. A list of plans reviewed is provided in Section 3 (Planning Process).

The Livingston County Planning Department, in coordination with the Genesee/Finger Lakes Regional Planning Council (G/FLRPC), provides a wide range of planning services to support the county and its communities. The Livingston County Planning Department and G/FLRPC provide land use and comprehensive planning, including the development of the county's comprehensive land use plan, in addition to the following services:

- Provision of training and planning information for municipal planners and the public through the Genesee/Finger Lakes Regional Planning Council
- Farmland Protection planning, including administering the Agricultural Districts program, sitting on the County Legislature's Agriculture & Farmland Protection Board, and overseeing the Agricultural and Farmland Protection Plan for Livingston County
- Participating on study and advisory committees as a member agency of the Genesee Transportation Council (GTC), which is responsible for multi-agency transportation planning and funding coordination for Livingston County
- Collection, analysis, and distribution of land use data, including U.S. Census data as a NYS Data Center Affiliate
- Special topic planning projects on behalf of Livingston County and its municipalities
- Technical assistance to county departments and to the towns and villages
- GIS mapping services to county departments and municipalities.

Staff from the Livingston County Office of Emergency Management and the Livingston County Planning Department provided leadership for this HMP update planning effort. In addition, they served on the Steering Committee and provided continuous support for the implementation of mitigation projects and mitigation educational outreach and serves as a resource to the county and municipalities.

Section 239 of New York State General Municipal Law (GML) requires the referral of certain local planning actions to the County Planning Board for the examination of possible inter-municipal impacts. The Livingston County Planning Board operates under New York State General Municipal Law (§239 l, m, and n) to advise local boards on the potential intermunicipal or countywide impact of local land use decisions. The Planning

Board uses the Livingston County comprehensive plan to direct recommendations on municipal land use referrals and to review proposed county capital improvement projects.

National Flood Insurance Program (NFIP) and Flood Damage Prevention

As it is a federal program, the NFIP is described in Section 6.4.2, below.

All municipalities in Livingston County actively participate in the NFIP. As of July 2021, there were 258 NFIP policies in Livingston County. There have been 134 claims made, totaling $625,847 for damage to structures and contents. Further details on the county's flood vulnerability may be found in the Flood hazard profile in Section 5.4.3. The numbers of Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties are unknown, as the data was not provided by FEMA. The 2015 HMP stated that there was only one RL property in the county, a 2-4 family residential property in the Village of Dansville. However, updated information on specific locations of RL and SRL properties was not made available from FEMA for this plan update, so the county is unable to provide a current breakdown of the RL properties by occupancy.

Municipal compliance with the NFIP is described in each of the jurisdictional annex in Section 9. The county's municipalities have been compliant with the NFIP, but municipal flood damage prevention capabilities are generally low. To enhance their flood damage prevention programs and enhance compliance with the NFIP in the future, each municipality has actions in their mitigation strategies to update their flood damage prevention ordinances to incorporate two feet of freeboard, and to ensure that their floodplain administrators complete training on floodplain management and the NFIP. In addition, Livingston County's mitigation strategy (see Section 9.1) includes actions to facilitate a countywide FIRM update, and to coordinate with each municipality to examine and enhance their flood damage prevention programs and compliance with the NFIP in the future.

Emergency and Evacuation Plans

The Livingston County Office of Emergency Management (OEM) coordinates all emergency management activities in the county, including mitigation, preparedness, response, and recovery. The OEM works collaboratively with many other agencies and organizations, which enables the county to better protect life and property during disasters and emergencies. The OEM maintains the Livingston County Comprehensive Emergency Management Plan (CEMP) which is a comprehensive approach to emergency management. The CEMP is an all-hazards plan that outlines how the county will efficiently and effectively manage emergencies and disaster situations. The CEMP provides protocol for sheltering and evacuation of residents in the event of an emergency.

Local Waterfront Revitalization Program

The Waterfront Revitalization of Coastal Areas and Inland Waterways Act offers local governments the opportunity to participate in the state's Coastal Management Program (CMP) on a voluntary basis by preparing and adopting a Local Waterfront Revitalization Program (LWRP), providing more detailed implementation of the state's CMP through use of existing broad powers, such as zoning and site plan review (New York State Division of Planning 2018).

When an LWRP is approved by the New York State Secretary of State, state agency actions are required to be consistent with the approved LWRP to the maximum extent practicable. When the federal government concurs with the incorporation of an LWRP into the CMP, federal agency actions must be consistent with the approved addition to the CMP. Title 19 of NYCRR Parts 600, 601, 602, and 603 provide the rules and regulations that implement each of the provisions of the Waterfront Revitalization of Coastal Areas and Inland Waterways Act including but not limited to the required content of an LWRP, the processes of review and approval of an LWRP, and LWRP amendments (New York State Division of Planning 2018).

A LWRP consists of a planning document prepared by a community, and the program established to implement the plan. An LWRP may be comprehensive and address all issues that affect a community's entire waterfront, or it may address the most critical issues facing a significant portion of its waterfront. An approved LWRP reflects community consensus and provides a clear direction for appropriate future development. It establishes a long-term partnership among local government, community-based organizations, and the State. Also, funding to advance preparation, refinement, or implementation of Local Waterfront Revitalization Programs is available under Title 11 of the New York State Environmental Protection Fund Local Waterfront Revitalization Program (EPF LWRP) among other sources (New York State Division of Planning 2018).

Any village, town, or city located along the state's coast or designated inland waterway can prepare a new or amend an existing Local Waterfront Revitalization Program. Municipalities are encouraged to address local revitalization issues in a broader context, aligned with regional economic development strategies and regional resource protection and management programs (New York State Division of Planning 2018).

Per the NYS Department of State website, as of the date of this HMP update, there are no approved LWRP plans in Livingston County. Refer to https://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP_status.html for a list of all approved LWRPs.

6.4.2 Planning and Regulatory Capabilities – State and Federal

National Flood Insurance Program (NFIP)

The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968 (FEMA's 2002 National Flood Insurance Program). The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damage. The Flood Hazard Profile in Section 5.4.3 provides information on recent legislation related to reforms to the NFIP.

There are three components to the NFIP: flood insurance, floodplain management, and flood hazard mapping. Communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Community participation in the NFIP is voluntary. Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. Flood damage in the United States is reduced by nearly $1 billion each year through communities implementing sound floodplain management requirements and property owners purchasing flood insurance. Additionally, buildings constructed in compliance with NFIP building standards suffer approximately 80 percent less damage annually than those not built in compliance (FEMA, 2008).

Municipal participation in and compliance with the NFIP is supported at the federal level by FEMA Region II and the Insurance Services Organization (ISO), and at the state-level by the New York State Department of Environmental Conservation (NYSDEC) and New York State Division of Homeland Security and Emergency Services (NYS DHSES). Additional information on the NFIP program and its implementation throughout the county is provided in the flood hazard profile in Section 5.4.3.

The state and municipalities within it may adopt higher regulatory standards when implementing the provisions of the NFIP. Specifically identified are the following:

Freeboard: By law, NYS requires Base Flood Elevation plus 2 feet (BFE+2) for all construction. When there is a base flood elevation available, the lowest floor, including any basement, must be at or above the base flood

elevation (plus 2 feet beginning in 2007). Elevation may be by means of properly compacted fill, a solid slab foundation, or a "crawl space" foundation which contains permanent openings to let flood waters in and out. Non-residential structures may be flood proofed in lieu of elevation. Where a local floodplain administrator has information to estimate a base flood elevation, such as historic flood records or a hydraulic study, that elevation must be used. If the development consists of more than 5 acres or more than 50 lots, the permit applicant must develop a base flood elevation and build accordingly (NYDEC 2018). Communities may go beyond this requirement, providing for additional freeboard. In most New York communities, new structures must have the lowest floor 3 feet or more above the highest adjacent grade.

Cumulative Substantial Improvements/Damages: The NFIP allows improvements valued at up to 50 percent of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for structures within a community. The community may wish to deem "substantial improvement" cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

NFIP Community Rating System (CRS)

As an additional component of the NFIP, the Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses, (2) facilitate accurate insurance rating, and (3) promote the awareness of flood insurance (FEMA 2012). Municipalities and the county as a whole could expect significant cost savings on premiums if enrolled in the CRS program.

U.S. Army Corps of Engineers

Under Section 404(e) of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) can issue general permits to authorize activities that have only minimal individual and cumulative adverse environmental effects. A nationwide permit (NWP) is a general permit that authorizes activities across the country, unless a district or division commander revokes the nationwide permit in a state or other geographic region. There are 54 nationwide permits, and they authorize a wide variety of activities, including: linear transportation projects, bank stabilization activities, residential development, commercial and industrial developments, aids to navigation and certain maintenance activities (USACE 2017). Details on each NWP can be found here: https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll7/id/6711.

There are three types of USACE permits: standard, nationwide (described above), and regional. Standard permits are individual permits that involve full public interest review of an individual permit application and includes the issuance of a public notice for any project that does not meet the terms and conditions of an NWP or a Letter of Permission (LOP). Regional general permits are for small, specialized projects. In New York State, there are six regional general permit categories (see https://www.lrb.usace.army.mil/Missions/Regulatory/New-York-Permit-Information/) (USACE Buffalo District 2019).

New York State Floodplain Management

Two departments have statutory authorities and programs that affect floodplain management at the local jurisdiction level in New York State: the New York State Department of Environmental Conservation (NYSDEC) and the Department of State's Division of Code Enforcement and Administration (DCEA).

The NYSDEC is charged with conserving, improving, and protecting the state's natural resources and environment; and preventing, abating, and controlling water, land, and air pollution. Programs that have bearing on floodplain management are managed by the Bureau of Flood Protection and Dam Safety, which cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion, and dam failures. These objectives are accomplished through floodplain management and both structural and nonstructural means.

The Dam Safety Section is responsible for "reviewing repairs and modifications to dams and assuring [sic] that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning." The Flood Control Projects Section is responsible for reducing flood risk to life and property through construction, operation, and maintenance of flood control facilities.

The Floodplain Management Section is responsible for reducing flood risk to life and property through management of activities, such as development in flood hazard areas, and for reviewing and developing revised flood maps. The Section serves as the NFIP State Coordinating Agency and in this capacity, is the liaison between FEMA and New York communities that elect to participate in the NFIP. The Section provides a wide range of technical assistance.

6.4.3 Administrative and Technical Capabilities - County and Local

This subsection provides a summary of capabilities to support hazard mitigation for local jurisdictions, some of which who sat on the Steering Committee and others who provide a resource for support and information to communities. Specific local capabilities (e.g. police, fire, EMS, highway and public works departments, etc.) are provided in Section 9 (Jurisdictional Annexes).

Livingston County Planning Department

The Livingston County Planning Department serves two primary functions. First, it provides technical assistance to the towns and villages on local land use regulations, economic development, mapping, and environmental protection. It provides staff assistance to the County Planning Board, the Agriculture and Farmland Protection Board, the Conesus Lake Watershed Council and the Environmental Management Council. Second, the Planning Department provides research, mapping, and analytical capabilities to assist the County Administrator, Board of Supervisors, and county departments.

Livingston County Office of Emergency Management

The Livingston County Office of Emergency Management Services coordinates with county and local shareholders in responding and recovering from all natural and man-made emergencies. The OEM provides the leadership and support to reduce loss of life and property through an all-hazards emergency management program of mitigation, preparedness, response, and recovery throughout Livingston County.

The OEM seeks to equip governmental, volunteer, and private organizations, with effective plans, necessary resources, and training in order to respond to emergencies. They provide fire training courses, safety tips, and create and promote safety notices for residents. The OEM also coordinates education programs to train emergency personnel.

Livingston County Water & Sewer Authority

The Livingston County Water & Sewar Authority (LCWSA) seeks to provide high quality, environmentally sound, efficient, reliable, and affordable water and sewer to buildings in the county. They ensure Livingston County is in compliance with EPA regulations, SPDES permit requirements, and a variety of New York agencies

and policies. The LCWSA is responsible for the maintenance and inspection of existing facilities and equipment, which includes conducting engineering studies of the sewar collection system to determine inflow areas and implementing an internal plumbing inspection program to prevent sewer overflows.

Livingston County Health Department

The Livingston County Health Department works to assure the availability of health services, to promote healthy living, and to ensure a safe environment for today and the future. Services and programs provided by the department include Bereavement Support Groups, the Cancer Services Program, the Diabetes Support Group, the Early Intervention Program, the Immunization Clinic, Prescription Assistance, and a Reproductive Health Center.

Livingston County Department of Health, Mt. Morris, NY

Livingston County Board of Supervisors

The Livingston County Board of Supervisors consists of 17 town supervisors who are elected officials and represent citizens at the county level. A supervisor holds office for either two- or four-year terms and the term is set by each particular town. The County Administrator is directly responsible to the Board of Supervisors for the overall administration of county government and coordinates the daily operations of county government. The Board of Supervisors is responsible for establishing and approving policies and local laws, approving the annual budget, approving contracts for projects and services, conducting public hearings, setting county employee salaries, making appointments to boards, committees, and administration.

About the Board of Supervisors | Livingston County, NY - Official Website

Livingston County Highway Department

The Livingston County Highway Department is responsible for controlling and implementing all activities required to maintain and repair the County's road and bridge infrastructure, consisting of 242 miles of highway and 72 bridges. Highway Department activities include:

- Reconstruction and Construction of Roads and Bridges
- Bridge Repair and Maintenance
- Road Paving, Recycling and Surface Treating
- Repair and Replacement of Culverts and Drainage Systems
- Cleaning and Improving Ditches
- Cutting Trees and Brush
- Grading and Patching Shoulders
- Patching Pavement
- Traffic Sign Maintenance and Fabrication

Recently completed projects include extending Millennium Drive, replacing Bridge 004, Polebridge Rd over Conesus Outlet, and replacing Bridge 084, Pokamoonshine Rd over Carney Hollow Creek.

Highway Department | Livingston County, NY - Official Website

Genesee Transportation Council

The Genesee Transportation Council (GTC) is the state-designated Metropolitan Planning Organization (MPO), responsible for administering continuous and comprehensive transportation planning for the region. GTC's

planning jurisdiction, called the Metropolitan Planning Area (MPA), covers all towns and villages within Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wyoming, and Yates Counties. As the MPO, the GTC provides the forum for cooperative decision making in the development of transportation plans, programs, and recommendations. Its committees are comprised of elected and appointed officials, representing local, state and federal governments, agencies, and organizations having interest in or responsibility for transportation planning and programming. The GTC also provides an opportunity for citizens to participate in the discussion of specific transportation issues and projects and encourages the public to get involved in the public involvement opportunities available (GTC 2020).

www.gtcmpo.org

New York State Federation of Lake Associations

New York State Federations of Lake Associations (NYSFOLA) is a non-profit coalition of lake associations, individuals, and corporate members dedicated to the protection and restoration of lakes across New York State. They provide education and outreach to lake associations, including information on harmful algal blooms and invasive aquatic plant species. NYSFOLA also assists NYSDEC with the Citizens Statewide Lake Assessment Program (CSLAP), which is a volunteer lake monitoring program. Volunteers are responsible for collecting water quality data and samples from June through September. Volunteers also submit aquatic plant samples, take lake level measurements, monitor for invasive species, conduct angler surveys, and provide other valuable information about the condition of the lakes. NYSFOLA also publishes newsletters throughout the year (NYSFOLA 2019).

NYSFOLA – New York State Federation of Lake Associations

The Conesus Lake Association is very active. This Association educates residents and government agencies about threats to Conesus Lake and watershed and works on protecting and improving water quality of the lake. The lake association was invited to participating in the planning process and to attend meetings.

Home - Conesus Lake Association

Livingston County Agriculture and Farmland Protection Board (AFPB)

The purpose of the Agriculture and Farmland Protection Board is to advise the County Board of Supervisors, and to work on the establishment, continuation, modification, or termination of agricultural districts in the county. The board provides expert advice relating to any potential actions, including the nature of farming and farm resources within a district, and the relation of farming in the district to the county as a whole. It may review notice of intent filings and make recommendations on the effect and reasonableness of proposed activities. The board assesses and approves agricultural and farmland protection plans. The board may also ask the NYS Department of Agriculture and Markets Commissioner to review any state rules or regulations that the board identifies as affecting agriculture within a district.

Members of the AFPB include active farmers; representatives from agribusiness, the Cornell Cooperative Extension of Livingston County; the County Board of Supervisors; and other county departments. All members have a background and expertise in agriculture.

6.4.4 Administrative and Technical Capabilities - State and Federal

New York State Division of Homeland Security and Emergency Services (NYS DHSES)

For more than 50 years, NYS DHSES (formerly New York State Office of Emergency Management) and its predecessor agencies have been responsible for coordinating the activities of all state agencies to protect communities, the economic well-being, and the environment from natural and man-made disasters and emergencies throughout New York State. NYS DHSES routinely assists local governments, voluntary organizations, and private industry through a variety of emergency management programs including hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

NYS DHSES administers the FEMA mitigation grant programs in the state and supports local mitigation planning in addition to developing and routinely updating the State Hazard Mitigation Plan. NYS DHSES prepared the current State Hazard Mitigation Plan working with input from other State agencies, authorities and organizations. It was approved by FEMA in 2014 and it keeps New York eligible for recovery assistance in all Public Assistance Categories A through G, and Hazard Mitigation assistance in each of the Unified Hazard Mitigation Assistance Program's five grant programs. For example, the 2008-2011 State Mitigation Plan allowed the state and its communities to access nearly $57 million in mitigation grants to prepare plans and carry out projects. The 2014 New York State HMP was used as guidance in completing the Livingston County HMP Update. The State HMP can be found here: http://www.dhses.ny.gov/recovery/mitigation/plan.cfm

New York State Department of Environmental Conservation (NYSDEC) – Region 9 – Central New York

Within the NYSDEC, Region 8 is located in western New York and includes the Genesee River, the shoreline of Lake Ontario, several Finger Lakes, and dozens of state forests. The main DEC office is located in Avon in Livingston County, with suboffices in Bath and Elmira. DEC staff are responsible for natural resource management and environmental quality protection. As part of natural resource management, staff oversee state fish and wildlife resources, as well as state forests and wildlife (NYSDEC Region 8 2020).

New York State Department of Environmental Conservation (NYSDEC) – Division of Water - Bureau of Flood Protection and Dam Safety

Within the NYSDEC, the Division of Water, the Bureau of Flood Protection and Dam Safety (http://www.dec.ny.gov/about/61432.html) cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion and dam failures through floodplain management and both structural and non-structural means; and, provides support for information technology needs.

The Bureau consists of the following:

- Coastal Management: Works to reduce coastal erosion and storm damage to protect lives, natural resources, and properties through structural and non-structural means.
- Dam Safety: Is responsible for reviewing repairs and modifications to dams and assuring that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning.
- Flood Control Projects: Is responsible for reducing flood risk to life and property through construction, operation and maintenance of flood control facilities.

- Floodplain Management: Is responsible for reducing flood risk to life and property through proper management of activities including, development in flood hazard areas and review and development of revised flood maps (NYSDEC Bureau of Flood Protection and Dam Safety 2019).

Northeast Regional Climate Center

The Northeast Regional Climate Center (NRCC) partnered with the New York State Energy Research and Development Authority (NYSERDA) to compare various methods of downscaling global climate model (GCM) output and create extreme precipitation projections for New York State. These projections can be incorporated into climate change adaptation planning. Projections for Livingston County are discussed in Section 5 (Risk Assessment). To help New York State communities plan for effects of climate change, new graphics are now available showing the increased likelihood of heavy precipitation events (NRCC 2019). The projections are provided at: http://www.nrcc.cornell.edu/

Department of State's Division of Code Enforcement and Administration (DCEA)

Technical Bulletins for the 2010 Codes of New York State

The DCEA has published 14 technical bulletins, including two recent bulletins, with guidance related to flood hazard areas: Electrical Systems and Equipment in Flood-damaged Structures and Accessory Structures.

Forms and Publications

The DCEA posts several model reporting forms and related publications on its web page. The Building Permit Application requests the applicant to indicate whether the site is or is not in a floodplain and advises checking with town clerks or NYSDEC. The General Residential Code Plan Review form includes a reminder to "add 2' freeboard." Sample Flood Hazard Area Review Forms, including plan review checklists and inspection checklists for Zone A and Zone V, are based on the forms provided in Reducing Flood Losses through the International Code Series published by International Code Council and FEMA (2008).

6.4.5 Fiscal Capabilities – County and Local

Municipal Fiscal Capabilities

Livingston County and individual municipalities are (legally; however, not necessarily practically) able to fund mitigation projects though existing local budgets, local appropriations (including referendums and bonding), and through a variety of federal and state loan and grant programs.

6.4.6 Fiscal Capabilities – State and Federal

Refer to the Strategies section of the 2019 New York State Hazard Mitigation Plan for information pertaining to the various funding sources available for mitigation projects:
https://mitigateny.availabs.org/strategies/funding

Federal Hazard Mitigation Funding Opportunities

Federal mitigation grant funding is available to all communities with a current hazard mitigation plan (this plan); however most of these grants require a "local share" in the range of 10 to 25 percent of the total grant amount. Details about this program and a further description of these opportunities can be found at: https://www.fema.gov/hazard-mitigation-assistance. The FEMA mitigation grant programs are described below.

Hazard Mitigation Grant Program (HMGP)

The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or changing elevation to reduce future damage, minor structural improvements and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan).

Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Native American tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to NYS DHSES and placed in rank order for available funding and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and may be considered as additional HMGP funding becomes available.

For additional information regarding HMGP, refer to: https://www.fema.gov/hazard-mitigation-grant-program

Flood Mitigation Assistance (FMA) Program

The FMA program combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. The FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is at least 75 percent. At most, 25 percent of the total eligible costs must be provided by a non-federal source. Of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. The FMA funds are distributed from FEMA to the state. The NYS DHSES serves as the grantee and program administrator for the FMA program.

For additional information regarding the FMA program, refer to: https://www.fema.gov/flood-mitigation-assistance-grant-program

Building Resilient Infrastructure and Communities (BRIC) Program

Building Resilient Infrastructure and Communities (BRIC) will support states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.

The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.

For additional information regarding the BRIC program, refer to:
https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities

Extraordinary Circumstances

For BRIC and FMA project subawards, the FEMA Region may apply extraordinary circumstances when justification is provided and with concurrence from FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) prior to granting an exception. If this exception is granted, a local mitigation plan must be approved by FEMA within 12 months of the award of the project subaward to that community.

For HMGP, BRIC, and FMA, extraordinary circumstances exist when a determination is made by the Applicant and FEMA that the proposed project is consistent with the priorities and strategies identified in the state (Standard or Enhanced) Mitigation Plan and that the jurisdiction meets at least one of the criteria below. If the jurisdiction does not meet at least one of these criteria, the Region must coordinate with FEMA Headquarters (Risk Reduction and Risk Analysis Divisions) for HMGP; however, for BRIC and FMA the Region must coordinate and seek concurrence prior to granting an exception:

- The jurisdiction meets the small, impoverished community criteria (see Part VIII, B.2).
- The jurisdiction has been determined to have had insufficient capacity due to lack of available funding, staffing, or other necessary expertise to satisfy the mitigation planning requirement prior to the current disaster or application deadline.
- The jurisdiction has been determined to have been at low risk from hazards because of low frequency of occurrence or minimal damage from previous occurrences as a result of sparse development.
- The jurisdiction experienced significant disruption from a declared disaster or another event that impacts its ability to complete the mitigation planning process prior to award or final approval of a project award.
- The jurisdiction does not have a mitigation plan for reasons beyond the control of the state, federally recognized tribe, or local community, such as Disaster Relief Fund restrictions that delay FEMA from granting a subaward prior to the expiration of the local or Tribal Mitigation Plan.

For HMGP, BRIC, and FMA, the Applicant must provide written justification that identifies the specific criteria or circumstance listed above, explains why there is no longer an impediment to satisfying the mitigation planning requirement, and identifies the specific actions or circumstances that eliminated the deficiency.

When an HMGP project funding is awarded under extraordinary circumstances, the recipient shall acknowledge in writing to the Regional Administrator that a plan will be completed within 12 months of the subaward. The recipient must provide a work plan for completing the local or Tribal Mitigation Plan, including milestones and a timetable, to ensure that the jurisdiction will complete the plan in the required time. This requirement shall be incorporated into the award (both the planning and project subaward agreements, if a planning subaward is also awarded).

Federal and State Disaster and Recovery Assistance Programs

Following a disaster, various types of assistance may be made available by local, state, and federal governments. The types and levels of disaster assistance depend on the severity of the damage and the declarations that result from the disaster event. If the President of the United States declares an event a major disaster, the types of assistance available are listed below.

Individual Assistance (IA)

Individual Assistance (IA) provides help for homeowners, renters, businesses and some non-profit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses may be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals may borrow up to $200,000 to repair or replace real estate, $40,000 to cover losses

to personal property and an additional 20 percent for mitigation. For businesses, loans may be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory and supplies. Businesses of any size are eligible. Non-profit organizations, such as charities, churches, private universities, etc. are also eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster. These loans are restricted, by law, to small businesses only. For additional information regarding IA, refer to: https://www.fema.gov/individual-disaster-assistance

Public Assistance (PA)

Public Assistance (PA) provides cost reimbursement aid to local governments (state, county, local, municipal authorities and school districts) and certain non-profit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services. This program is largely funded by FEMA with both local and state matching contributions required. For additional information regarding PA, refer to: https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit

Small-Business Administration (SBA) Loans

Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

Homeowners may apply for up to $200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to $40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances damaged or destroyed in a disaster. Physical disaster loans of up to $2 million are available to qualified businesses or most private nonprofit organizations. For additional information regarding SBA loans, refer to: https://www.sba.gov/managing-business/running-business/emergency-preparedness/disaster-assistance

Department of Homeland Security

The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. The HSGP supports efforts to build and sustain core capabilities across the Prevention, Protection, Mitigation, Response, and Recovery mission areas. This includes two priorities: building and sustaining law enforcement terrorism prevention capabilities, and maturation and enhancement of state and major urban area fusion centers (HSGP 2020). HSGP is comprised of three interconnected grant programs, including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. For additional information regarding HSGP, refer to: https://www.fema.gov/homeland-security-grant-program

Community Development Block Grants (CDBG)

CDBG are federal funds intended to provide low and moderate-income households to develop viable communities, including decent housing, as suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and drainage improvements. In limited instances, and during the times of "urgent need" (e.g., post disaster) as defined by the CDBG National Objectives, CDBG

funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. For additional information regarding CDBG, refer to: https://www.hudexchange.info/programs/cdbg-entitlement/

U.S. Economic Development Administration

The U.S. Economic Development Administration (USEDA) is an agency of the U.S. Department of Commerce that supports regional economic development in communities around the country. It provides funding to support comprehensive planning and makes strategic investments that foster employment creation and attract private investment in economically distressed areas of the United States. Through its Public Works Program, USEDA invests in key public infrastructure, such as in traditional public works projects, including water and sewer systems improvements, expansion of port and harbor facilities, brownfields, multi-tenant manufacturing and other facilities, business and industrial parks, business incubator facilities, redevelopment technology-based facilities, telecommunications and development facilities. Through its Economic Adjustment Program, USEDA administers its Revolving Loan Fund (RLF) Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business, in areas that have experienced or are under threat of serious structural damage to the underlying economic base. Refer to the USEDA website (https://www.eda.gov/) for additional information.

Federal Highway Administration - Emergency Relief

The Federal Highway Administration (FHWA) Emergency Relief (ER) program is a grant program that may be used by states for repair or reconstruction of federal-aided highways and roads on federal lands that have suffered serious damage as a result of a disaster. $100 million is authorized annually for the ER program but Congress may approve additional funds through supplemental appropriations. NYS serves as the liaison between local municipalities and FHWA. For information regarding the FHWA Emergency Relief Program, refer to: https://www.fhwa.dot.gov/programadmin/erelief.cfm

Federal Transit Administration - Emergency Relief

The Federal Transit Authority Emergency Relief is a grant program that funds capital projects to protect, repair, reconstruct, or replace equipment and facilities of public transportation systems. Administered by the Federal Transit Authority at the U.S. Department of Transportation and directly allocated to FTA and Port Authority. This transportation-specific fund was created as an alternative to FEMA PA. Currently, a total of $5.2 billion has been allocated to NYS-related entities. For information regarding the FTA Emergency Relief Program, refer to: https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/emergency-relief-program

Empire State Development

Empire State Development offers a wide range of financing, grants and incentives to promote business and employment growth, and real estate development throughout the State. Several programs address infrastructure construction associated with project development, acquisition and demolition associated with project development and brownfield remediation and redevelopment. For additional information regarding Empire State Development, refer to: https://esd.ny.gov/

State Hazard Mitigation Funding Opportunities

New York State Department of Transportation (NYSDOT)

Emergency Watershed Protection Program

The purpose of the Emergency Watershed Protection Program (EWP) was established by Congress to respond to emergencies created by natural disasters. The EWP Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) administers the EWP Program; EWP-Recovery, and EWP–Floodplain Easement (FPE). For additional information regarding the EWP, refer to:
https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/

EWP - Recovery

The EWP Recovery Program is a recovery effort program aimed at relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. Public and private landowners are eligible for assistance but must be represented by a project sponsor that must be a legal subdivision of the State, such as a city, county, township or conservation district, and Native American Tribes or Tribal governments. NRCS may pay up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

EWP work is not limited to any one set of measures. It is designed for installation of recovery measures to safeguard lives and property as a result of a natural disaster. NRCS completes a Damage Survey Report (DSR), which provides a case-by-case investigation of the work necessary to repair or protect a site.

The EWP Program addresses watershed impairments, including debris-clogged stream channels, undermined and unstable streambanks, jeopardized water control structures and public infrastructures, wind-borne debris removal, and damaged upland sites stripped of protective vegetation by fire or drought.

EWP - Floodplain Easement (FPE)

Privately owned lands or lands owned by local and state governments may be eligible for participation in EWP-FPE. To be eligible, lands must meet one of the following criteria:

- Lands that have been damaged by flooding at least once within the previous calendar year or have been subject to flood damage at least twice within the previous 10 years
- Other lands within the floodplain are eligible, provided the lands would contribute to the restoration of the flood storage and flow, provide for control of erosion, or that would improve the practical management of the floodplain easement
- Lands that would be inundated or adversely impacted as a result of a dam breach

EWP-FPE easements are restored to the extent practicable to the natural environment and may include both structural and nonstructural practices to restore the flood storage and flow, erosion control, and improve the practical management of the easement.

Structures, including buildings, within the floodplain easement must be demolished and removed, or relocated outside the 100-year floodplain or dam breach inundation area.

New York State Department of Environmental Conservation Climate Smart Communities (CSC) Program

The Climate Smart Communities (CSC) program is jointly sponsored by the following six New York State agencies: Department of Environmental Conservation, Energy Research and Development Authority, Public Service Commission, Department of State, Department of Transportation, and the Department of Health. The program encourages municipalities to minimize the risks of climate change and reduce long-term costs through actions which reduce greenhouse gas (GHG) emissions and adapt to a changing climate. The program offers free technical support on energy and climate and guidance tailored to New York State communities. As of September 2020, more than 312 communities, representing over 6.6 million New Yorkers in every region of the state, have committed to acting on climate through New York State's Climate Smart Communities program.

Benefits of participating in the program include saving taxpayer dollars, improving operations and infrastructure, increasing energy independence and security, demonstrating leadership, and positioning for economic growth. Registered Climate Smart Communities receive notification of state and federal assistance that they can leverage to help adopt low-carbon technologies, and of programs and support for efficiency improvements and energy conservation. Further, they receive an advantage in accessing some state assistance programs. They can call on the help of other local governments that already have adopted climate smart practices and policies, and their climate-smart accomplishments receive statewide recognition. Key elements of the Climate Smart Communities program are described below.

For additional information regarding the CSC program, refer to: https://climatesmart.ny.gov/.

Climate Smart Communities Pledge

Any city, town, village, or county in New York can join the program by adopting the Climate Smart Communities Pledge. To become a registered Climate Smart Community, the municipality's governing body must adopt a resolution that includes all ten elements of the Pledge and inform DEC of the passage of the resolution. The required ten elements of the Pledge are as follows:

- Pledge to be a Climate Smart Community.
- Set goals, inventory emissions, plan for climate action.
- Decrease community energy use.
- Increase community use of renewable energy.
- Realize benefits of recycling and other climate-smart solid waste management practices.
- Reduce greenhouse gas emissions through use of climate-smart land-use tools.
- Enhance community resilience and prepare for the effects of climate change.
- Support development of a green innovation economy.
- Inform and inspire the public.
- Commit to an evolving process of climate action.

At the time of this plan update, the Villages of Dansville and Lima have registered with the program, but have not been rated.

Climate Smart Communities Certification (CSC) Program

The Climate Smart Communities Certification (CSC) program enables high-performing registered communities to achieve recognition for their leadership. Designed around the existing ten pledge elements, the certification program recognizes communities achieving any on over 130 total possible actions through a rating system leading to four levels of award: Certified, Bronze, Silver and Gold. Recertification of completed actions is

required every 5 years. Details of the program and the specific documentation required for each action are described in the CSC Certification Manual.

Climate Smart Communities Grant Program

In April 2016, DEC announced an expansion of the Environmental Protection Fund to support communities ready to reduce greenhouse gas emissions and prepare for the effects of climate change. Climate Smart Community Implementation grants support mitigation and adaptation projects and range from $100,000 to $2 million. Competitive grants ranging from $25,000 to $100,000 will also provide support for local governments to become certified Climate Smart Communities. All counties, cities, towns, and villages of the State of New York are eligible to receive funding. The CSC grant program will provide 50/50 matching grants for eligible projects in the following categories.

- Construction of natural resiliency measures
- Relocation or retrofit of climate-vulnerable facilities
- Conservation or restoration of riparian areas and tidal marsh migration area
- Reduction of flood risk
- Clean transportation
- Reduction or recycling of food waste

Funding is also available for certification projects that advance several specific actions aligned with Climate Smart Communities Certification requirements:

- Right-sizing of government fleets
- Developing natural resource inventories
- Conducting vulnerability assessments
- Developing climate adaptation strategies
- Updating hazard mitigation plans to address changing conditions and reduce climate vulnerability

In scoring grant applications, increasing points are awarded to communities who have already taken the CSC pledge and to those that have achieved certification status. All grant recipients must take the CSC pledge within the term of their grant contract. For climate mitigation projects, grant recipients must provide a report of estimates of emissions reduction. Certification actions must adhere to the requirements and standards described in the Climate Smart Communities Certification Manual (https://www.dec.ny.gov/energy/76483.html). For implementation projects involving property (construction, improvements, restoration, rehabilitation) – if the property is not owned by the grant recipient, they must obtain a climate change mitigation easement.

The Climate Smart Communities Toolkit was developed to educate New York communities on recommended practices that will help to reduce greenhouse gas emissions and adapt to the effects of climate change, specifically in the areas of land-use, transportation policy, green buildings, infrastructure investment, green infrastructure, housing policy, and adaptation and resilience. The Climate Smart Communities Guide to Local Action contains overviews of possible community actions, including “how-to's” and case studies to help communities implement the CSC pledge. The Climate Smart Communities Land Use Toolkit allows New York communities to find recommended practices that will help to reduce greenhouse gas emissions in the areas of land use, transportation policy, green building, infrastructure investment, green infrastructure and housing policy.

New York State Department of Environmental Conservation (NYSDEC)

Water Quality Improvement Project (WQIP) Program

The Water Quality Improvement Project (WQIP) program is a competitive, reimbursement grant program that funds projects that directly address documented water quality impairments. The competitive, statewide grant program is open to local governments and not-for-profit corporations. Grant recipients may receive up to 75 percent of the project costs for high priority wastewater treatment improvement, non-agricultural nonpoint source abatement and control, land acquisition for source water protection, aquatic habitat restoration, and municipal separate storm sewer system projects; up to 50 percent for salt storage projects; and up to 40 percent for general wastewater infrastructure improvement projects. Eligible activities include:

- Wastewater treatment improvement
- Non-agricultural nonpoint source abatement and control
- Land acquisition for source water protection
- Salt storage
- Aquatic habitat restoration
- Municipal separate storm sewer systems (MS4)

Details regarding this program are available here - https://www.dec.ny.gov/pubs/4774.html.

New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)

The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects.

The Wastewater Infrastructure Engineering Planning Grant will assist municipalities with the engineering and planning costs of CWSRF-eligible water quality projects. Municipalities with a median household income (MHI) of $65,000 or less in Regional Economic Development Council (REDC) regions of the Capital District, Southern Tier, North Country, Mohawk Valley, Central New York, Finger Lakes, or Western New York; or with a median household income of $85,000 or less in REDC regions of Long Island, New York City or Mid-Hudson are eligible to apply. Grants with a 20 percent required local match will be provided to finance activities including engineering and/or consultant fees for engineering and planning services for the production of an engineering report.

The goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, WQIP program, or other funding entities to further pursue the identified solution. Funding is prioritized by projects that are:

- Required by an executed Order on Consent; or
- Required by a draft or final State Pollutant Discharge Elimination System (SPDES) permit; or
- Upgrading or replacing an existing wastewater system; or
- Constructing a wastewater treatment and/or collection system for an area with failing onsite septic systems; or
- Identified in a Total Maximum Daily Load (TMDL) Implementation Plan

Details regarding this program can be found here - https://www.dec.ny.gov/pubs/81196.html.

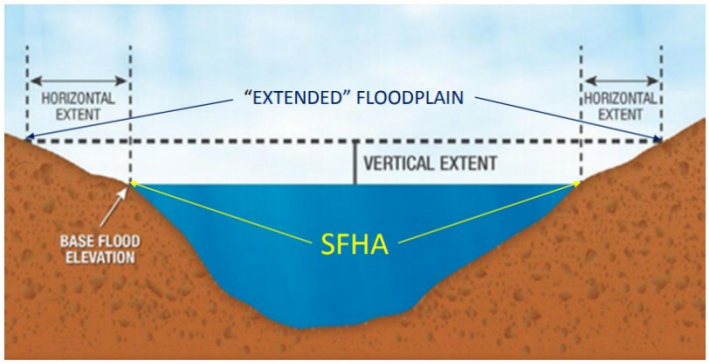
New York State Department of Transportation

BRIDGE NY

The BRIDGE NY program, administered by the New York State Department of Transportation (NYSDOT), is open to all municipal owners of bridges and culverts. Projects will be awarded through a competitive process and will support all phases of project development. Projects selected for funding under the BRIDGE NY initiative will be evaluated based on the resiliency of the structure, including such factors as hydraulic vulnerability and structural resiliency; the significance and importance of the bridge including traffic volumes, detour considerations, number and types of businesses served and impacts on commerce; and the current bridge and culvert structural conditions. Information regarding the program can be found here: https://www.dot.ny.gov/BRIDGENY

Community Risk and Resiliency Act (CRRA)

On September 22, 2014, Governor Andrew Cuomo signed bill A06558/S06617-B, the Community Risk and Resiliency Act (CRRA). The purpose of the bill was to ensure that certain state monies, facility-siting regulations and permits include consideration of the effects of climate risk and extreme-weather events. The bill's provisions applied to all applications and permits no later than January 1, 2017. CRRA includes five major provisions:



- Official Sea-level Rise Projections - CRRA requires the Department of Environmental Conservation (DEC) to adopt science-based sea-level rise projections into regulation.
- Consideration of Sea-Level Rise, Storm Surge and Flooding - CRRA requires applicants for permits or funding in a number of specified programs to demonstrate that future physical climate risk due to sea-level rise, storm surge, and flooding have been considered, and that DEC consider incorporating these factors into certain facility-siting regulations.
- Smart Growth Public Infrastructure Policy Act Criteria - CRRA adds mitigation of risk due to sea-level rise, storm surge, and flooding to the list of smart-growth criteria to be considered by state public-infrastructure agencies.
- Guidance on Natural Resiliency Measures - CRRA requires DEC, in consultation with the Department of State (DOS), to develop guidance on the use of natural resources and natural processes to enhance community resiliency.
- Model Local Laws Concerning Climate Risk - CRRA requires DOS, in cooperation with DEC, to develop model local laws that include consideration of future risk due to sea-level rise, storm surge and/or flooding. These model local laws must be based on available data predicting the likelihood of extreme-weather events, including hazard-risk analysis (NYSDEC 2018).

CRRA requires NYSDEC, in consultation with DOS, to prepare guidance on implementation of the statute. To meet its obligation to develop guidance for the implementation of CRRA, DEC is proposing a new document, State Flood Risk Management Guidance (SFRMG). The SFRMG is intended to inform state agencies, as they develop program-specific guidance, to require that applicants demonstrate consideration of sea-level rise, storm surge, and flooding, as permitted by program-authorizing statutes and operating regulations. The SFRMG incorporates possible future conditions, including the greater risks of coastal flooding presented by sea-level rise

and enhanced storm surge, and of inland flooding expected to result from increasingly frequent extreme-precipitation events (NYSDEC 2018).

For additional details on the CRRA, refer to: https://www.dec.ny.gov/energy/102559.html

6.4.7 Potential Mitigation Funding Sources

While it is important to recognize the mitigation strategies for each jurisdiction to help achieve the mitigation goals and objectives of the HMP, it is also important to provide sources for funding to implement these strategies. The table below provides a list of programs, descriptions, and links for those seeking funding sources. This table is not intended to be a comprehensive list, but rather a starting point to help identify potential sources of funding for the identified mitigation strategies.

Table 6-2. Mitigation Funding Sources

Program	Description	Lead Agency	Website
Federal			
Hazard Mitigation Assistance (HMA)	Grants to provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages – includes FMA, HMGP, BRIC	FEMA	https://www.fema.gov/hazard-mitigation-assistance
Flood Mitigation Assistance (FMA)	Program Grants to states and communities for pre-disaster mitigation planning and projects to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program	FEMA	https://www.fema.gov/flood-mitigation-assistance-grant-program
Hazard Mitigation Grant Program (HMGP)	Grants to states and communities for planning and projects providing long-term hazard mitigation measures following a major disaster declaration	FEMA	https://www.fema.gov/hazard-mitigation-grant-program
Building Resilient Infrastructure and Communities (BRIC)	Grants to states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.	FEMA	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
Public Assistance: Hazard Mitigation Funding Under Section 406	Hazard mitigation discretionary funding available under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act following a Presidentially declared disaster	FEMA	https://www.fema.gov/news-release/2017/05/03/4309/fema-hazard-mitigation-grants-404-and-406
Assistance to Firefighters Grant Program	The primary goal of the Assistance to Firefighters Grants (AFG) is to enhance the safety of the public and firefighters with respect to fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated Emergency Medical Services organizations, and State Fire Training Academies. This funding is for critically needed resources to equip and train emergency personnel to recognized standards, enhance operations efficiencies, foster interoperability, and support community resilience.	FEMA	https://www.fema.gov/welcome-assistance-firefighters-grant-program
Disaster Housing Program	Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage and rental assistance	HUD	https://www.hud.gov/program_offices/public_indian_housing/publications/dhap
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing, (including financial support for property acquisition and rehabilitation for low income persons)	HUD	https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/

Program	Description	Lead Agency	Website
HUD Disaster Recovery Assistance	Grants to fund gaps in available recovery assistance after disasters (including mitigation)	HUD	https://www.hud.gov/info/disasterresources
Section 108 Loan Guarantee	Enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans for disaster-distressed areas	HUD	https://www.hudexchange.info/programs/section-108/
Smart Growth Implementation Assistance (SGIA) program	The SGIA program focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design or medical and social service facilities siting.	EPA	https://www.epa.gov/smartgrowth
Partners for Fish and Wildlife	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats	U.S. Fish and Wildlife Service	https://www.fws.gov/partners/
FHWA Emergency Relief Program	Fund for the repair or reconstruction of federal-aid highways that have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause	U.S. Department of Transportation (DOT)	https://www.fhwa.dot.gov/programadmin/erelief.cfm
Transportation Investment Generating Economic Recovery (TIGER)	Investing in critical road, rail, transit and port projects across the nation	U.S. DOT	https://www.transportation.gov/tags/tiger-grants
Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.	USDA	https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program
Emergency Loan Program	USDA's Farm Service Agency (FSA) provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine	USDA	https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index
Emergency Watershed Protection (EWP) program	Assistance to relieve imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/
Financial Assistance	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/

Program	Description	Lead Agency	Website
Emergency Management Performance Grants (EMPG) Program	Assistance to local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities	U.S. DHS	https://www.fema.gov/emergency-management-performance-grant-program
Land & Water Conservation Fund	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies)	National Park Service	https://www.nps.gov/subjects/lwcf/index.htm
State			
Local Government Records Management Improvement Fund (LGRMIF) Disaster Recovery Grants	Grants for disaster recovery projects related to damage caused by a sudden, unexpected event involving fire, water, man-made or natural phenomena where a timely response is necessary to prevent the irretrievable loss of vital or archival records, or to ensure reasonable, timely access to vital records	New York State Archives / New York State Education Department	http://www.archives.nysed.gov/grants/grants_lgrmif.shtml
The New York State Emergency Services Revolving Loan	Repair of firefighting apparatus, ambulances, or rescue vehicles; Renovation, rehabilitation, or repair of facilities that house firefighting equipment, ambulances, rescue vehicles, and related equipment	NYS DHSES	http://www.dhses.ny.gov/ofpc/services/loan/
Environmental Protection Fund (EPF)	Matching grants for the acquisition, planning, development, and improvement of parks, historic properties	New York State Parks, Recreation & Historic Preservation (NYSOPRHP)	https://www.dec.ny.gov/about/92815.html
Recreational Trails (RTP)	Matching grants program for the acquisition, development, rehabilitation and maintenance of trails and trail-related projects	NYSOPRHP	https://parks.ny.gov/grants/recreational-trails/default.aspx
Environmental Protection & Improvement Grants	Competitive grants for environmental protection and improvement; available for municipalities, community organizations, not-for-profit organizations and others	New York State Department of Environmental Conservation	https://www.dec.ny.gov/about/92815.html

Program	Description	Lead Agency	Website
Volunteer Fire Assistance Grants	The grant is a 50/50 matching funds program. Its purpose is to make funds available to rural fire companies for the purchase of wildland firefighting equipment such as portable backpack pumps, Nomex protective clothing, hand tools, hard hats, hose, portable radios and dry hydrants.	NYSDEC	https://www.dec.ny.gov/regulations/2364.html
Clean Water Act Section 604(b) Water Quality Planning Grants	Provides funding to implement regional comprehensive water quality management planning activities as described in Section 604(b) of the federal Clean Water Act. 604(b) funds are to be used for water quality management planning activities, including tasks to determine the nature, extent and causes of point and nonpoint source water pollution problems, and to develop plans to resolve these problems.	NYSDEC	https://www.dec.ny.gov/lands/53122.html
Water Quality Improvement Project (WQIP) Program	The Water Quality Improvement Project (WQIP) program is a competitive, reimbursement grant program that funds projects that directly address documented water quality impairments. Applications are typically available each spring through the Consolidated Funding Application.	NYSDEC	https://www.dec.ny.gov/pubs/4774.html
New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)	The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects. The ultimate goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, Water Quality Improvement Project program, or other funding entities to further pursue the identified solution.	NYSDEC	https://www.dec.ny.gov/pubs/81196.html
Climate Smart Communities Grant Program	The CSC Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties (or boroughs of New York City) of the State of New York for eligible climate adaptation and mitigation projects.	NYSDEC	https://www.dec.ny.gov/energy/109181.html
BRIDGE NY	The state is making funding available for local governments to rehabilitate and replace bridges and culverts statewide.	NYS DOT	https://www.dot.ny.gov/BRIDGENY

6.5 MITIGATION STRATEGY DEVELOPMENT AND UPDATE

6.5.1 Update of Municipal Mitigation Strategies

To evaluate progress on local mitigation actions, each jurisdiction was provided with a Mitigation Action Plan Review Worksheet, pre-populated with those actions identified for their jurisdiction in the prior (2014) plan. For each action, municipalities were asked to indicate the status of each action ("No Progress/Unknown," "In Progress/Not Yet Complete," "Ongoing," "Completed," or "Discontinued") and provide review comments on each. Municipalities were requested to quantify the extent of progress and provide reasons for the level of progress or why actions were discontinued. Each jurisdictional annex provides a table identifying their prior mitigation strategy, the status of those actions and initiatives, and their disposition within their updated strategy.

Local mitigation actions identified as "Complete," and actions identified as "Discontinued," have been removed from the updated strategies. Those local actions that municipalities identified as "No Progress/Unknown" or "In Progress/Not Yet Complete," as well as certain actions/initiatives identified as "Ongoing," have been carried forward in their local updated mitigation strategies. Actions considered ongoing capabilities were marked as "Discontinued" and included in the plan as ongoing capabilities. Municipalities were asked to provide further details on these projects to help better define the projects, identify benefits and costs, and improve implementation.

At the kick-off meeting and during subsequent local-level planning meetings, all participating municipalities were further surveyed to identify mitigation activities completed, ongoing and potential/proposed. As new additional potential mitigation actions, projects or initiatives became evident during the plan update process, including as part of the risk assessment update and as identified through the public and stakeholder outreach process (see Section 3 – Planning Process), communities were made aware of these either through direct communication (local meetings, email, phone) or via their draft municipal annexes.

To help support the selection of an appropriate, risk-based mitigation strategy, each annex provided a summary of hazard vulnerabilities identified during the plan update process, either directly by municipal representatives or through review of available county and local plans and reports, and through the hazard profiling and vulnerability assessment process.

Beginning in June 2021, members of the Steering Committee worked directly with each jurisdiction (phone, email, local meetings) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs).

Concerted efforts were made to assure that municipalities develop updated mitigation strategies that included activities and initiatives covering the range of mitigation action types described in FEMA planning guidance (FEMA "Local Mitigation Planning Handbook" March 2013), specifically:

- Local Plans and Regulations – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

- Structure and Infrastructure Project- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.

- Natural Systems Protection – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.

- Education and Awareness Programs – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as the National Flood Insurance Program and Community Rating System, StormReady (NOAA) and Firewise (NFPA) Communities.

A mitigation strategy workshop was conducted by the County's planning consultant on September 8, 2021, for all participating jurisdictions to support the development of focused problem statements based on the impacts of natural hazards in the county and their communities. These problem statements are intended to provide a detailed description of the problem area, including its impacts to the municipality/jurisdiction; past damages; loss of service; etc. An effort was made to include the street address of the property/project location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing conditions (topography, terrain, hydrology) of the site. These problem statements form a bridge between the hazard risk assessment which quantifies impacts to each community with the development of actionable mitigation strategies.

A strong effort has been made to better focus local mitigation strategies to clearly defined, readily implementable projects and initiatives that meet the definition or characteristics of mitigation. Broadly defined mitigation objectives have been eliminated from the updated strategy unless accompanied by discrete actions, projects, or initiatives.

Certain continuous or ongoing strategies that represent programs that are or have become fully integrated into the normal operational and administrative framework of the community have been identified within the Capabilities section of each annex and removed from the updated mitigation strategy.

At least two mitigation projects per jurisdiction have been documented with an Action Worksheet, as per the New York State Hazard Mitigation Planning Standards Guide.

As discussed within the hazard profiles in Section 5.4 (Risk Assessment), the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including flood, severe storm, severe winter storm, and wildfire. To address these climate change-sensitive hazards within their local mitigation strategies and integration actions, communities are working to evaluate and recognize these long-term implications and potential impacts, and to incorporate in planning and capital improvement updates.

Municipalities included mitigation actions to address vulnerable critical facilities. These actions have been proposed in consideration of protection against 0.2% annual chance (500-year) events, or worst-case scenarios. It is recognized, however, that in the case of projects being funded through federal mitigation programs, the level of protection may be influenced by cost-effectiveness as determined through a formal benefit-cost analysis. In the case of "self-funded" projects, municipal discretion must be recognized. Further, it must be recognized that the county and municipalities have limited authority over privately-owned critical facility owners with regard to mitigation at any level of protection.

6.5.2 Update of County Mitigation Strategy

The update of the county-level mitigation strategies included a review of progress on the actions/initiatives identified in the 2015 HMP, using a process similar to that used to review municipal mitigation strategy progress. The county, through their various department representatives, was provided with a Mitigation Action Plan Review Worksheet identifying all of the county-level actions/initiatives from the 2015 plan. The county reviewed each action and provided progress. For each action, relevant county representatives were asked to

indicate the status of each action ("No Progress/Unknown," "In Progress/Not Yet Complete," Ongoing," "Completed," or "Discontinued"), and provide review comments on each.

Projects/initiatives identified as "Complete," as well as those actions identified as "Discontinued," have been removed from this plan update. Those actions the county has identified as "No Progress/Unknown," "In Progress/Not Yet Complete" or "Ongoing" have been carried forward in the county's updated mitigation strategy. Actions considered ongoing capabilities were marked as "Discontinued" and included in the plan as ongoing capabilities.

Throughout the course of the plan update process, additional regional and county-level mitigation actions have been identified. These were identified through:

- Review of the results and findings of the updated risk assessment;
- Review of available regional and county plans reports and studies;
- Direct input from county departments and other county and regional agencies, including:
    - Livingston County Office of Emergency Management
    - Livingston County Planning Department
    - Livingston County Highway Department
    - Livingston County Soil and Water Conservation District
    - New York State Division of Homeland Security and Emergency Services
- Input received through the public and stakeholder outreach process.

As discussed within the hazard profiles in Section 5.4 (Risk Assessment), the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including drought, earthquake, flood, invasive species, severe storm, severe winter storm, and wildfire. The county has included mitigation actions and initiatives, including continuing and long-term planning and emergency management support, to address these long-term implications and potential impacts.

Various county departments and agencies have included mitigation actions to address vulnerable critical facilities. These actions have been proposed in consideration of protection against 500-year events, or worst-case scenarios.

It is recognized, however, that in the case of projects being funded through federal mitigation programs, the level of protection may be influenced by cost-effectiveness as determined through a formal benefit-cost analysis. In the case of "self-funded" projects, local government authority may affect the ability to implement. Further, it must be recognized that the county has limited authority over privately owned critical facility owners with regard to mitigation at any level of protection.

6.5.3 Mitigation Strategy Evaluation and Prioritization

Section 201.c.3.iii of 44 CFR requires how the identified mitigation strategies will be prioritized, implemented, and administered by the local jurisdictions. For this plan update, each mitigation strategy was prioritized using a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology based on a set of evaluation criteria suited to the purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action.

The Steering Committee applied an action evaluation and prioritization methodology that includes an expanded set of fourteen (14) criteria to include the consideration of cost-effectiveness, availability of funding, anticipated

timeline, and if the action addresses multiple hazards. The 14 evaluation/prioritization criteria used in the 2022 update process are:

1. Life Safety – How effective will the action be at protecting lives and preventing injuries?
2. Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
3. Cost-Effectiveness – Are the costs to implement the project or initiative commensurate with the benefits achieved?
4. Technical – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
5. Political – Is there overall public support for the mitigation action? Is there the political will to support it?
6. Legal – Does the municipality have the authority to implement the action?
7. Fiscal - Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Or would it require a new budget authorization or funding from another source such as grants?
8. Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
9. Social – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
10. Administrative – Does the jurisdiction have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
11. Multi-hazard – Does the action reduce the risk to multiple hazards?
12. Timeline - Can the action be completed in less than 5 years (within our planning horizon)?
13. Local Champion – Is there a strong advocate for the action or project among the jurisdiction's staff, governing body, or committees that will support the action's implementation?
14. Other Local Objectives – Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?

Participating jurisdictions were asked to use these criteria to assist them in evaluating and prioritizing mitigation actions identified in the 2022 update. Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (1, 0, or -1) for each of the 14 evaluation criteria, defined as follows:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

Further, jurisdictions were asked to provide a brief summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results were totaled and then used by each jurisdiction to help prioritize the action or strategy as *low*, *medium*, or *high*. Actions that had a numerical value between 0 and 4 were categorized as *low*; actions with numerical values between 5 and 9 were categorized as *medium*; and actions with numerical values between 10 and 14 were categorized as *high*. While this provided a consistent, systematic methodology to support the evaluation and prioritization of mitigation actions, jurisdictions may have additional considerations that could influence their overall prioritization of mitigation actions.

It is noted that jurisdictions may be carrying forward mitigation actions and initiatives from prior mitigation strategies that were prioritized using a different, but not inherently contrary, approach. Mitigation actions in the prior (2015) Livingston County HMP were "qualitatively evaluated against the mitigation goals and objectives

and other evaluation criteria. They were then prioritized into three categories: high, medium, and low." At their discretion, jurisdictions carrying forward prior initiatives were encouraged to re-evaluate their priority, particularly if conditions that would affect the prioritization criteria had changed.

For the plan update, there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. In addition, each municipality was asked to develop problem statements. With active support from NYS DHSES planning staff, municipalities were able to develop action-oriented and achievable mitigation strategies.

As such, many of the initiatives in the updated mitigation strategy were ranked as *high* or *medium* priority, as reflective of the community's clear intent to implement them, available resources not-withstanding. In general, initiatives that would have had *low* priority rankings were appropriately screened out during the local action evaluation process.

6.5.4 Benefit/Cost Review

Section 201.6.c.3iii of 44CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a cost/benefit review of the proposed projects and their associated costs. Therefore, cost-effectiveness is one of the criteria that must be applied during the evaluation and prioritization of all actions comprising the overall mitigation strategy.

The benefit/cost review applied for the evaluation and prioritization of projects and initiatives in this plan update process was qualitative; that is, it does not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Assistance (HMA) grant programs. For all actions identified in the local strategies, jurisdictions have identified both the costs and benefits associated with project, action or initiative.

Costs presented include the total project estimation. This can include administrative, construction (engineering, design, and permitting), and maintenance costs.

Benefits are the savings from losses avoided attributed to project implementation. These can include life safety, structure and infrastructure damage, loss of service or function, and economic and environmental damage and losses.

When possible, jurisdictions were asked to identify the actual or estimated dollar costs and associated benefits. Often numerical costs and/or benefits were not identified and may be impossible to quantify. In this case, jurisdictions were asked to evaluate project cost-effectiveness using *high*, *medium*, and *low* ratings. Where estimates of costs and benefits were available, the ratings were defined as the following:

Low <= $10,000 Medium = $10,000 to $100,000 High >=$100,000

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:

Table 6-3 Qualitative Cost and Benefit Ratings

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-effective.

For some of the Livingston County initiatives identified, the Planning Partnership may seek financial assistance under FEMA's Hazard Mitigation Assistance (HMA) programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA BCA model process. The Planning Partnership is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Planning Partnership reserves the right to rate each benefit according to parameters that meet its needs and the goals and objectives of this plan.

SECTION 7. PLAN MAINTENANCE PROCEDURES

This section details the formal process that will ensure that the Hazard Mitigation Plan (HMP) remains an active and relevant document and that the Planning Partnership maintains its eligibility for applicable funding sources. The plan maintenance process includes a schedule for monitoring and evaluating the plan annually and producing an updated plan every 5 years. In addition, this section describes how public participation will be integrated throughout the plan maintenance and implementation process. It explains how the mitigation strategies outlined in this plan update will be incorporated into existing planning mechanisms and programs, such as comprehensive land use planning processes, capital improvement planning, and building code enforcement and implementation. The plan's format allows sections to be reviewed and updated when new data become available, resulting in a plan that will remain current and relevant.

The plan maintenance matrix shown in Table 7-1 provides a synopsis of responsibilities for plan monitoring, integration, evaluation, and update, which are discussed in further detail in the sections below.

Table 7-1. Plan Maintenance Matrix

Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Outreach to planning partners to recommend update of mitigation strategies and progress toward implementation of project; identification of new projects; and to provide updated information on funding opportunities.	Each June or after the occurrence of a presidentially declared disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet (see 7.1.2 below) for annual review and update by all participating jurisdictions.	June each year with interim email reminders to address integration in county and municipal activities	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions, as submitted by the monitoring task lead, and assess the effectiveness of the plan; compile and finalize update of mitigation strategy.	Updated progress report completed by September 30 of each year	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Alternate jurisdictional points of contact
Update	Reconvene the planning partners, at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive Plan or after the occurrence of a major disaster	Livingston County HMP Coordinator	Jurisdictional points of contacts identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)

7.1 MONITORING, EVALUATING AND UPDATING THE PLAN

The procedures for monitoring, evaluating, and updating the plan are provided below.

The HMP Coordinator is assigned to manage the maintenance and update of the plan during its performance period. The HMP Coordinator will convene the Planning Partnership and be the prime point of contact for questions regarding the plan and its implementation and will also coordinate incorporation of additional information into the plan.

The HMP Coordinator will manage the monitoring, evaluation, and updating responsibilities identified in this section. As of the date of this plan, primary and secondary mitigation planning representatives (points of contact) are identified in each jurisdictional annex in Section 9 (Jurisdictional Annexes).

It will be the responsibility of each jurisdiction and its representatives to inform the HMP Coordinator of any changes in representation.

Currently, the Livingston County HMP Coordinator is designated as:

Andrew P. Brodell, Director
Livingston County Office of Emergency Management
3360 Gypsy Lane
Mt Morris, NY 14510
585-243-7160
Email: abrodell@co.livingston.ny.us

7.1.1 Monitoring

The Planning Partnership will be responsible for monitoring progress, evaluating the effectiveness of the plan, and documenting annual progress. Each year, beginning one year after plan development, Livingston County and local Planning Partnership representatives will collect and process information from the departments, agencies, and organizations involved in implementing mitigation projects or activities identified in their jurisdictional annexes (Section 9) of this plan by contacting persons responsible for initiating and/or overseeing the mitigation projects.

In the first year of the performance period, this will be accomplished by utilizing an online performance progress reporting system (the BATool[SM]), which will enable municipal and county representatives to directly access mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, and add or delete projects to maintain mitigation project implementation. It is anticipated that all participating partners will be prompted by the tool to update progress on a quarterly basis, providing an incentive for participants to refresh their mitigation strategies and continue implementation of projects. It is expected that this reporting system will support the submittal of an increased number of project grant fund applications due to the functionality of the system, which facilitates the sorting and prioritization of projects.

In addition to progress on the implementation of mitigation actions, including efforts to obtain outside funding and obstacles or impediments to implementation of actions, the information that Planning Partnership representatives shall be expected to document, as needed and appropriate, include:

- Any grant applications filed on behalf of any of the participating jurisdictions
- Hazard events and losses occurring in their jurisdiction
- Additional mitigation actions believed to be appropriate and feasible
- Public and stakeholder input

Plan monitoring for years 2 through 4 of the plan performance period will be similarly addressed via the BATool[SM] or manually.

7.1.2 Integration of the HMP into Municipal Planning Mechanisms

Hazard mitigation is sustained action taken to reduce or eliminate the long-term risk to human life and property from natural hazards. Integrating hazard mitigation into a community's existing plans, policies, codes, and programs leads to development patterns that do not increase risk from known hazards or redevelopment that reduces risk from known hazards. The Livingston County Planning Partnership was tasked with identifying how hazard mitigation is integrated into existing planning mechanisms. Section 9 (Jurisdictional Annexes) describes how this is done for each participating municipality. During this process, many municipalities recognized the importance and benefits of incorporating hazard mitigation into future municipal planning and regulatory processes.

The Planning Partnership representatives will incorporate mitigation planning as an integral component of daily government operations. Planning Partnership representatives will work with local government officials to integrate the newly adopted hazard mitigation goals and actions into the general operations of government and partner organizations. Further, the sample adoption resolution (Section 2 – Plan Adoption) includes a resolution item stating the intent of the local governing body to incorporate mitigation planning as an integral component of government and partner operations. By doing so, the Planning Partnership anticipates that:

1. Hazard mitigation planning will be formally recognized as an integral part of overall planning and emergency management efforts.
2. The HMP, Comprehensive Plans, Emergency Management Plans, and other relevant planning mechanisms will become mutually supportive documents that work in concert to meet the goals and needs of county residents.

During the HMP annual review process, each participating municipality will be asked to document how they are utilizing and incorporating the Livingston County HMP into their day-to-day operations and planning and regulatory processes. Each municipality will also identify additional policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions and include these findings and recommendations in the Annual HMP Progress Report. The following checklist was adapted from FEMA's Local Mitigation Handbook (2013), Appendix A, Worksheet 4.2. This checklist will help a community analyze how hazard mitigation is integrated into local plans, ordinances, regulations, ordinances, and policies. By completing the checklist, it will help municipalities identify areas that currently integrate hazard mitigation and where to make improvements and reduce vulnerability to future development.

Table 7-2. Safe Growth Check List

Planning Mechanisms	Do You Do This? Yes	No	Notes: How is it being done or how will this be utilized in the future?
Operating, Municipal, and Capital Improvement Program Budgets			
• When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals.			
• Annually, during the adoption process, the municipality will review mitigation actions when allocating funding.			
• Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards?			

Planning Mechanisms	Do You Do This? Yes	No	Notes: How is it being done or how will this be utilized in the future?
• Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?			
• Do budgets provide funding for hazard mitigation projects identified in the HMP?			
Human Resource Manual			
• Do any job descriptions specifically include identifying and/or implementing mitigation projects/actions or other efforts to reduce natural hazard risk?			
Building and Zoning Ordinances			
• Prior to zoning changes or development permitting, the municipality will review the HMP and other hazard analyses to ensure consistent and compatible land use.			
• Does the zoning ordinance discourage development or redevelopment within natural areas, including wetlands, floodways, and floodplains?			
• Does the ordinance contain natural overlay zones that set conditions			
• Does the ordinance require developers to take additional actions to mitigate natural hazard risk?			
• Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?			
• Does the ordinance prohibit development within or filling of wetlands, floodways, and floodplains?			
Subdivision Regulations			
• Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?			
• Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?			
• Do the regulations allow density transfers where hazard areas exist?			
Comprehensive Plan			
• Are the goals and policies of the plan related to those of the HMP?			
• Does the future land use map clearly identify natural hazard areas?			
• Do the land use policies discourage development or redevelopment with natural hazard areas?			
• Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?			
Land Use			
• Does the future land use map clearly identify natural hazard areas?			
• Do the land use policies discourage development or redevelopment with natural hazard areas?			
• Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?			

Planning Mechanisms	Do You Do This? Yes	No	Notes: How is it being done or how will this be utilized in the future?
Transportation Plan			
• Does the transportation plan limit access to hazard areas?			
• Is transportation policy used to guide growth to safe locations?			
• Are transportation systems designed to function under disaster conditions (e.g., evacuation)?			
Environmental Management			
• Are environmental systems that protect development from hazards identified and mapped?			
• Do environmental policies maintain and restore protective ecosystems?			
• Do environmental policies provide incentives to development located outside protective ecosystems?			
Grant Applications			
• Data and maps will be used as supporting documentation in grant applications.			
Municipal Ordinances			
• When updating municipal ordinances, hazard mitigation will be a priority			
Economic Development			
• Local economic development group will take into account information regarding identified hazard areas when assisting new businesses in finding a location.			
Public Education and Outreach			
• Does the municipality have any public outreach mechanisms/programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?			

7.1.3 Evaluating

Evaluation of the mitigation plan is an assessment of whether the planning process and actions have been effective, if the HMP goals are being achieved, and whether changes are needed. The HMP Coordinator will consult with the Planning Partnership members to evaluate the effectiveness of the plan implementation and to reflect changes that could affect mitigation priorities or available funding.

The status of the HMP will be discussed and documented at an annual plan review meeting of the Planning Partnership, to be held either in person or via teleconference approximately 1 year from the date of local adoption of this update and successively thereafter. At least 2 weeks before the annual plan review meeting, the Livingston County HMP Coordinator will advise Planning Partnership members of the meeting date, agenda, and expectations of the members.

The Livingston County HMP Coordinator will be responsible for calling participants and coordinating the annual plan review meeting and soliciting input regarding progress toward meeting plan goals and objectives. These evaluations will assess whether:

- Goals and objectives address current and expected conditions
- The nature or magnitude of the risks has changed

- Current resources are appropriate for implementing the HMP and if different or additional resources are now available
- Actions were cost-effective
- Schedules and budgets are feasible
- Implementation problems are present, such as technical, political, legal, or coordination issues with other agencies
- Outcomes have occurred as expected
- Changes in county, city, town, or village resources impacted plan implementation (e.g., funding, personnel, and equipment)
- New agencies/departments/staff are included, involving other local governments as defined under 44 CFR 201.6.

Specifically, the Planning Partnership will review the mitigation goals, objectives, and activities using performance-based indicators, including:

- New agencies/departments
- Project completion
- Underspending/overspending
- Achievement of the goals and objectives
- Resource allocation
- Timeframes
- Budgets
- Lead/support agency commitment
- Resources
- Feasibility

Finally, the Planning Partnership will evaluate how other programs and policies have conflicted or augmented planned or implemented measures and will identify policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions ("Implementation of Mitigation Plan through Existing Programs" subsection later in this section discusses this process). Other programs and policies can include those that address:

- Economic development
- Environmental preservation
- Historic preservation
- Redevelopment
- Health and/or safety
- Recreation
- Land use/zoning
- Public education and outreach
- Transportation

The Planning Partnership should refer to the evaluation forms, Worksheets #2 and #4 in the FEMA 386-4 guidance document, to assist in the evaluation process (see Appendix G – Plan Review Tools). Further, the Planning Partnership should refer to any process and plan review deliverables developed by the county or participating jurisdictions as a part of the plan review processes established for prior or existing local HMPs within the county.

The Livingston County HMP Coordinator will be responsible for preparing an Annual HMP Progress Report for each year of the performance period based on the information provided by the Planning Partnership and other information as appropriate and relevant. These annual reports will provide data for the 5-year update of this HMP and will assist in pinpointing any implementation challenges. By monitoring the implementation of the HMP, the Planning Partnership will be able to assess which projects are completed, which are no longer feasible, and which should require additional funding.

Following any major disasters, the HMP will be evaluated and revised to determine if the recommended actions remain relevant and appropriate. The risk assessment will also be revisited to see if any changes are necessary based on the pattern of disaster damage or if data listed in the Section 5.4 (Hazard Profiles) of this plan has been collected to facilitate the risk assessment. This is an opportunity to increase the community's disaster resistance and build a better and stronger community.

7.1.4 Updating

44 CFR 201.6.d.3 requires that local hazard mitigation plans be reviewed, revised as appropriate, and resubmitted for approval to remain eligible for benefits awarded under DMA 2000. It is the intent of the Livingston County HMP Planning Partnership to update this plan on a 5-year cycle from the date of initial plan adoption.

To facilitate the update process, the Livingston County HMP Coordinator, with support of the Planning Partnership, will use the second annual Planning Partnership meeting to develop and commence the implementation of a detailed plan update program. Prior to the 5-year update, the Livingston County HMP Coordinator will invite representatives from the New York State Division of Homeland Security and Emergency Services (NYS DHSES) to provide guidance on plan update procedures. At a minimum, this will establish who will be responsible for managing and completing the plan update effort, items that need to be included in the updated plan, and a detailed timeline with milestones to ensure that the update is completed according to regulatory requirements.

At this meeting, the project team will determine what resources will be needed to complete the update and seek to secure these resources.

Following each 5-year update of the HMP, the updated plan will be distributed for public comment. After all comments are addressed, the HMP will be revised and distributed to all planning partners.

7.1.5 Grant Monitoring and Coordination

Livingston County intends to be a resource to the planning partnership in the support of project grant writing and development. The degree of this support will depend on the level of assistance requested by the partnership during openings for grant applications. As part of grant monitoring and coordination, Livingston County intends to provide the following:

- Notification to planning partners about impending grant opportunities
- A current list of eligible, jurisdiction-specific projects for funding pursuit consideration
- Notification about mitigation priorities for the fiscal year to assist the planning partners in the selection of appropriate projects

7.2 IMPLEMENTATION OF MITIGATION PLAN THROUGH EXISTING PROGRAMS

Effective mitigation is achieved when hazard awareness and risk management approaches and strategies become an integral part of public activities and decision-making. Within the county, there are many existing plans and

programs that support hazard risk management, and thus it is critical that this HMP integrate and coordinate with, and complement, those existing plans and programs.

The "Capability Assessment" section of Section 6 (Mitigation Strategy) provides a summary and description of the existing plans, programs, and regulatory mechanisms at all levels of government (federal, state, county, and local) that support hazard mitigation within the county. Within each jurisdictional annex in Section 9 (Jurisdictional Annexes), the county and each participating jurisdiction identified how they have integrated hazard risk management into their existing planning, regulatory, and operational/administrative framework ("existing integration") and how they intend to promote this integration ("opportunities for future integration").

It is the intention of Planning Partnership representatives to incorporate mitigation planning as an integral component of daily government operations. Planning Partnership representatives will work with local government officials to integrate the newly adopted hazard mitigation goals and actions into the general operations of government and partner organizations. Further, the sample adoption resolution (Section 2 – Plan Adoption) includes a resolution item stating the intent of the local governing body to incorporate mitigation planning as an integral component of government and partner operations. By doing so, the Planning Partnership anticipates that:

1) Hazard mitigation planning will be formally recognized as an integral part of overall emergency management efforts.
2) The HMP, Comprehensive Plans, Emergency Management Plans, and other relevant planning mechanisms will become mutually supportive documents that work in concert to meet the goals and needs of county residents.

Other planning processes and programs to be coordinated with the recommendations of the HMP include the following:

- Emergency response plans
- Training and exercise of emergency response plans
- Debris management plans
- Recovery plans
- Capital improvement programs
- Municipal codes
- Community design guidelines
- Water-efficient landscape design guidelines
- Stormwater management programs
- Water system vulnerability assessments
- Community wildfire protection plans
- Comprehensive flood hazard management plans
- Resiliency plans
- Community Development Block Grant-Disaster Recovery action plans
- Public information/improved public participation
- Educational programs
- Continued interagency coordination

During the annual plan evaluation process, the HMP Coordinator and Planning Partnership will strive to identify additional policies, programs, practices, and procedures that could be modified to accommodate hazard mitigation actions and include these findings and recommendations in the Annual HMP Progress Reporting.

7.3 CONTINUED PUBLIC INVOLVEMENT

Livingston County and participating jurisdictions are committed to the continued involvement of the public in the hazard mitigation process. This HMP update will continue to be posted online at the following link: https://www.Livingstonco.net/198/Hazard-Mitigation-Planning. In addition, public outreach and dissemination of the HMP will include:

- Links to the plan on municipal websites of each jurisdiction with capability
- Continued utilization of existing social media outlets (Facebook, Twitter) to inform the public of natural hazard events, such as floods and severe storms; the public can be educated via the jurisdictional websites on how these applications can be used in an emergency situation
- Promotion of articles or workshops on hazards to educate the public and keep them aware of the dangers of hazards

The Livingston County HMP Coordinator will be responsible for receiving, tracking, and filing public comments regarding this HMP. The public will have an opportunity to comment on the plan via the hazard mitigation website at any time. The Livingston County HMP Coordinator will ensure that:

- Public and stakeholder comment and input on the plan, and hazard mitigation in general, are collected, recorded, and addressed, as appropriate.
- The Livingston County HMP website is maintained and updated, as appropriate.
- Copies of the latest approved plan are available for review at appropriate county facilities, along with instructions to facilitate public input and comment on the plan.
- Public notices, including media releases, are made (as appropriate) to inform the public of the availability of the plan, particularly during plan update cycles.

REFERENCES

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ACRONYMS AND ABBREVIATIONS

This resource identifies the acronyms and abbreviations used in or support the hazard mitigation plan. These are based on documents included in the reference section, with modifications as appropriate to address the Livingston County specific identifications and requirements.

ACE	American Community Survey
ARC	American Red Cross
ASCE	American Society of Civil Engineers
ADA	Americans with Disabilities Act
ASFPM	Association of State Floodplain Managers
BFE	Base Flood Elevation
BCA	Benefit Cost Analysis
BCEGS	Building Code Effectiveness Grading Schedule
BOCA	Building Officials Code Administration
BRIC	Building Resilient Infrastructure and Communities
CDC	Centers for Disease Control and Prevention
CFM	Certified Floodplain Manager
CWSRF	Clean Water State Revolving Fund
CRF	Climate Resilient Farming (New York State)
CSC	Climate Smart Communities (NYSDEC)
CMP	Coastal Management Program
CFR	Code of Federal Regulations
CRREL	Cold Regions Research and Engineering Laboratory
CAC	Community Assistance Contact
CAV	Community Assistance Visit
CDBG	Community Development Block Grant
CRS	Community Rating System
CRRA	Community Risk and Resiliency Act
CEMP	Comprehensive Emergency Management Plan
COOP/COG	Continuity of Operations/Continuity of Government
DIN	Dam Incident Notification
DOH	Department of Health
DPW	Department of Public Works
DFIRM	Digital Flood Insurance Rate Map
DMA 2000	Disaster Mitigation Act of 2000
DRRA	Disaster Recovery Reform Act

DCEA	Division of Code Enforcement and Administration (New York State)
DHSES	Division of Homeland Security & Emergency Services (New York State)
DIR	Drought Impact Reporter
EAP	Education and Awareness Program
EM	Emergency Declaration (FEMA)
EM	Emergency Management
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EFS	Enhanced Fujita Scale
EFC	Environmental Facilities Corporation (NYSDEC)
FEMA	Federal Emergency Management Agency
FD	Fire Department
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FPA	Floodplain Administrator
GIS	Geographic Information System
G/FLRPC	Genesee/Finger Lakes Regional Planning Council
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
HAZMAT	Hazardous Materials
HAZUS	Hazards U.S.
HAZUS-MH	Hazards U.S. – Multi-Hazard
HVAC	Heating, Ventilation, And Air Conditioning
IA	Individual Assistance
ClimAID	Integrated Assessment for Effective Climate Change in NYS
IRIS	Integrated Risk Information System
IDF	Intensity Duration Frequency
kW	Kilowatt
LCSN	Lamont-Doherty Cooperative Seismographic Network
LPR	Local Plans and Regulations
LWRP	Local Waterfront Revitalization Program
DR	Major Disaster Declaration (FEMA)
MRP	Mean Return Period

MSL	Mean Sea Level
mi	Mile
mph	Miles per Hour
MMI	Modified Mercalli (scale)
NASA	National Aeronautics and Space Administration
NCEI	National Centers for Environmental Information
NCDC	National Climatic Data Center
NDSP	National Dam Safety Program
NDMC	National Drought Mitigation Center
NEHRP	National Earthquake Hazard Reduction Program
NFIP	National Flood Insurance Program
NHC	National Hurricane Center
NID	National Inventory of Dams
NOAA	National Oceanic and Atmospheric Administration
NPDP	National Performance of Dam Program
NSSL	National Severe Storms Library
NSIDC	National Snow and Ice Data Center
NWS	National Weather Service
NRCS	Natural Resources Conservation Service
NSP	Natural Systems Protection
NYCEM	New York City Area Consortium for Earthquake Loss Mitigation
NYCRR	New York Codes Rules and Regulations
NYS	New York State
NYS DHSES	New York State Division of Homeland Security & Emergency Services
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
NYSDPC	New York State Disaster Preparedness Commission
NYSERDA	New York State Energy Research and Development Authority
NRCC	Northeast Regional Climate Center
OEM	Office of Emergency Management
PDSI	Palmer Drought Severity Index
PGA	Peak Ground Acceleration
PL	Planning
POC	Point of Contact
PD	Police Department
PDMC	Pre-Disaster Mitigation Competitive Grant Program

PDM	Pre-Disaster Mitigation Program
PR	Preventive Measures
PP	Property Protection
PI	Public Information
REDC	Regional Economic Development Council
RSI	Regional Snowfall Index
RL	Repetitive loss
RCV	Replacement Cost Value
SRL	Severe Repetitive Loss
SBA	Small Business Administration
SSBG	Social Services Block Grant Program
SWCD	Soil and Water Conservation District
SFHA	Special flood hazard area
Sq. Mi.	Square mile
SDI	State Drought Index
SPDES	State Pollutant Discharge Elimination System
SUNY	State University of New York
SPC	Storm Prediction Center
SIP	Structure and Infrastructure Project
Tetra Tech	Tetra Tech, Inc.
TSTM	Thunderstorm
TBD	To Be Determined
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
EPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
EPG	Wastewater Infrastructure Engineering Planning Grant (NYSDEC)
WWTP	Wastewater Treatment Plant
WQIP	Water Quality Improvement Project (NYSDEC)
WUI	Wildland Urban Interface
WCT	Wind Chill Temperature
WPA	Works Progress Administration

GLOSSARY

This resource defines terms that are used in or support the hazard mitigation plan. These definitions were based on terms defined in documents included in the references section, with modifications as appropriate to address the Livingston County specific definitions and requirements.

1% flood (100-year flood) – A flood that has a 1-percent chance of being equaled or exceeded in any given year. This flood event is also referred to as the base flood. The term "100-year flood" can be misleading; it is not the flood that will occur once every 100 years. Rather, it is the flood elevation that has a 1- percent chance of being equaled or exceeded each year. Therefore, the 100-year flood could occur more than once in a relatively short period of time. The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management to determine the need for flood insurance.

0.2 % flood (500-year flood) – A flood that has a 0.2-percent chance of being equaled or exceeded in any one year.

Aggregate Data – Data gathered together across an area or region (for example, census tract or census block data).

Annualized Loss – The estimated long-term value of losses from potential future hazard occurrences of a particular type in any given single year in a specified geographic area. In other words, the average annual loss that is likely to be incurred each year based on frequency of occurrence and loss estimates. Note that the loss in any given year can be substantially higher or lower than the estimated annualized loss.

Annualized Loss Ratio – Represents the annualized loss estimate as a fraction of the replacement value of the local building inventory. This ratio is calculated using the following formula: Annualized Loss Ratio = Annualized Losses / Exposure at Risk. The annualized loss ratio gauges the relationship between average annualized loss and building value at risk. This ratio can be used as a measure of relative risk between hazards as well as across different geographic units

Asset – Any man-made or natural feature that has value, including but not limited to people, buildings, infrastructure (such as bridges, roads, and sewer and water systems), and lifelines (such as electricity and communication resources or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks).

At-Risk – Exposure values that include the entire building inventory value in census blocks that lie within or border the inundation areas, or any area potentially exposed to a hazard based on location.

Base Flood – Flood that has a 1-percent probability of being equaled or exceeded in any given year. It is also known as the 100-year flood.

Base Flood Elevation (BFE) – Elevation of the base flood in relation to a specified datum, such as the National Geodetic Vertical Datum of 1929. The BFE is used as the standard for the National Flood Insurance Program.

Benefit – Net project outcomes, usually defined in monetary terms. Benefits may include direct and indirect effects. For the purposes of conducting a benefit-cost analysis of proposed mitigation measures, benefits are limited to specific, measurable, risk reduction factors, including a reduction in expected property losses (building, content, and function) and protection of human life.

Benefit-cost analysis (BCA) – Benefit-cost analysis is a systematic, quantitative method of comparing the projected benefits to projected costs of a project or policy. It is used as a measure of cost effectiveness.

Blizzard – Characterized by low temperatures, wind gusts of 35 mph or more and falling and/or blowing snow that reduces visibility to 0.25 miles or less for an extended period of time (three or more hours).

Building – A structure that is walled and roofed, principally aboveground and permanently fixed to a site. The term includes a manufactured home on a permanent foundation on which the wheels and axles carry no weight.

Building Codes – Regulations that set forth standards and requirements for construction, maintenance, operation, occupancy, use, or appearance of buildings, premises, and dwelling units. Building codes can include standards for structures to withstand natural disasters.

Capability Assessment – An assessment that provides a description and analysis of a community or state's current capacity to address the threats associated with hazards. The capability assessment attempts to identify and evaluate existing policies, regulations, programs, and practices that positively or negatively affect the community or state's vulnerability to hazards or specific threats.

Climate – The meteorological elements, including temperature, precipitation, and wind, that characterizes the general conditions of the atmosphere over a period of time (typically 30-years) for a particular region.

Community Rating System (CRS) – CRS is a program that provides incentives for National Flood Insurance Program communities to complete activities that reduce flood hazard risk. When the community completes specific activities, the insurance premiums of these policyholders in communities are reduced.

Comprehensive Plan – A document, also known as a "general plan", covering the entire geographic area of a community and expressing community goals and objectives. The plan lays out the vision, policies, and strategies for the future of the community, including all of the physical elements that will determine the community's future development. This plan can discuss the community's desired physical development, desired rate and quantity of growth, community character, transportation services, location of growth, and siting of public facilities and transportation. In most states, the comprehensive plan has no authority in and of itself, but serves as a guide for community decision-making.

Critical Facility – Facilities that are critical to the health and welfare of the population and that are especially important following a hazard. Critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities. As defined for the Livingston County risk assessment, this category includes police stations, fire and/or EMS stations, major medical care facilities, and emergency communications.

Crop Moisture Index (CMI) – The CMI was developed by Wayne Palmer in 1968, can be used to measure the status of dryness or wetness affecting warm season crops and field activities. It gives the short-term or current status of purely agricultural drought or moisture surplus and can change rapidly from week to week.

Debris – The scattered remains of assets broken or destroyed during the occurrence of a hazard. Debris caused by a wind or water hazard event can cause additional damage to other assets.

Digital Elevation Model (DEM) – U.S. Geological Survey (USGS) Digital Elevation Model (DEM) data files that are digital representations of cartographic information in a raster form. DEMs include a sampled array of elevations for a number of ground positions at regularly spaced intervals. These digital cartographic/geographic data files are produced by USGS as part of the National Mapping Program.

Digital Flood Insurance Rate Maps (DFIRMs) – These maps are used to calculate the cost insurance premiums, establish flood risk zones and base flood elevations to mitigate against potential future flood damages to properties.

Displacement Time – After a hazard occurs, the average time (in days) that a building's occupants must operate from a temporary location while repairs are made to the original building due to damages resulting from the hazard.

Disaster Mitigation Act of 2000 (DMA 2000) – Law that requires and rewards local and state pre-disaster planning, promotes sustainability as a strategy for disaster resistance, and is intended to integrate state and local planning with the aim of strengthening state-wide mitigation planning.

Drought - A deficiency of moisture that results in adverse impacts on people, animals, or vegetation over a sizeable area.

Drought Impact Reporter (DIR) – The DIR is an interactive tool developed by the NDMC to collect, quantify, and map reported drought impacts for the U.S.

Duration – The length of time a hazard occurs.

Earthquake – A sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of earth's tectonic plates.

Essential Facility – A facility that is important to ensure a full recovery of a community or state following the occurrence of a hazard. These facilities can include: government facilities, major employers, banks, schools, and certain commercial establishments (such as grocery stores, hardware stores, and gas stations). For the Livingston County risk assessment, this category was defined to include schools, colleges, shelters, adult living and adult care facilities, medical facilities and health clinics, hospitals.

Exposure – The number and dollar value of assets that are considered to be at risk during the occurrence of a specific hazard.

Extent – The size of an area affected by a hazard or the occurrence of a hazard.

Extra Tropical Cyclone – A group of cyclones defined as synoptic scale, low pressure, weather systems that occur in the middle latitudes of the Earth. These storms have neither tropical nor polar characteristics and are connected with fronts and horizontal gradients in temperature and dew point otherwise known as "baroclinic zones". These cyclones produce impacts ranging form cloudiness and mild showers to heavy gales and thunderstorms.

Federal Emergency Management Agency (FEMA) – Independent agency (now part of the Department of Homeland Security) created in 1978 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery.

Flash Flood – A flood occurring with little or no warning where water levels rise at an extremely fast rate.

Flood – A general and temporary condition of partial or complete inundation of normally dry land areas resulting from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.

Flood Depth – Height of the flood water surface above the ground surface.

Flood Elevation – Height of the water surface above an established datum (for example, the National Geodetic Vertical Datum of 1929, North American Vertical Datum of 1988, or mean sea level).

Flood Hazard Area – Area shown to be inundated by a flood of a given magnitude on a map.

Flood Insurance Rate Map (FIRM) – Map of a community, prepared by the FEMA that shows both the special flood hazard areas and the risk premium zones applicable to the community.

Flood Insurance Study (FIS) – A study that provides an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations in a community or communities.

Flood Mitigation Assistance (FMA) Program – A program created as a part of the National Flood Insurance Report Act of 1994. FMA provides funding to assist communities and states in implementing actions that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other NFIP insurance structures, with a focus on repetitive loss properties.

Floodplain – Any land area, including a watercourse, susceptible to partial or complete inundation by water from any source.

Flood Polygon – A geographic information system vector file outlining the area exposed to the flood hazard. HAZUS-MH generates this polygon at the end of the flood computations in order to analyze the inventory at risk.

Freezing Rain – Rain that falls as a liquid but freezes into glaze upon contact with the ground.

Frequency – A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a 1-percent chance of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

Fujita Scale of Tornado Intensity – Rates tornadoes with numeric values from F0 to F5 based on tornado wind speed and damage sustained. An F0 (wind speed less than 73 mph) indicates minimal damage such as broken tree limbs or signs, while an F5 (wind speeds of 261 to 318 mph) indicated severe damage sustained.

Geology – The scientific study of the earth, including its composition, structure, physical properties, and history.

Goals – General guidelines that explain what you want to achieve. They are usually broad policy-type statements, long term in nature, and represent global visions.

Geographic Information Systems (GIS) – A computer software application that relates data regarding physical and other features on the earth to a database to be used for mapping and analysis.

GIS Shape Files – A type of GIS vector file developed by ESRI for their ArcView software. This type of file contains a table and a graphic. The records in the table are linked to corresponding objects in the graphic.

Hailstorm – Storm associated with spherical balls of ice. Hail is a product of thunderstorms or intense showers. It is generally white and translucent, consisting of liquid or snow particles encased with layers of ice. Hail is formed within the higher reaches of a well-developed thunderstorm. When hailstones become too heavy to be caught in an updraft back into the clouds of the thunderstorm (hailstones can be caught in numerous updrafts adding a coating of ice to the original frozen droplet of rain each time), they fall as hail and a hailstorm ensues.

Hazard – A source of potential danger or an adverse condition that can cause harm to people or cause property damage. For this risk assessment, priority hazards were identified and selected for the pilot project effort. A natural hazard is a hazard that occurs naturally (such as flood, wind, and earthquake). A man-made hazard is one that is caused by humans (for example, a terrorist act or a hazardous material spill). Hazards are of concern if they have the potential to harm people or property.

Hazards of Interest – A comprehensive listing of hazards that may affect an area.

Hazards of Concern – Those hazards that have been analytically determined to pose significant risk in an area, and thus the focus of the particular mitigation plan for that area (a subset of the Hazards of Interest).

Hazard Identification – The process of identifying hazards that threaten an area.

Hazardous Material Facilities – Facilities housing industrial and hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Hazard Mitigation – Sustained actions taken to reduce or eliminate the long-term risk and effects that can result from the occurrence of a specific hazard. For example, building a retaining wall can protect an area from flooding.

Hazard Mitigation Grant Program (HMGP) – Authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, HMGP is administered by FEMA and provides grants to states, tribes, and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to disasters and to enable mitigation activities to be implemented as a community recovers from a disaster.

Hazard Mitigation Plan – A collaborative document in which hazards affecting the community are identified, vulnerability to hazards assessed, and consensus reached on how to minimize or eliminate the effects of these hazards.

Hazard Profile – A description of the physical characteristics of a hazard, including a determination of various descriptors including magnitude, duration, frequency, probability, and extent. In most cases, a community can most easily use these descriptors when they are recorded and displayed as maps.

Hazards U.S. (HAZUS) – A GIS-based nationally standardized earthquake loss estimation tool developed by FEMA. HAZUS was replaced by HAZUS-MH (see below) in 2003.

Hazards U.S. – Multi-Hazard (HAZUS-MH) – A GIS-based nationally standardized earthquake, flood, and wind loss estimation tool developed by FEMA. The purpose of this pilot project is to demonstrate and implement the use of HAZUS-MH to support risk assessments

HAZUS-MH Risk Assessment Methodology – This analysis uses the HAZUS-MH modules (earthquake, wind--hurricane and flood) to analyze potential damages and losses. For this pilot project risk assessment, the flood and hurricane hazards were evaluated using this methodology.

HAZUS-MH-Driven Risk Assessment Methodology – This analysis involves using inventory data in HAZUS-MH combined with knowledge such as (1) information about potentially exposed areas, (2) expected impacts, and (3) data regarding likelihood of occurrence for hazards. For this risk assessment, a HAZUS-Driven Risk Assessment Methodology could not be used to estimate losses associated with any hazards because of a lack of adequate data. However, the methodology was used, based on more limited data to estimate exposure for the dam failure, urban fire, fuel pipeline breach, and HazMat release hazards.

Heavy Snow – Snowfall accumulating to 4" or more in depth in 12 hours or less; or snowfall accumulating to 6" or more in depth in 24 hours or less.

High Potential Loss Facilities – Facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

Hurricane – An intense tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles-per-hour or more and blow in a large spiral around a relatively calm center or "eye." Hurricanes develop over the North Atlantic Ocean, northeast Pacific Ocean, or the South Pacific Ocean (east of 160°E longitude). Hurricane circulation is counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Hydraulics – That branch of science, or of engineering, which addresses fluids (especially, water) in motion, its action in rivers and canals, the works and machinery for conducting or raising it, its use as a prime mover, and other fluid-related areas.

Hydrology – The science of dealing with the waters of the earth (for example, a flood discharge estimate is developed through conduct of a hydrologic study).

Infrastructure – The public services of a community that have a direct impact on the quality of life. Infrastructure includes communication technology such as phone lines or Internet access, vital services such as public water supplies and sewer treatment facilities, transportation system (such as airports, heliports; highways, bridges, tunnels, roadbeds, overpasses, railways, bridges, rail yards, depots; and waterways, canals, locks, seaports, ferries, harbors, dry docks, piers and regional dams).

Ice Jam – An accumulation of ice in a river that acts as a natural dam and can flood low-lying areas upstream. They occur when warm temperatures and heavy rains cause rapid snow melt.

Ice Storm – Term used to describe occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice pull down trees and utility lines resulting in loss of power and communication.

Intensity – A measure of the effects of a hazard occurring at a particular place.

Inventory – The assets identified in a study region. It includes assets that can be lost when a disaster occurs and community resources are at risk. Assets include people, buildings, transportation, and other valued community resources.

Level 1 Analysis – A HAZUS-MH analysis that yields a rough estimate or preliminary analysis based on the nationwide default database included in HAZUS-MH. A Level 1 analysis is a great way to begin the risk assessment process and prioritize high-risk communities without collecting or using local data.

Level 2 Analysis – A HAZUS-MH analysis that requires the input of additional or refined data and hazard maps that will produce more accurate risk and loss estimates. Assistance from local emergency management personnel, city planners, GIS professionals, and others may be necessary for this level of analysis.

Level 3 Analysis – A HAZUS-MH analysis that yields the most accurate estimate of loss and typically requires the involvement of technical experts such as structural and geotechnical engineers who can modify loss parameters based on the specific conditions of a community. This level analysis will allow users to supply their own techniques to study special conditions such as dam breaks and tsunamis. Engineering and other expertise is needed at this level.

Lifelines – Critical facilities that include utility systems (potable water, wastewater, oil, natural gas, electric power facilities and communication systems) and transportation systems (airways, bridges, roads, tunnels and waterways).

Lightning – A visible electrical discharge produced by a thunderstorm. The discharge may occur within or between clouds or between a rain cloud and the ground.

Loss Estimation – The process of assigning hazard-related damage and loss estimates to inventory, infrastructure, lifelines, and population data. HAZUS-MH can estimate the economic and social loss for specific hazard occurrences. Loss estimation is essential to decision making at all levels of government and provides a basis for developing mitigation plans and policies. It also supports planning for emergency preparedness, response, and recovery.

Lowest Floor – Under the NFIP, the lowest floor of the lowest enclosed area (including basement) of a structure. For the HAZUS-MH flood model, this information can be used to assist in assessing the damage to buildings.

Magnitude – A measure of the strength of a hazard occurrence. The magnitude (also referred to as severity) of a given hazard occurrence is usually determined using technical measures specific to the hazard. For example, ranges of wind speeds are used to categorize tornados.

Major Disaster Declarations – Post-disaster status requested by a state's governor when local and state resources are not sufficient to meet disaster needs. It is based on the damage assessment, and an agreement to commit state funds and resources to the long-term recovery. The event must be clearly more than the state or local government can handle alone.

Mean Return Period (MRP) – The average period of time, in years, between occurrences of a particular hazard (equal to the inverse of the annual frequency of exceedance).

Mitigation Actions – Specific actions that help you achieve your goals and objectives.

Mitigation Goals – General guidelines that explain what you want to achieve. They are usually broad policy-type statements, long term, and represent global visions.

Mitigation Objectives – Strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific and measurable.

Mitigation Plan – A plan that documents the process used for a systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in a state or community. The plan

includes a description of actions to minimize future vulnerability to hazards. This plan should be developed with local experts and significant community involvement.

National Drought Mitigation Center (NDMC) – The NDMC helps develop and implement measures to reduce societal vulnerability to drought, stressing preparedness and risk management rather than crisis management. Most of the NDMC's services are directed to state, federal, regional, and tribal governments that are involved in drought and water supply planning. The NDMC produces a daily drought monitor map that identifies drought areas and ranks droughts by intensity. U.S. Drought Monitor summary maps are available from May 1999 through the present and identify general drought areas and classification droughts by intensity ranging from D1 (moderate drought) to D4 (exceptional drought). Category D0, drought watch areas, are either drying out and possibly heading for drought, or are recovering from drought but not yet back to normal, suffering long-term impacts such as low reservoir levels.

National Flood Insurance Program (NFIP) – Federal program created by Congress in 1968 that makes flood insurance available in communities that enact minimum floodplain management regulations in 44 Code of Federal Regulations (CFR) §60.3.

New York State Division of Homeland Security & Emergency Services (NYS DHSES) – NYS DHSES and its predecessor agencies have been responsible for coordinating the activities of all State agencies to protect New York's communities, the State's economic well-being, and the environment from natural and man-made disasters and emergencies. NYS DHSES routinely assists local governments, voluntary organizations, and private industry through a variety of emergency management programs including hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

Nor'Easter – Named for the strong northeasterly winds blowing in ahead of the storm, are also referred to as a type of extra-tropical cyclones (mid-latitude storms, or Great Lake storms). A Nor'Easter is a macro-scale extra-tropical storm whose winds come from the northeast, especially in the coastal areas of the Northeastern U.S. and Atlantic Canada.

North America Drought Monitor (NA-DM) – The NA-DM is a cooperative effort between drought experts in Canada, Mexico and the U.S. to monitor drought across the continent on an ongoing basis. The Drought Monitor concept was developed as a process that synthesizes multiple indices, outlooks and local impacts, into an assessment that best represents current drought conditions. The final outcome of each Drought Monitor is a consensus of federal, state and academic scientists. Maps of U.S. droughts are available from this source from 2003 to the present.

Objectives – Objectives define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific and measurable.

Occupancy Classes – Categories of buildings used by HAZUS-MH (for example, commercial, residential, industrial, government, and "other").

Ordinance – A term for a law or regulation adopted by local government.

Palmer Drought Severity Index (PDSI) – The PDSI was developed in 1965, and indicates the prolonged and abnormal moisture deficiency or excess. The PDSI is an important climatological tool for evaluating the scope, severity, and frequency of prolonged periods of abnormally dry or wet weather. It can be used to help delineate disaster areas and indicate the availability of irrigation water supplies, reservoir levels, range conditions, amount of stock water, and potential intensity of forest fires.

Planning – The act or process of making or carrying out plans; the establishment of goals, policies and procedures for a social or economic unit.

Post-disaster mitigation – Mitigation actions taken after a disaster has occurred, usually during recovery and reconstruction.

Presidential Disaster Declaration – A post-disaster status that puts into motion long-term federal recovery programs, some of which are matched by state programs, and designed to help disaster victims, businesses, and public entities in the areas of human services, public assistance (infrastructure support), and hazard mitigation. If declared, funding comes from the President's Disaster Relief Fund and disaster aid programs of other participating federal agencies.

Preparedness – Actions that strengthen the capability of government, citizens, and communities to respond to disasters.

Priority Hazards – Hazards considered most likely to impact a community based on frequency, severity, or other factors such as public perception. These are identified using available data and local knowledge.

Provided Data – The databases included in the HAZUS-MH software that allow users to run a preliminary analysis without collecting or using local data.

Probability – A statistical measure of the likelihood that a hazard event will occur.

Public Education and Outreach Programs – Any campaign to make the public more aware of hazard mitigation and mitigation programs, including hazard information centers, mailings, public meetings, etc.

Recovery – The actions taken by an individual or community after a catastrophic event to restore order and lifelines in the community.

Regulation – Most states have granted local jurisdictions broad regulatory powers to enable the enactment and enforcement of ordinances that deal with public health, safety, and welfare. These include building codes, building inspections, zoning, floodplain and subdivision ordinances, and growth management initiatives.

Recurrence Interval – The average time between the occurrences of hazardous events of similar size in a given location. This interval is based on the probability that the given event will be equaled or exceeded in any given year.

Repetitive Loss Property – A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least $1,000 each have been paid within any 10-year period since 1978.

Replacement Value – The cost of rebuilding a structure. This cost is usually expressed in terms of cost per square foot and reflects the present-day cost of labor and materials to construct a building of a particular size, type and quality.

Resolutions – Expressions of a governing body's opinion, will, or intention that can be executive or administrative in nature. Most planning documents must undergo a council resolution, which must be supported in an official vote by a majority of representatives to be adopted. Other methods of making a statement or announcement about a particular issue or topic include proclamations or declarations.

Resources – Resources include the people, materials, technologies, money, etc., required to implement strategies or processes. The costs of these resources are often included in a budget.

Risk – The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate or low likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

Risk Assessment – A methodology used to assess potential exposure and estimated losses associated with priority hazards. The risk assessment process includes four steps: (1) identifying hazards, (2) profiling hazards, (3) conducting an inventory of assets, and (4) estimating losses.

Risk Factors – Characteristics of a hazard that contribute to the severity of potential losses.

Riverine – Of or produced by a river (for example, a riverine flood is one that is caused by a river overflowing its banks).

Saffir-Simpson Scale – This scale categorizes or rates hurricanes from 1 (Minimal) to 5 (Catastrophic) based on their intensity. It is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the shape of the coastline, in the landfill region.

Scale – A proportion used in determining a dimensional relationship; the ratio of the distance between two points on a map and the actual distance between the two points on the earth's surface.

Scour – Removal of soil or fill material by the flow of floodwaters. This term is frequently used to describe storm-induced, localized, conical erosion around pilings and other foundation supports where the obstruction of flow increases turbulence.

Severe Repetitive Loss Property – A structure that is currently insured for which four or more National Flood Insurance Program losses (including building and contents) of at least $5,000 each, and with the cumulative amount of claim payments exceeding $20,000; or for which two separate claim payments (building only) have been made with the cumulative amount of claim payments exceeding the market value of the structure.

Special Flood Hazard Area (SFHA) – An area within a floodplain having a 1-percent or greater chance of flood occurrence in any given year (that is, the 100-year or base flood zone); represented on FIRMs as darkly shaded areas with zone designations that include the letter "A" or "V."

Stafford Act – The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law (PL) 100-107 was signed into law on November 23, 1988. This law amended the Disaster Relief Act of 1974, PL 93-288. The Stafford Act is the statutory authority for most Federal disaster response activities, especially as they pertain to FEMA and its programs.

Stakeholder – Stakeholders are individuals or groups, including businesses, private organizations, and citizens, that will be affected in any way by an action or policy.

Standardized Precipitation Index (SPI) – The SPI is a probability index that considers only precipitation. It is based on the probability of recording a given amount of precipitation, and the probabilities are standardized so that an index of zero indicates the median precipitation amount (half of the historical

precipitation amounts are below the median, and half are above the median). The index is negative for drought, and positive for wet conditions.

State Hazard Mitigation Officer (SHMO) – The representative of state government who is the primary point of contact with FEMA, other state and Federal agencies, and local units of government in the planning and implementation of pre- and post-disaster mitigation activities.

Structure – Something constructed (for example, a residential or commercial building).

Study Area – The geographic unit for which data are collected and analyzed. A study area can be any combination of states, counties, cities, census tracts, or census blocks. The study area definition depends on the purpose of the loss study and in many cases will follow political boundaries or jurisdictions such as city limits.

Substantial Damage – Damage of any origin sustained by a structure in a SFHA, for which the cost of restoring the structure to its pre-hazard event condition would equal or exceed 50 percent of its pre-hazard event market value.

Thunderstorm – A local storm produced by a cumulonimbus cloud and accompanied by lightning and thunder. It forms from a combination of moisture, rapidly rising warm air and a force capable of lifting air, such as a warm and cold front, a sea breeze, or a mountain.

Topographic – Map that shows natural features and indicate the physical shape of the land using contour lines based on land elevation. These maps also can include man-made features.

Tornado – A violently rotating column of air extending from a thunderstorm to the ground.

Transportation Systems – One of the lifeline system categories. This category includes: airways (airports, heliports, highways), bridges, tunnels, roadbeds, overpasses, transfer centers; railways (tracks, tunnels, bridges, rail yards, depots), and waterways (canals, locks, seaports, ferries, harbors, dry docks, piers).

Tropical Cyclone – A generic term for a cyclonic, low-pressure system over tropical or sub-tropical waters containing a warm core of low barometric pressure which typically produces heavy rainfall, powerful winds and storm surge.

Tropical Depression – An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of less than 38 mph. It has no "eye"(the calm area in the center of the storm) and does not typically have the organization or the spiral shape of more powerful storms.

Tropical Storm – An organized system of strong thunderstorms with a defined surface circulation and maximum sustained wind between 39 to 73 mph.

Utility Systems – One of the lifeline systems categories. This category includes potable water, wastewater, oil, natural gas, electric power facilities and communication systems.

Vulnerability – Description of how exposed or susceptible an asset is to damage. This value depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power. If an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect affects can be much more widespread and damaging than direct affects.

Vulnerability Assessment – Evaluation of the extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability assessment should address impacts of hazard occurrences on the existing and future built environment.

Watershed – Area of land that drains down gradient (from areas of higher land to areas of lower land) to the lowest point; a common drainage basin. The water moves through a network of drainage pathways, both underground and on the surface. Generally, these pathways converge into streams and rivers, which become progressively larger as the water moves downstream, eventually reaching an estuary, lake, or ocean.

Zone – A geographical area shown on a National FIRM that reflects the severity or type of flooding in the area.

Zoning Ordinance – Designation of allowable land use and intensities for a local jurisdiction. Zoning ordinances consist of two components: a zoning text and a zoning map.

APPENDIX A. ADOPTION RESOLUTIONS

The Livingston County and municipal adoption resolutions will be included in this appendix upon receipt of the Federal Emergency Management Agency (FEMA) Approvable Pending Adoption (APA) status. Please refer to Section 8 (Planning Partnership) for additional information on plan adoption procedures.

This appendix also includes an example resolution to be submitted by Livingston County and participating jurisdictions authorizing adoption of the Livingston County Hazard Mitigation Plan.

RESOLUTION NO. XXXX-XX

A RESOLUTION OF THE Governing Body OF THE Municipality

AUTHORIZING THE ADOPTION OF THE

2022 LIVINGSTON COUNTY, NY HAZARD MITIGATION PLAN

WHEREAS; all jurisdictions within Livingston County have exposure to hazards that increase the risk to life, property, environment, and the County and local economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS; The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre- and post-disaster hazard mitigation programs; and

WHEREAS; a coalition of Livingston County municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Livingston County; and

WHEREAS; the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the Municipality:

1) Adopts in its entirety, the 2022 Livingston County Hazard Mitigation Plan (the "Plan") as the jurisdiction's Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.
2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
4) Will continue its support of the Planning Partnership as described within the Plan.
5) Will help to promote and support the mitigation successes of all participants in this Plan.
6) Will incorporate mitigation planning as an integral component of government and partner operations.
7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this Xst, Xnd, Xrd, Xth day of MONTH, 2022, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____

Supervisor/Mayor, Municipality

ATTEST: _____

Clerk, Municipality

Name	Title / Position	Attended Meeting(s)	Attended Steering Committee Meeting 5/13/21	Attended Planning Partnership Kickoff Meeting 6/24/21	Completed Information Gathering Worksheets / Surveys	Provided Data and Information	Reviewed/ Updated Inventories (e.g. Critical Facilities)	Identified vulner-abilities	Attended Risk Assessment Meeting 8/31/21	Identified progress on original Mitigation Strategy	Supported update of Mitigation Strategy	Attended Mitigation Strategy Workshop 9/8/21	Facilitated/ Supported public and stakeholder outreach	Reviewed/ Approved Draft and Final Plan Sections	Attended Plan Draft Review Meeting 12/13/21	Designated Project Point of Contact
Livingston County																
Brad Austin	(Former) Director, Office of Emergency Management	x	x	x	x	x	x	x		x	x		x			
Bill Bacon	Director, Livingston County Economic Development Department	x	x			x		x		x	x		x			
Andrew Brodell	Director, Livingston County Office of Emergency Management													x	x	x
Angela Bailey	County Clerk	x				x		x	x							
Julie Barry	Livingston County Office of Grants and Public Information	x		x		x		x	x							
Diane Deane	Commissioner, Livingston County Department of Social Services	x		x		x										
Angela Ellis	Deputy County Administrator	x	x		x	x	x	x		x	x		x			
Heather Ferrero	Deputy Director, Livingston County Planning Department	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
William Gall	Deputy Fire Coordinator	x				x		x	x							
Mark Grove	Director, Livingston County Highway Department	x				x		x	x	x	x					
Amy Mann	Treasurer	x		x		x		x	x							
Bill Mann	Deputy County Administrator	x		x		x										
Lynne Mignemi	Director, Livingston County Probation Department	x				x		x	x							
Jason Parker	Livingston County Department of Information Technology	x		x		x		x	x							
Lindsay Quintilone	Livingston County Public Defender	x		x		x										
Michele Rees	Clerk of the Livingston County Board of Supervisors	x		x		x										
Dan Rittenhouse	Livingston County Sheriff's Office	x		x		x										
Amanda Schultz	Director of Communications, Livingston County Sheriff's Office	x		x		x										
Robert Stryker	District Manager, Livingston County Soil and Water Conservation District	x	x			x	x	x		x	x		x			
Jason Wolfanger	Director, Livingston County Highway Department	x	x	x		x		x	x	x	x		x			
Stephen Woodruff	Livingston County Center for Nursing and Rehabilitation	x		x		x										
Avon T																
Brian Glise	Code Enforcement/ Fire Marshal	x		x		x										
David LeFeber	Supervisor				x	x		x		x	x					x
Avon V																
Andy Anderson	Fire Marshal/ Code Enforcement Officer	x			x	x		x	x	x	x					
Kenneth Farrell	Superintendent of Public Works				x	x		x		x	x					
Heather Randall	Clerk	x				x		x	x							x
Brian Strozewski	Fire Chief				x	x		x		x	x					
Caledonia T																
Dan Pangrazio	Supervisor				x	x		x		x	x					x
Tom Perkins	Code Enforcement Officer				x	x		x		x	x					
Mark Schroeder	Highway Superintendent				x	x		x		x	x					x

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Caledonia V																
Christopher Buckley	Supervisor Water and Streets Department	x		x	x	x		x		x	x					
Mike Burnside	Code Enforcement Officer				x	x		x		x	x					
Scott DiLeberto	Mayor				x	x		x		x	x					x
Ann Marie Grattan	Clerk-Treasurer				x	x		x		x	x					x
Thomas Perkins	Code Enforcement Officer	x				x		x	x	x	x	x				
J.P. Schepp, PE	Village Consultant				x	x		x		x	x					
Conesus T																
Carol Crane	Town Code Office Clerk				x	x		x		x	x					
Steve Martucio	Highway Superintendent				x	x		x		x	x					x
Ron Maxwell	Code Officer				x	x		x		x	x					
Rick McGrain	Code Officer				x	x		x		x	x					
Alan Rudgers	Code Officer				x	x		x		x	x					
Donald W. Wester	Supervisor				x	x		x		x	x					x
Dansville V																
Tammy Sylor Malone	Code Enforcement Officer				x	x		x		x	x					x
Peter R. Vogt	Mayor	x		x	x	x		x	x	x	x	x				x
Geneseo T																
Shawn Grasby	Code Officer				x	x		x		x	x					
Larry Levey	Highway/Water Superintendent				x	x		x		x	x					
Dean Pendergast	Floodplain Administrator	x		x		x				x	x					
Will Wadsworth	Supervisor				x	x		x		x	x					x
Sarah Wright	Clerk	x		x	x	x		x	x	x	x	x				x
Geneseo V																
Margaret Duff	Mayor	x		x		x										x
Aprile Mack	Clerk/Treasurer	x			x	x		x	x	x	x	x				x
Eric Osganian	Chief, Police Department	x		x		x		x	x							
Dan Quinlan	Superintendent of Public Works				x	x		x		x	x					
Craig Wadsworth	Code Enforcement Officer				x	x		x		x	x					
Groveland T																
Kim Burgess	Town Clerk	x		x	x	x		x		x	x					x
D. Mark Caldwell	Highway Superintendent				x	x		x		x	x					
Bill Devine	Acting Supervisor				x	x		x		x	x					x
Ron Maxwell	Code Enforcement Officer				x	x		x		x	x					
Leicester T																
Dave Fanaro	Supervisor	x	x			x		x		x	x		x			x
Shawn Grasby	Code Officer				x	x		x		x	x					x
Amy Neumann	Town Clerk	x		x		x		x	x							
Leicester V																
Barry Briffa	Mayor				x	x		x		x	x					x
Dan Christiano	Zoning Board Chairman				x	x		x		x	x					

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Lima T																
Michael J. Falk	Supervisor				x	x		x		x	x					x
Charles Floeser	Code Enforcement Officer				x	x		x		x	x					
John Sokolofsky	Highway Superintendent				x	x		x		x	x					
Lima V																
Livonia T																
Livonia V																
Cal Lathan	Mayor	x								x	x	x				
Mount Morris T																
Dave DiSalvo	Board Member	x			x	x		x	x	x	x					x
Mount Moris V																
Chris Young	Superintendent, Department of Public Works	x				x		x	x							
North Dansville T																
Dennis Mahus	Supervisor	x	x		x	x		x	x	x	x	x	x			x
Tammy Sylor Malone	Code Enforcement Officer				x	x		x		x	x					
Timothy R. Wolfanger	Town Clerk/Tax Collector				x	x		x		x	x					x
Nunda T																
Rick Moran	Town Highway Superintendent				x	x		x		x	x					x
Mark Mullikin	Code Enforcement Officer				x	x		x		x	x					
Merilee Walker	Supervisor				x	x		x		x	x					x
Nunda V																
LeRoy J. Wood	Administrator/Clerk-Treasurer				x	x		x		x	x					x
Ossian T																
Robert Bourgoine	Floodplain Administrator				x	x		x		x	x					
Dwight Knapp	Supervisor	x	x		x	x		x	x	x	x	x	x			x
Portage T																
Esther Howe	Town Clerk				x	x		x		x	x					x
Steve Howe	Superintendent of Highways				x	x		x		x	x					x
Sparta T																
Kevin Robinson	Highway Superintendent				x	x		x		x	x					x
Charles A Cagle	Code Enforcement Officer				x	x		x			x					
Springwater T																
Deborah Babbitt Henry	Supervisor	x			x	x		x		x	x	x				x
West Sparta T																
Susan Erdle	Supervisor				x	x		x		x	x					x

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York T																
Gerald Deming	Supervisor				x	x		x		x	x					
Dustin Geiger	Fire and Emergency Medical Services (EMS) Manager	x		x		x										
Chris Harris	Clerk	x		x		x				x	x	x				x
Carl Peter	Code Enforcement Officer	x		x	x	x		x		x	x					x
George Warden, Jr.	Highway Superintendent				x	x		x		x	x					
Other Stakeholders																
Uthman Aziz	New York State Electric and Gas (NYSEG)	x		x		x										
Kevin Clapp	Planning Manager, New York State Division of Homeland Security and Emergency Services	x	x	x		x		x		x	x		x		x	
Veronica Dasher	Government and Community Relations Manager for NYSEG and RG&E	x		x		x										
Scott Ewanow	Assistant Chief of Police and Emergency Manager - State University of New York College at Geneseo	x		x		x		x	x							
Paul Gister	National Grid	x		x		x										
Bob Molisani	Caledonia-Mumford Central School District	x		x		x										
Bill Platt	Disaster Program Specialist, American Red Cross	x		x		x										
Daniel Porter	Program Manager - Government & Community Relations, NYSEG/RG&E	x				x		x	x							
Phil Stitzinger	Buffalo District Emergency Manager, U.S. Army Corps of Engineers	x		x		x										
Steve Winslow	Manager of the Mount Morris Dam for the U.S. Army Corps of Engineers	x				x		x	x							

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Steering Committee Kickoff Meeting		
Date	May 13, 2021	**Time**	1:00–2:15 p.m.
Location	Webinar		
Attendees	Brad Austin, Director/Fire Coordinator, Livingston County Office of Emergency Management		
	Bill Bacon, Director, Livingston County Economic Development Department		
	Kevin Clapp, Planning Manager, New York State Division of Homeland Security and Emergency Services (NYS DHSES)		
	Angela Ellis, Deputy County Administrator, Livingston County		
	Heather Ferrero, Deputy Director, Livingston County Planning Department		
	Dave Fanaro, Supervisor, Town of Leicester		
	Dwight Knapp, Supervisor, Town of Ossian		
	Dennis Mahus, Supervisor, Town of North Dansville		
	Robert Stryker, District Manager, Livingston County Soil and Water Conservation District		
	Jason Wolfanger, Director, Livingston County Highway Department		
	Brian Kehoe, Community Planner, Tetra Tech		
	Tony Subbio, Project Manager, Tetra Tech		

Discussion Points

This section summarizes each discussion point addressed during the Steering Committee Kickoff Meeting.

Introductions

Mr. Austin and Mr. Kehoe welcomed the group. Attendees introduced themselves, providing their name, agency represented, experience with hazard mitigation (if any), and areas of focus/concern that might be addressed in the HMP update. Ms. Ellis stated that she wants to make sure the county gets good projects funded and implemented. Mr. Fanaro asked if the plan will address cyber issues.

Overview of Hazard Mitigation

Mr. Kehoe provided a brief overview of hazard mitigation as well as certain federal funding sources potentially available for municipalities to complete mitigation projects. The presentation reviewed federal and state requirements for the HMP update process and deliverables. FEMA has determined that federal mitigation funding provides a significant return on investment.

Project Scope Review

The presentation reviewed the scope of the HMP update project. The phases described below are specifically stipulated in the federal Disaster Mitigation Act of 2000 (DMA 2000).

Phase 1 – Planning Process

Mr. Kehoe explained that the Steering Committee will provide strategic oversight of the planning process and described the series of Steering Committee meetings that will be conducted over the course of the planning process. He then described the formation of the Planning Partnership. At a minimum, the following organization types will be invited to participate: all municipalities in the county, emergency responders, chamber of commerce, tourism groups, bordering counties, schools and higher education institutions, soil and conservation agencies, and others. Mr. Kehoe asked the Committee to recommend particular organizations to invite. The Planning Partnership Kickoff Meeting will be held to introduce the members to the planning process and explain the data-gathering worksheets to be completed by each jurisdiction. Ms. Ellis requested an email from Tetra Tech that she can use to introduce Tetra Tech's planners to personnel at the SUNY-Geneseo campus.

Phase 2 – Update the Risk Assessment

The group reviewed the Hazards of Concern from the 2015 Livingston County HMP and considered whether any hazards should be switched for others that are currently of greater concern. Tetra Tech will work with county to finalize this list, incorporating input from this committee. Mr. Clapp reported that FEMA only requires natural hazards be addressed. The committee discussed dropping earthquake as a hazard of concern, and whether to include dam failure, subsidence, cyber issues, and agriterrorism. Mr. Subbio stated that cyber attack and agriterrorism can be incorporated into the terrorism hazard profile. Mr. Kehoe described the risk/vulnerability analysis that will be conducted for each of the Hazards of Concern. After completion of all hazard profiles, Tetra Tech will share the key risk assessment data with the Planning Partnership and the public.

Phase 3 – Public Involvement Strategy

Municipalities may be asked to complete a Letter of Intent to Participate (LOI). This LOI will confirm the community's intention to participate actively in the HMP planning process and confirm their understanding of municipal roles and responsibilities.

Tetra Tech will meet with participating jurisdictions after the Planning Partnership Kickoff Meeting at a pair of information-gathering meetings. These meetings will guide municipalities to provide key data for their annexes and to develop mitigation actions. Engagement with municipalities will typically be conducted remotely, with possible in-person follow-up. Mr. Kehoe described the six information-gathering worksheets that Tetra Tech will use to collect information from municipalities. Mr. Austin stated that he has copies of the jurisdictional annexes from the 2015 HMP marked with edits and updates, which were completed by his predecessor working with municipal officials. Mr. Subbio stated that these notes may negate the need for a municipality to complete one or more of the worksheets. Mr. Austin will provide the annotated annexes to Tetra Tech for review.

Mr. Kehoe then described how the project website will provide information on the planning process. This website will link to the following three different engagement tools:

1. A survey for the public/residents

2. A survey tailored to collect specific risk/impact information from stakeholders in industry, emergency responders, healthcare facilities, schools, and higher education, etc.
3. A GIS tool that facilitates geocoding and collecting a description of hazard events that have occurred throughout the county

The Planning Partnership will hold its first meeting on June 10, 2021. There are two meetings open to the public: the Risk Assessment Meeting and the meeting to review a draft HMP.

Phase 4 – Mitigation Strategy

The Steering Committee will set the goals and objectives for the HMP and will share them with the Planning Partnership. Tetra Tech will use the information reported by the municipalities regarding their capabilities and will also review the status of the mitigation actions identified in the 2015 version of the HMP to identify and prioritize new and existing mitigation actions for inclusion in the updated HMP. Tetra Tech will conduct a Mitigation Strategy Workshop to assist in developing new mitigation actions for inclusion in the plan.

County staff will compile information from municipal worksheets, the risk assessment, capability assessment, and proposed mitigation actions into a jurisdictional annex for participating municipalities. Tetra Tech will review and finalize the jurisdictional annexes.

Phase 5 – Plan Maintenance

Tetra Tech and the Steering Committee will develop procedures for maintaining the HMP for the five years after adoption. Maintenance procedures will be documented in the HMP. Plan maintenance will also describe avenues to integrate comprehensive planning, zoning, and/or municipal operations to support hazard mitigation.

Mitigation actions will be loaded into Tetra Tech's BATool[SM], a plan review tool to allow for ongoing plan maintenance.

Phase 6 – Plan Update and Deliverables

Tetra Tech will compile the elements of the HMP document as the planning process progresses. The draft plan will be shared with the Steering Committee for review and comment throughout the planning process.

Phase 7 – Plan Review and Adoption

Tetra Tech will post the draft HMP to the project website for public review. The public review period will be advertised and will last for 30 days. Tetra Tech will lead a public meeting with the Planning Partnership to gather feedback on the draft plan and make changes accordingly.

Tetra Tech will transmit the HMP to NYS DHSES for review. If changes are required, Tetra Tech will make the changes and resubmit the document to the State. After the State is satisfied with the draft, the State will forward it to FEMA's Region II office. FEMA will complete a review within 45 days, and Tetra Tech will make any required changes from this review. FEMA will grant the HMP "approvable pending adoption" status to indicate when it meets all requirements.

The county and participating jurisdictions will formally adopt the HMP by resolution. After adoption, each jurisdiction will receive a letter from FEMA stating that the HMP is formally approved. Mr. Clapp stated that Hazard Mitigation Grant Program (HMGP) funds were made available in the state due to DR-4567 (Tropical Storm Isaias). Applications are due to FEMA in October 2021. Jurisdictions do not need an approved HMP in place at the time of application, only at the time of funding award, which will be in 2022. Jurisdictions should begin thinking about projects for which they want to pursue funding.

Project Schedule Review

Mr. Kehoe reviewed the project schedule. The Planning Partnership Kickoff Meeting has been scheduled for June 10, 2021. The Risk Assessment Review Meeting will be held in August 2021. The Mitigation Action Workshop will be held in September 2021, and jurisdictional annexes should also be completed that month. Submission to NYS DHSES is targeted for November 2021, and by March 2022, it is hoped that FEMA will issue an "approvable pending adoption" (APA) notice. The schedule presented is the schedule that would need to be followed to complete the project before the county's grant expires in March 2022. Mr. Subbio stated that the timeline is feasible but is predicated on engagement by municipalities and the timely transfer of GIS information from the county to Tetra Tech.

Next Steps

- Ms. Ferrero and her colleagues will gather GIS data and communicate any questions to Mr. Kehoe.
- Tetra Tech will send information to Mr. Austin to distribute the invitation for the public and stakeholders to complete the surveys.
- The Planning Partnership Kickoff Meeting has been scheduled for June 10, 2021.
- The information-gathering sessions will be scheduled for the week of June 28, 2021.
- Tetra Tech will distribute the set of six worksheets to municipalities at the Planning Partnership Kickoff Meeting.

Mr. Austin thanked the Steering Committee members for their participation in the HMP update.

The meeting adjourned at 2:15 p.m.

TETRA TECH

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Livingston County Hazard Mitigation Plan

2022 Update



Steering Committee Kickoff Meeting

May 13, 2021
1:00 – 3:00 p.m.

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Agenda

- Introductions
- Overview of Hazard Mitigation
- Project Scope Review
- Project Schedule Review
- Next Steps
- Questions

2

Introductions

- Name
- Agency
- Mitigation Experience
- Focus and Concerns

3

TETRA TECH

Overview of Hazard Mitigation

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What is hazard mitigation?

Any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event



"Provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability…" (CFR).

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Mitigation Works!

- The nation saves **$6** for every **$1** spent through mitigation grants funded via select federal agencies.

National Benefit-Cost Ratio (BCR) Per Peril *BCR numbers in this study have been rounded	Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio	$4:1	$6:1
Riverine Flood	$5:1	$7:1
Hurricane Surge	$7:1	
Wind	$5:1	$5:1
Earthquake	$4:1	$3:1
Wildland-Urban Interface Fire	$4:1	$3:1

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Federal Requirements

- Disaster Mitigation Act of 2000
  - Risk assessment
  - Public outreach and participation
  - Process for update
  - Formal state and FEMA review
  - Documentation of acceptance by the community

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New York State Requirements

- Develop jurisdictional teams
- Assess critical facilities
- Plan for displaced residents
- Plan for evacuation needs and sheltering
- Document past mitigation accomplishments
- Include jurisdictional annexes
- Develop mitigation actions
- Identify funding sources
- Plan for climate change

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TETRA TECH

Project Scope Review

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Project Scope Review

Phase 1 – Planning Process

- Steering Committee Strategic Oversight Meetings
  - Today's kickoff meeting
  - Meet bi-monthly through submission of HMP to NYS
  - August 2021 Risk Assessment Review Meeting, via webinar
  - September 2021 review draft goals and objectives and Mitigation Strategy Workshop, via webinar
- Public Review
  - October 4 – November 2, 2021 draft HMP available for public review

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Project Scope Review

- Phase 1 – Planning Partnership
  - County Departments
  - State Agencies
  - Emergency Responders
  - Municipalities
  - Neighboring Counties
  - General Public
  - Soil and Water Conservation District
  - Chamber of Commerce
  - Schools and Higher Education
  - Tourism Groups

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Project Scope Review (Continued)

- Phase 2 – Update the Risk Assessment

Hazards of Concern (2014)

- Drought
- Earthquake
- Flood
- Hazardous Materials
- Infestation
- Landslide
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire

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Project Scope Review (Continued)

- Phase 2 – Update the Risk Assessment
  - Hazards of Concern – Suggested

Drought
Earthquake
Flood
Hazardous Materials
Invasive Species/Infestation
Landslide
Severe Storm (*includes extreme wind and tornado)*
Severe winter storm (*includes winter storm/ice storm)*
Terrorism
Utility Failure
Wildfire

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Project Scope Review (Continued)

- Phase 2 – Update the Risk Assessment
  - HAZUS-MH Analysis
    - Earthquake: 500-year MRP event
    - Flood: 1-percent and 0.2-percent annual chance floodplains
    - Wind: 100-year MRP events
  - Quantitative Analysis for Geographic Hazards
  - Review Risk Assessment with Planning Partnership (open to the public)



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Project Scope Review (Continued)

- Phase 3 – Public Involvement Strategy
  - Letter of Intent
  - Stakeholder Outreach
    - Project Website
    - Surveys
      - Individuals
      - Stakeholders
      - Problem Areas
    - Planning Partnership Meetings
      - Risk Assessment Review
      - Plan Draft Review

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Project Scope Review (Continued)

- Phase 3 – Public Involvement Strategy
  - Jurisdictional Worksheets
    - Evaluation of Identified Hazards and Risk
    - Capability Assessment and Integration
    - NFIP Floodplain Administrator Questionnaire
    - Mitigation Action Review
    - New Development and Building Permits
    - Shelters, Evacuation Routes, Temporary Housing, and Long-Term Housing

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Project Scope Review (Continued)

- Phase 4 – Mitigation Strategy
  - Develop Goals and Objectives
    - Develop with Steering Committee
    - Review with Planning Partnership
  - Assess Capabilities
  - Conduct Mitigation Strategy Workshop
  - Jurisdictional Annexes (will be developed by county staff)

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Project Scope Review (Continued)

- Phase 5 – Plan Maintenance
  - Annual Review
  - Integration with Other Planning Mechanisms
  - BATool[SM]
- Phase 6 – Plan Update and Deliverables
  - Develop the Document
    - Develop and finalize main body
    - Finalize jurisdictional annexes
  - Draft Plan Reviewed by the Steering Committee throughout the process

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Project Scope Review (Continued)

- Phase 7 – Plan Review and Adoption
  - Public Review
  - Draft Plan Review Meeting (open to the public)
  - Submittal to the New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA
  - Update as necessary
  - "Approvable Pending Adoption"

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Project Schedule Review



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Next Steps

- Document Request
- GIS Data
- Distribute Surveys
- Planning Partnership Kickoff Meeting
- Information-Gathering Sessions
- Risk Assessment Update

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Contacts

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Questions?

Thank you for your time!

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AGENDA

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee Kickoff Meeting

Thursday, May 13, 2021 | 1:00-3:00 p.m.

1. Introductions
2. Overview of Hazard Mitigation
3. Project Scope Review
   a. Phase 1 – Planning Process
   b. Phase 2 – Update the Risk Assessment
   c. Phase 3 – Public Involvement Strategy
   d. Phase 4 – Mitigation Strategy
   e. Phase 5 – Plan Maintenance
   f. Phase 6 – Plan Update and Deliverables
   g. Phase 7 – Plan Review and Adoption
4. Project Schedule Review
5. Next Steps
   a. Document Request
   b. GIS Data
   c. Develop Website and Surveys
   d. Planning Partnership Kickoff Meeting
   e. Information-Gathering Sessions
   f. Risk Assessment Update
6. Questions

*Project Schedule**

***Schedule is estimated based on the goal of meeting the original grant deadline of March 2022; dates are subject to change.**

Task	Timeframe
Phase 1 – Planning Process	► Conduct a Steering Committee Kickoff Meeting on May 13, 2021 ► Conduct a Planning Partnership Kickoff Meeting during the week of May 31 – June 4, 2021 ► Conduct Steering Committee Meetings at least bimonthly through submittal of the HMP to NYS DHSES
Phase 2 - Update the Risk Assessment	► Perform a thorough risk assessment of each hazard by the middle of August 2021 ► Conduct a Risk Assessment Review Meeting at the end of August 2021
Phase 3 - Public Involvement Strategy	► Implement public outreach throughout the planning process ► Conduct two identical information-gathering webinars for local officials, on or about June 23, 2021
Phase 4 - Mitigation Strategy	► Assess local capabilities by the middle of August 2021 ► Identify goals and objectives by early September 2021 ► Conduct a Mitigation Strategy Workshop in the middle of September 2021 ► Complete the jurisdictional annexes by the end of September 2021
Phase 5 - Plan Maintenance	► Develop plan maintenance procedures by early July 2021 ► Populate the BATool[SM] Plan Review Tool upon receiving APA status
Phase 6 - Plan Update and Deliverables	► Begin plan development at the start of the project ► Complete the draft HMP by October 4, 2021 ► Allow public review from October 4 – November 2, 2021 ► Conduct the draft review meeting on or about November 2, 2021 ► Finalize the draft HMP by November 4, 2021
Phase 7 - Plan Review and Adoption	► Submit the draft HMP to NYS DHSES for review by November 5, 2021 ► Revise and finalize the HMP to ensure compliance with state and federal requirements through February 2022 ► Receive APA status in late February 2022 (estimated) ► Facilitate adoption of the updated HMP in March 2022
Phase 8 - Project Management	► Develop monthly status reports and invoices

County Data 'Wish List'

It would be preferable if spatial datasets (GIS) provide coverage for the entire county. Please fill out the file format and file name for all data included in the deliverable.

NOTE: If the county indicates **N** under 'County Has the Data,' please state whether the information is not spatially available/available in another format OR if that facility type does not exist in the county.

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
Critical / Essential Facilities				
EOCs*				
Police*				
Fire*				
Hospitals and Medical Centers*				
Rescue Stations/EMS/Ambulance*				
Schools - Public and Private*				
Colleges / Universities*				
Shelters*				
Nursing Homes/Senior Care / Senior Centers*				
Municipal Halls*				
County Buildings*				
Correctional Institutions*				
Day Care Centers				
Public Health Departments*				
Public Works Buildings/Highway Departments/Vehicle and Equipment Storage*				
Drug and Alcohol Treatment Centers*				
Nuclear Facilities				
Temporary Housing Sites (for use post-disaster) *				
Homeless Shelters*				

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
Additional sites that house socially-vulnerable populations				
Transportation				
Evacuation Routes*				
Major and Minor Highways (US, State, Interstate, County)				
Local Streets				
Train Stations*				
Railroad Line (Heavy and Light Rail)				
Railroad and Light Rail Facilities - transfer facility, rail yard and stations*				
Airports/Heliports*				
Bus Facilities *				
Bridges*				
Subway Station *				
Ferry				
Marina				
Utilities				
Electric Power Facilities*				
Electric Power Transfer Station/Substation*				
Potable Water Supply Treatment Facilities*				
Potable Water Wells (Public/Private) *				
Potable Water Pump Stations*				
Water Towers/Tanks*				
Wastewater Treatment Plants*				
Wastewater Pump Stations*				
Natural Gas*				
Oil Refineries*				
Major Communication Facilities (not cell towers) *				

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
Culverts				
Green Infrastructure				
Outfalls				
Storm drain inlets				
Subsurface infiltration/detention systems				
Septic Sites				
Public Community Water Supply Wells				
Stormwater Points (Pipe ends, catch basins, swale ends, etc.)				
Other: (e.g. manufactured treatment devices)				
Miscellaneous – Other facilities not above that the County considers critical to operations pre-, during and post- event				
Tier II Facilities/Major Hazmat Facilities*				
Military Installations*				
Major Employers*				
Historic sites and cultural resources				
Church/Religious				
Library				
Post Office				
Radio Tower (for emergency response)				
Polling Site				
Chemical Storage				
Boundaries				
Municipal Boundaries/County Boundary				
Municipal Utility Authorities (MUA)				
School Districts				
Emergency Service Districts (Police/Fire/EMS)				
Water Service Areas				
Water Purveyors				

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
Sewer Service Areas				
Sole Source Aquifers				
Sewersheds				
Federal Land Areas				
State Land				
Electric Service Territories				
Land Use and Buildings/Parcels				
Land Use and Land Cover				
Open Space				
Zoning				
Parcels**				
Building Footprints** (*Building specific data listed in next table)*				
Mobile Home Parks**				
Easement				
Zipcode Boundaries				
Hydrology / Hydrography				
Streams and Rivers				
Drainage Basins				
Reservoirs				
Dams*				
Levees*				
Canal				
Riparian Buffer				
Flood Data				
Urban/Stormwater flood-prone areas				
Local detailed flood studies				
Dam Break Inundation Areas				

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
National Flood Hazard Map from PASDA				
Q3 data (if no DFIRM is available from the FEMA Map Service Center)				
New Development				
Major building or infrastructure development over the next 5 years				
Major recent developments since the last HMP (spatial)				
New construction/ redevelopment permits since the last HMP (by occupancy class; by year)				
Priority economic development/redevelopment areas				
Changes in demographics (spatial distribution or countywide statistics)				
Buildable land analysis				
FEMA Mitigation				
FEMA-funded mitigation projects				
CDBG-DR-funded mitigation projects				
Green Infrastructure Project Locations (points/boundaries)				
Acquisitions				
Elevations				
Stormwater				
Other mitigation projects				
Hazard Areas / Studies				
FEMA/USACE Tiered Evacuation Study results				
Rainfall/Waterway Gages				
Historic Wildfire Locations				
Hazardous Materials Radii				
Urban flood locations				
Landslide locations				

GIS File (* Denotes first-priority for critical facility; ** for general building stock inventory)	County Has the Data (Y/N)? And has data been updated?	Data Received (Y/N)	File Format (Shapefile, Excel, Access, Geodatabase, PDF)	File Name (i.e. police.shp; critical_facilities.xlsx)
Sinkhole locations				
Elevation Data				
Contour lines (2-ft, 5-ft, 10-ft)				
County wide DEM or Lidar				
Steep Slopes (20pct)				
Other				
Socially-vulnerable populations (spatial distribution or countywide statistics)				
Wellhead Protection Areas				
Hydrants				
Cultural Sites				
Historic Sites				

*** Denotes first-priority for critical facility inventory** **** For general building stock inventory**

General Building Stock Attributes Needed for 2021 HMP Update

We are requesting the Assessor/Real Property data table(s) or spatial layers, including a unique field to join to the parcel/building footprint GIS data set, to use as part of the risk assessment. We would like to obtain the following attributes (if available) for each building. Where data is not available, assumptions will be made.

Building Attribute	County Has Data (Y/N)	Source	File Name	Attribute Name (i.e. exterior wall, stories, etc.)	Received (Y/N)
Parcel Layer					
Building Footprint Layer with Unique Parcel ID					
Total square footage (From parcel attribute or calculated from building footprints)					
Construction type (wood, masonry, concrete, steel, etc.)					
Year Built					
Number of stories					
Foundation (crawlspace, basement, slab on grade, fill, pile, pier, solid wall)					
First finished floor elevation					
Occupancy Type/Property Class (residential, commercial, industrial etc.)					
Basement (Y/N) (If yes, is basement finished?)					
Replacement Cost Value (structure) – will be estimated using RS Means valuations if unavailable					
Replacement Cost Value (contents) – will be estimated using RS Means valuations if unavailable					
Municipality					
Address					
Name • Unique ID to join with parcel (if these attributes are in the parcel file)					
Latitude					
Longitude					

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Planning Partnership Kickoff Meeting		
Date	June 24, 2021	**Time**	2:00 to 3:15 p.m.
Location	Webinar		
Attendees	Brad Austin, Director/Fire Coordinator, Livingston County Office of Emergency Management		
	Julie Barry, Livingston County Office of Grants and Public Information		
	Amy Davies, Treasurer, Livingston County		
	Treasurer Diane Deane, Commissioner, Livingston County Department of Social Services		
	Heather Ferrero, Deputy Director, Livingston County Planning Department		
	Bill Mann, Deputy County Administrator		
	Jason Parker, Livingston County Department of Information Technology		
	Lindsay Quintilone, Livingston County Public Defender		
	Michele Rees, Clerk of the Livingston County Board of Supervisors		
	Dan Rittenhouse, Livingston County Sheriff's Office		
	Amanda Schultz, Director of Communications, Livingston County Sheriff's Office		
	Jason Wolfanger, Superintendent, Livingston County Highway Department		
	Stephen Woodruff, Livingston County Center for Nursing and Rehabilitation		
	Brian Glise, Code Enforcement/Fire Marshal, Town of Avon		
	Chris Buckley, Supervisor Water and Streets Department, Village of Caledonia		
	Eric Osganian, Police Department, Village of Geneseo		
	Margaret Duff, Mayor, Village of Geneseo		
	Kim Burgess, Town Clerk, Town of Groveland		
	Amy Neumann, Town Clerk, Town of Leicester		
	Dustin Geiger, Fire and Emergency Medical Services (EMS) Manager, Town of York		
	Christine Harris, Clerk, Town of York		
	Carl Peter, CEO, Town of York		
	Paul Gister - National Grid		
	Uthman Aziz, New York State Electric and Gas (NYSEG)		
	Bob Molisani, Caledonia-Mumford Central School District		
	Bill Platt, Disaster Program Specialist, American Red Cross		
	Veronica Dasher, Government and Community Relations Manager for NYSEG and RG&E		
	Scott Ewanow, Assistant Chief of Police and Emergency Manager - State University of New York College at Geneseo		

MEETING NOTES

	Kevin Clapp, Planning Manager, New York State Division of Homeland Security and Emergency Services (NYS DHSES)
	Phil Stitzinger, Buffalo District Emergency Manager, U.S. Army Corps of Engineers
	Brian Kehoe, Planner, Consultant - Tetra Tech
	Tony Subbio, Project Manager, Consultant - Tetra Tech

Discussion Points

This section summarizes each discussion point addressed during the Planning Partnership Kickoff Meeting.

Introductions

Mr. Kehoe opened the meeting. As attendees entered the virtual meeting, they were prompted to provide their name and affiliation via the webinar chat function. Mr. Austin then welcomed all attendees and emphasized the value of active participation. Mr. Kehoe noted that the meeting will be recorded and then prompted attendees to share hazard issues that attendees would like to address during the planning process.

Overview of Hazard Mitigation

Mr. Kehoe provided a basic overview of the hazard mitigation planning, including federal and New York State requirements for HMP updates. The updated HMP will be reviewed and approved by the NYS DHSES and subsequently by the Federal Emergency Management Agency (FEMA). Each municipality's participation in the HMP planning process will be documented in the plan. Communities that do not participate in the HMP update process will not be eligible for certain types of federal funding.

Project Scope Review

Mr. Kehoe reviewed the planning process and the ways in which each phase meets state and/or FEMA requirements.

Phase 1 – Planning Process

Mr. Kehoe discussed how the Steering Committee and the Planning Partnership each have important roles in completing the HMP. Engagement by Planning Partnership members is valuable and appreciated. Stakeholders at today's meeting are asked to provide information about community-specific hazards and to recommend actions that can be taken to mitigate risk.

Phase 2 – Update the Risk Assessment

The following hazards of concern are proposed to be profiled in Livingston County's updated HMP. This list reflects input from the Steering Committee:

- Cyber Security
- Drought
- Earthquake

- Flood
- Hazardous Materials
- Landslide
- Severe Storm
- Severe Winter Storm
- Pandemic
- Utility Failure
- Wildfire

Each hazard of concern will be profiled in depth. Projected impacts of the 500-year earthquake, the 1 percent and 0.2 percent annual chance floods, and the 500-year wind event will be produced using FEMA's Hazards-US (HAZUS) software. Disaster impacts will be assessed in terms of injuries, deaths, property damage, and debris generated. Quantitative analysis will be conducted for geographic hazards, and other hazards will be qualitatively assessed. Upon completion of the hazard profiles, Tetra Tech will present the risk assessment with the Planning Partnership and the public.

Mr. Kehoe asked participants to share hazard concerns within their community. The following comments were provided:

- Mr. Wolfanger noted that there are roadways where flooding occurs with some frequency. There is a need to upsize culverts in several locations.
- Mr. Austin described FEMA's keen interest in addressing the COVID-19 pandemic and related hazard impacts. This HMP update is an effective place for each community to frame how it will continue to effectively respond to pandemic risk.
- Mr. Subbio noted that municipalities can use the HMP process to frame mitigation responses eligible for funding from non-FEMA funding sources. Pandemic response is a prioritized federal funding goal.

Phase 3 – Public Involvement Strategy

Municipalities are asked to complete a Letter of Intent to Participate (LOI) to acknowledge that they will actively participate in the HMP update process. The LOI confirms that the municipality understands its roles and responsibilities throughout the planning process.

Tetra Tech will conduct two information gathering meetings with participating jurisdictions (dates to be determined). Information provided by municipalities is an indispensable part of a successful HMP update. Information will be gathered from participating municipalities via a set of jurisdictional worksheets:

1. Evaluation of Identified Hazards and Risk
2. Capability Assessment and Integration
3. NFIP Floodplain Administrator Questionnaire
4. Mitigation Action Review
5. New Development and Building Permits
6. Shelters, Evacuation Routes, Temporary Housing, and Long-Term Housing

Mr. Kehoe described how stakeholder outreach is an important part of the HMP planning process. Tetra Tech created a project website where project information is regularly uploaded. Mr. Kehoe demonstrated the functionality of the website, including Tetra Tech's online mapping tool with which

hazard locations are georeferenced. Tetra Tech will prepare online surveys for stakeholder groups (residents, neighboring counties, and stakeholders [academia, emergency response organizations, business owners, etc.]). The public will be invited to participate in upcoming Risk Assessment and Plan Draft Review Meetings.

Phase 4 – Mitigation Strategy

Tetra Tech and county staff will guide municipalities in determining strategic actions that address hazards. The Steering Committee will establish goals and objectives for the HMP. County staff will work with municipalities to develop mitigation actions to be included in the updated HMP. Municipal capability is an important element of hazard mitigation planning. Municipalities will catalog municipal capabilities for implementing hazard mitigation. A Mitigation Strategy Workshop near the end of the planning process will refine strategic mitigation actions to include in the updated HMP.

County staff will compile a jurisdictional annex for each municipality and the county. These annexes become a detailed compendium of the community's hazard risk exposure and proposed mitigation strategy.

Phase 5 – Plan Maintenance

The Plan Maintenance section of the HMP will describe how the plan will be maintained until the next required update in 2025. This section will also describe how the HMP can be integrated with comprehensive plans, zoning, and other regulations. Mitigation actions will be loaded into Tetra Tech's BATool, which streamlines the ongoing plan maintenance process.

Phase 6 – Plan Update and Deliverables

Throughout the planning process, Tetra Tech will compile the HMP document. The first volume of the HMP will profile Livingston County, explain the planning process, describe the risk assessment and mitigation strategies, and discuss maintenance of the plan. Jurisdictional annexes and additional information are compiled in Volume II of the HMP. Draft versions of the plan will be shared with the Steering Committee and Planning Partnership throughout the planning process.

Phase 7 – Plan Review and Adoption

Tetra Tech will also provide the draft HMP online and encourage public review and comment. The public review period will be advertised and lasts for 30 days. After the HMP draft is reviewed and updated, Tetra Tech will oversee submission of the formal draft to NYS DHSES for agency review. If NYS DHSES identifies needed changes, Tetra Tech will make these changes and resubmit the document for final NYS review. After determining that requirements have been satisfied, NYS DHSES will forward the HMP to FEMA Region II for review. FEMA is required to review a submitted HMP within 45 days of receipt. If FEMA indicates that any changes are needed, Tetra Tech will make these changes and resubmit. The HMP will then be granted "Approvable Pending Adoption" status to indicate it has met all requirements.

The county and participating jurisdictions must formally adopt the HMP by resolution of the local governing board. After such adoption, each jurisdiction will receive a letter from FEMA declaring formal approval.

Project Schedule Review

Mr. Kehoe reviewed the project schedule. It is essential for municipalities to provide requested information by the deadline of July 16, 2021. It will be important to complete the draft HMP for public review by March 2022.

Next Steps

The following next steps were reviewed at the end of the meeting:

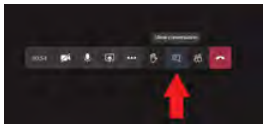
- Municipal officials and staff are encouraged to work as a team to provide information for the HMP update.
- Provide your community's reports and plans related to planning and disaster management.
- Schedule Public Informational Meetings.
- Schedule Municipal Information Gathering Meetings.
- A Risk Assessment Meeting will be held near the end of the planning process.

Mr. Kehoe and Mr. Austin ended the meeting by thanking participants for their attendance and in anticipation of continued engagement.

The meeting adjourned at 3:15 p.m.

Welcome

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the Chat. To open the Chat:
  - Bring your mouse to the lower part of the screen until a set of buttons appears. They may also be at the top of your screen.
  - Click "Show Conversation."



1

TETRA TECH

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Livingston County Hazard Mitigation Plan

2022 Update

Planning Partnership Kickoff Meeting
June 24, 2021
2:00-4:00 p.m.



2

Agenda

- Introductions
- Overview of Hazard Mitigation
- Project Scope Review
- Project Schedule Review
- Next Steps
- Questions

3

Introductions

- Name
- Agency
- Focus and Concerns

4

TETRA TECH

Overview of Hazard Mitigation

5

5

What is hazard mitigation?

Any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event



"…provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and local ability…" (CFR).

6

6

Mitigation Works!

- The nation saves **$6** for every **$1** spent through mitigation grants, funded through select federal agencies.

National Benefit-Cost Ratio (BCR) Per Peril *BCR numbers in this study have been rounded	Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio	$4:1	$6:1
Riverine Flood	$5:1	$7:1
Hurricane Surge	$7:1	
Wind	$5:1	$5:1
Earthquake	$4:1	$3:1
Wildland-Urban Interface Fire	$4:1	$3:1

7

7

Federal Requirements

Disaster Mitigation Act of 2000

- Risk assessment
- Public outreach and participation
- Process for update
- Formal state and FEMA review
- Documentation of acceptance by the community

8

New York State Requirements

- Develop jurisdictional teams
- Assess critical facilities
- Plan for displaced residents
- Plan for evacuation needs and sheltering
- Document past mitigation accomplishments
- Include jurisdictional annexes
- Develop mitigation actions
- Identify funding sources
- Plan for climate change

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TETRA TECH

Project Scope Review

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Project Scope Review

- **Phase 1 – Planning Process**
  - Steering Committee - Strategic oversight
  - Planning Partnership
    - Municipal officials
    - Stakeholders
    - General Public

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Project Scope Review (Continued)

- **Phase 2 – Update the Risk Assessment**
  - Hazards of Concern (proposed)
    - Cyber Security
    - Drought
    - Earthquake
    - Flood
    - Haz Mat
    - Landslide
    - Severe Storm
    - Severe Winter Storm
    - Pandemic
    - Utility Failure
    - Wildfire

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Project Scope Review (Continued)

- Phase 2 – Update the Risk Assessment (Continued)
  - HAZUS-MH Analysis
    - Earthquake: 500-year MRP event
    - Flood: 1-percent and 0.2-percent annual chance floodplains
    - Wind: 500-year MRP event
  - Quantitative Analysis for Geographic Hazards
  - Review Risk Assessment with Planning Partnership (open to the public)



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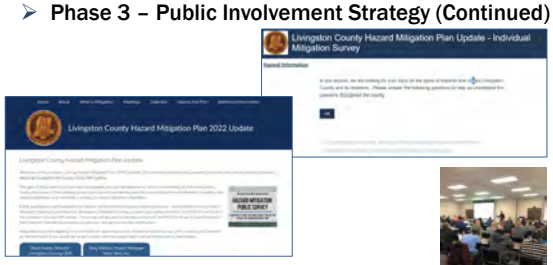
Project Scope Review (Continued)

- Phase 3 – Public Involvement Strategy
  - Letter of Intent to Participate
  - Two Information Gathering Meetings (webinars)
  - Jurisdictional Worksheets
    - Evaluation of Identified Hazards and Risk
    - Capability Assessment and Integration
    - NFIP Floodplain Administrator Questionnaire
    - Mitigation Action Review
    - New Development and Building Permits
    - Shelters, Evacuation Routes, Temporary Housing, and Long-Term Housing

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Project Scope Review (Continued)

- Phase 3 – Public Involvement Strategy (Continued)





Home - (livingstoncountynyhmp.com)

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Project Scope Review (Continued)

- Phase 4 – Mitigation Strategy
  - Develop Goals and Objectives
    - Develop with Steering Committee
    - Review with Planning Partnership
  - Assess Capabilities
  - Conduct Mitigation Strategy Workshop
  - Jurisdictional Annexes (will be developed by county staff)

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Project Scope Review (Continued)

- Phase 5 – Plan Maintenance
- Phase 6 – Plan Update and Deliverables
  - Develop the Document
    - Develop and finalize main body
    - Finalize jurisdictional annexes
  - Draft Plan Reviewed throughout the Process

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Project Scope Review (Continued)

- Phase 7 – Plan Review and Adoption
  - Public Review
  - Draft Plan Review Meeting (open to the public)
  - Submittal to the New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA
  - Revise As Necessary
  - "Approvable Pending Adoption"

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TETRA TECH

Project Schedule Review

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Project Schedule Review

Task	Timeframe
Phase 1 – Planning Process	► Conduct a Steering Committee Kickoff Meeting on May 13, 2021 ► Conduct a Planning Partnership Kickoff Meeting on June 24, 2021 ► Conduct Steering Committee Meetings at least bimonthly through submittal of the HMP to NYS DHSES
Phase 2 - Update the Risk Assessment	► Perform a thorough risk assessment of each hazard by the middle of August 2021 ► Conduct a Risk Assessment Review Meeting at the end of August 2021
Phase 3 - Public Involvement Strategy	► Implement public outreach throughout the planning process ► Conduct two identical information-gathering webinars for local officials, on or about June 23, 2021
Phase 4 - Mitigation Strategy	► Assess local capabilities by the middle of August 2021 ► Identify goals and objectives by early September 2021 ► Conduct a Mitigation Strategy Workshop in the middle of September 2021 ► Complete the jurisdictional annexes by the end of September 2021
Phase 5 - Plan Maintenance	► Develop plan maintenance procedures by early July 2021 ► Populate the BATool[SM] Plan Review Tool upon receiving APA status
Phase 6 - Plan Update and Deliverables	► Begin plan development at the start of the project ► Complete the draft HMP by October 4, 2021 ► Allow public review from October 4 – November 2, 2021 ► Conduct the draft review meeting on or about November 2, 2021 ► Finalize the draft HMP by November 4, 2021
Phase 7 - Plan Review and Adoption	► Submit the draft HMP to NYS DHSES for review by November 5, 2021 ► Revise and finalize the HMP to ensure compliance with state and federal requirements through February 2022 ► Receive APA status in late February 2022 (estimated) ► Facilitate adoption of the updated HMP in March 2022
Phase 8 - Project Management	► Develop monthly status reports and invoices

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TETRA TECH

Next Steps

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Next Steps

- Complete worksheets
- Provide reports and plans
- Schedule Public Informational Meetings
- Schedule Municipal Information Gathering Meetings
- Risk Assessment Update

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Contacts

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AGENDA

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Planning Partnership Kickoff Meeting

Thursday, June 24, 2021 | 2:00 – 4:00 p.m.

1. **Introductions**
2. **Overview of Hazard Mitigation**
3. **Project Scope Review**
   a. Phase 1 – Planning Process
   b. Phase 2 – Update the Risk Assessment
   c. Phase 3 – Public Involvement Strategy
   d. Phase 4 – Mitigation Strategy
   e. Phase 5 – Plan Maintenance
   f. Phase 6 – Plan Update and Deliverables
   g. Phase 7 – Plan Review and Adoption
4. **Project Schedule Review**
5. **Next Steps**
   a. Complete worksheets
   b. Provide reports and plans
   c. Schedule Public Informational Meetings
   d. Schedule Municipal Information Gathering Meetings
   e. Risk Assessment Update
6. **Questions**

*Project Schedule**

***Schedule is estimated based on the goal of meeting the original grant deadline of March 2022; dates are subject to change.**

Task	Timeframe
Phase 1 – Planning Process	► Conduct a Steering Committee Kickoff Meeting on May 13, 2021 ► Conduct a Planning Partnership Kickoff Meeting on June 24, 2021 ► Conduct Steering Committee Meetings at least bimonthly through submittal of the HMP to NYS DHSES
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Phase 8 - Project Management	► Develop monthly status reports and invoices

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Steering Committee Meeting #2		
Date	August 23, 2021	**Time**	10:00 to 10:45 a.m.
Location	Webinar		
Attendees	Bill Bacon, Director, Livingston County Economic Development Department		
	Angela Ellis, Deputy County Administrator, Livingston County		
	Heather Ferrero, Deputy Director, Livingston County Planning Department		
	Mark Grove, Director, Livingston County Department of Health		
	Jason Wolfanger, Director, Livingston County Highway Department		
	Dennis Mahus, Supervisor, Town of North Dansville		
	Dean Pendergast, Floodplain Administrator, Town of Geneseo		
	Brian Kehoe, Community Planner, Tetra Tech		
	Tony Subbio, Project Manager, Tetra Tech		

Discussion Points

This section summarizes each discussion point addressed during the Steering Committee's second meeting. Mr. Subbio opened the meeting and provided the meeting agenda.

Project Status

Ms. Ferrero indicated that a large number of municipalities have returned worksheets and that she is following up with others. Mr. Kehoe previously provided a feedback email to Ms. Ferrero with guidance on filling data gaps in worksheets that have been returned.

On August 31, 2021, the project Risk Assessment Review Meeting will be held. Tetra Tech staff will review the project schedule and status; the project team continues to work towards meeting grant timelines. The Risk Assessment Review meeting will feature highlights of the quantitative and qualitative analysis conducted on particular hazards of concern (drought, earthquake, flood, hazardous materials, invasive species, landslide, salt mine subsidence, pandemic, severe storm, severe winter storm, terrorism, utility failure, and wildfire). At the meeting, we will review the data and algorithms that underlie the risk assessment. Meeting attendees will be prompted to share their knowledge of local hazard impacts. The risk assessment results will inform the development of mitigation strategies. This work is ongoing, including completion of municipal worksheets. A Mitigation Strategy workshop will be held on September 8, 2021.

Mr. Kehoe will provide draft RA meeting materials to Ms. Ferrero by August 27, with the aim to provide materials to attendees before the meeting.

Risk Assessment Review Overview

Tetra Tech's team completed a risk assessment for the 13 hazards of concern. The risk assessment results are available in a comprehensive Excel spreadsheet and related maps.

MEETING NOTES

Some significant risk assessment results will be reported in the presentation to our August 31 meeting participants.

The risk assessment reports on projected hazard impacts by municipality as follows:

- By building inventory and content "Replacement Cost Value"
- Both residential/commercial buildings
- FEMA-designated Lifelines and Critical Facilities, which include adult care, bridges, communications, Fire/EMS/Police, water/wastewater facilities, etc. (837 critical facilities county-wide)
- By debris generated and people displaced (for floods)
- By potential deaths/injuries

The risk assessment incorporates analysis of the following:

- 1% annual chance and 0.2% annual chance floodplains
- Wildfire hazard areas
- Earthquake
- AKZO Salt Mine subsidence area
- Steep slopes >25%
- Hazmat buffers (roadways, railways, Tier 2 facilities)

Selected results of the risk assessment include:

- ~3,000 people live in the 1% annual chance floodplain (4.5% of the county's buildings are sited there). Approximately 4,200 people live in the 0.2% annual chance flood plain. Relatively few critical facilities or lifelines are in the floodplains.
- Approximately 500 buildings are located in the salt mine subsidence area (almost all in Geneseo), with a replacement cost value of $400 million.
- 1,900 buildings worth $700 million in replacement cost value are located on steep slopes.
- A fairly small population is exposed to hazmat incidents on roadways and railways. Most of the county population is within half-mile of a hazmat facility.
- 30% of buildings are located in the wildfire hazard area.

Next Steps

Ms. Ellis queried which Livingston County municipalities have been awarded or applied for FEMA funding in the past 10 years.

Mr. Kehoe and Ms. Ferrero will meet on August 27 to review the Risk Assessment Review Meeting materials and address any outstanding questions about worksheet completion and jurisdictional annex development.

The meeting adjourned at 10:45 a.m.

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Risk Assessment Review Meeting		
Date	August 31, 2021	**Time**	2:00 – 3:15 p.m.
Location	Webinar		
Attendees	Andrea Bailey, County Clerk		
	Julie Barry, Livingston County, Grants and Public Information Coordinator		
	Will Gall, Deputy, Livingston County Fire Coordinator		
	Heather Ferrero, Livingston County Planning Department, Project Manager		
	Mark Grove, Environmental Health Director with the Livingston County Department of Health		
	Amy Mann, Treasurer, Livingston County		
	Lynne Mignemi, Director, Livingston County Probation Department		
	Jason Parker, Livingston County Department of Information Technology		
	Jason Wolfanger, Superintendent, Livingston County Highway Department		
	Andy Anderson, Fire Marshall, Village of Avon		
	Heather Randall, Clerk, Village of Avon		
	Thomas Perkins, Code Enforcement Officer, Town of Caledonia		
	Peter Vogt, Mayor, Village of Dansville		
	Sarah Wright, Clerk, Town of Geneseo		
	Aprile Mack, Clerk, Village of Geneseo		
	Eric Osganian, Police Chief, Geneseo Police Department		
	Amy Neumann, Town Clerk, Town of Leicester		
	Dave DiSalvo, Board member, Town of Mount Morris		
	Chris Young, Superintendent Department of Public Works, Village of Mount Morris		
	Dennis Mahus, Supervisor, Town of North Dansville		
	Dwight Knapp, Supervisor, Town of Ossian		
	Daniel Porter, Program Manager - Government & Community Relations, NYSEG/RG&E		
	Scott Ewanow, Assistant Chief of Police and Emergency Manager - State University of New York at Geneseo		
	Steve Winslow, Manager of the Mount Morris Dam for the U.S. Army Corps of Engineers		
	Brian Kehoe, Planner, Consultant - Tetra Tech		
	Kate Long, Planner, Consultant - Tetra Tech		

Discussion Points

This section summarizes each discussion point addressed during the Risk Assessment Review Meeting.

MEETING NOTES

Introductions

Mr. Kehoe opened the meeting at 2 p.m. As attendees entered the virtual meeting, they were prompted to provide their name and affiliation via the webinar chat function. It was announced that the meeting would be recorded for viewing by stakeholders who did not attend this session.

Risk Assessment Review

Mr. Kehoe shared the project schedule and status and noted that the planning process is pursuing an aggressive schedule with a completion target date of March 2022. Issuance of an "Approvable Pending Adoption" notice from the Federal Emergency Management Agency will mark completion of the update project. Mr. Kehoe displayed the project's website, noting that it is the repository for all information about the county's Hazard Mitigation Plan and its planning process. All meetings and available plan documents are and will continue to be posted to the project website: livingstoncountynyhmp.com

Mr. Kehoe summarized the methodology and purpose of a hazard risk assessment. Importantly, the risk assessment informs the development of a municipality's mitigation strategy, which includes a prioritized list of proposed mitigation actions. The project team is also developing an associated risk ranking for each of the 13 Hazards of Concern. Mr. Kehoe reviewed the results of the risk assessment for each Hazard of Concern, summarizing history of past events, hazard exposure, and impacts. The risk assessment includes projections of potential impact to life, property, and economy at defined hazard event intensities.

The risk assessment encompasses the 13 hazards of concern incorporated in this HMP update.

- Drought
- Earthquake
- Flood
- Hazardous Materials
- Invasive Species
- Landslide
- Mine Subsidence
- Pandemic
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire

Comments

Throughout the meeting, Mr. Kehoe prompted participants to share their experience and knowledge of hazard risks in the county or in their particular municipality. Participants indicated the following:

- Ms. Neumann stated that Lower River Road in Leicester is prone to flooding.
- Ms. Mack stated that Lower Oak Street/Second Street, Jaycox Creek, and Indian Meadows within the Village of Geneseo are prone to flooding.
- Mr. Winslow stated that Flats Road in Geneseo is prone to flooding.
- Mr. Grove stated that the Ginna nuclear power plant has a 50-mile radius hazard zone that encompasses much of Livingston County.

- Mr. Ewanow asked with whom he should coordinate for the plan regarding the vulnerabilities and the potential sheltering options at SUNY Geneseo. Ms. Ferrero replied that he should coordinate with the Village of Geneseo Police Chief.

Next Steps

The following next steps were discussed at the meeting:

1. Participating municipalities complete worksheets
2. Mitigation Strategy Workshop – September 8, 2021, 9:30–11:00 a.m.
3. Complete Jurisdictional Annexes
4. Complete the Hazard Mitigation Plan

The meeting concluded with summary comments from Heather Ferrero, who noted that numerous municipalities had submitted worksheets and that she would soon reach out to remaining municipalities.

Mr. Kehoe made a final request for input and comments, thanked participants for their time, and stated that he would remain on the line to field any remaining questions/comments. Questions about the planning process can be directed to the contacts provided on the final presentation slide: Brian Kehoe and Tony Subbio from Tetra Tech and Heather Ferrero from the Livingston County Planning Department.

The meeting adjourned at 3:15 p.m.

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Livingston County Hazard Mitigation Plan

2022 Update



Risk Assessment Review Meeting

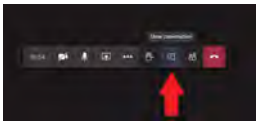
August 31, 2021
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1

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- Click "Show Conversation."



- Write in your name and affiliation
- How are you involved/interested in hazard mitigation?

2

Agenda

- Welcome
- Project Schedule/Status
- Risk Assessment of Hazards of Concern
- Next Steps

3

Project Schedule

✓	May-2021	Steering Committee Initial Meeting
✓	June-2021	Planning Partnership Kickoff Meeting
✓	July-September 2021	Data collection, draft jurisdictional annexes
✓	July- August 2021	Draft 13 hazard profiles & run risk assessment
❑	31-August-2021	Risk Assessment Review Meeting
❑	8-September-2021	Mitigation Strategy Workshop
❑	September-October - 2021	Develop problem statements with municipalities
❑	October/November - 2021	Draft HMP and make available for review
❑	November- 2021	Finalize HMP and submit to NYS DHSES
❑	~January - 2022	NYS DHSES forwards HMP to FEMA Region 2
❑	March-2022	FEMA issues Approvable Pending Adoption

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Risk Assessment

Hazards of Concern:

Drought	**Pandemic**
Earthquake	Severe Storms
Flood	Severe Winter Storms
Hazardous Materials	Terrorism
Invasive Species	Utility Failure
Landslide	Wildfire
Mine Subsidence	

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Risk Assessment

Risk is a function of:

- ✓ Hazard - source of potential danger or adverse condition
- ✓ Exposure - manmade features exposed to the hazard
- ✓ Vulnerability – how susceptible to damage
- ✓ Adaptive Capacity
  - Plans/policies
  - Response/recovery
  - Financial resources

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Risk Assessment
Drought

4 USDA drought declarations in Livingston County since 2012-2021

Annual probability of occurrence = 7%)based on 1950-2017 events)

Table 5.4.1-6. Projected Seasonal Precipitation Change in Region 1, 2050s (% change)

Winter	Spring	Summer	Fall
5 to +15	0 to +15	-10 to +10	-5 to +10

Source: NYSERDA 2011



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Risk Assessment
Cyber Security/Terrorism

- Theft and modification of information
- Organized cyber-crime, state-sponsored hackers, and cyber espionage
- People/buildings throughout the county are exposed

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Risk Assessment
Earthquake

- 1 earthquake epi-centered in the county since 2015. (May 2021, Magnitude 2.4)
- Probability is rare
- Exposure to NEHRP Soils
  - 14,000 buildings
  - Hundreds of critical facilities
  - 100% in Villages of Avon, Leicester, and Nunda



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Risk Assessment
Flood

- $25 million in reported property damage since 1954
- Exposure 1-Percent Annual Chance Floodplain
  - $223 million building stock replacement value (1% total)
  - 93 critical facilities (most are bridges)
  - 15,000 tons of debris
  - 1,500 buildings
- Mount Morris dam improved flood control

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Flood

FEMA Flood Hazard Areas

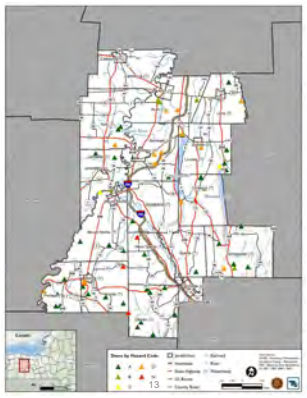


>10% buildings located in1% annual chance flood

1. Geneseo Town
2. Mt Morris Village
3. Mt. Morris Town
4. N. Dansville Town
5. West Sparta Town

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Flood – dam risk



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Risk Assessment Flood

Residents exposed to 1-percent annual chance flood area: 2,922

4.5% total population

Flood History

11 flood events (2015-2021)
2 FEMA flood-related declarations (1954-2021)

NFIP countywide

TBD Policies

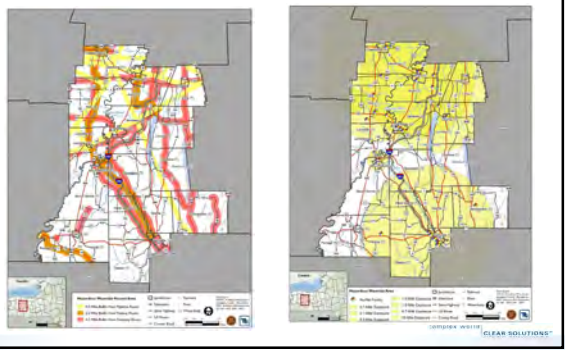
TBD Claims

$TBD Payments

NATIONAL FLOOD INSURANCE PROGRAM

14

Risk Assessment Hazardous Materials



15

Risk Assessment Hazardous Materials

of Tier 2 facilities in the county

43

Hazardous spill events reported to US DOT 2015-2020

3

Probability of annual occurrence

100%

16

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Risk Assessment Landslide

- 3,150 people exposed (5% county total)
- 1,894 buildings (6% of county total)
- $728 million building replacement value
- 17 critical facilities
- Towns of Conesus, Geneseo and Ossian >10% of population in the landslide-susceptible hazard area



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Risk Assessment Salt Mine Subsidence

- ~800 people exposed
- ~500 buildings
- $384 million building replacement cost value
- 44 critical facilities



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Risk Assessment
Pandemic

- Past outbreaks in USA
  - Influenza (annual)
  - Asian Flu (1957-1958)
  - West Nile Virus (2000)
  - Swine Flu (2009-2010)
  - Ebola (2014)
  - COVID
- Exposure
  - Entire County is vulnerable
  - Dense population centers can be more vulnerable

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Risk Assessment
Severe Storm

- Include thunderstorm, lightning, hailstorm, windstorm, tornado, hurricanes/tropical storms
- Climate change likely to cause more severe and more frequent severe storms.

8 — Severe Storm events where damage >$25,000 (2015-2019)

Federally declared Severe Storm Events (1954-2019) — 12

$16 million

Crop damages reported (2014-2020)

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Risk Assessment
Severe Winter Storms

- Blizzards, ice storms, snowstorms, sleet, freezing rain
- Entire county is vulnerable
  - Traffic accidents
  - Overexertion
  - Hypothermia
  - Access for emergency vehicles

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Risk Assessment
Severe Winter Storms

5 — FEMA Declarations (1972 – 2019)

$11 billion — Estimated Potential Loss

10 — # Winter Storms where damage > $25,000 (2015-2020)

100% — Probability of annual occurrence

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Risk Assessment
Utility Failure

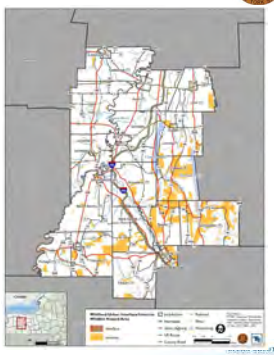
- Usually caused by severe storms/other hazards
  - 3 notable power failure events since 2015.
- Impacts
  - HVAC failure
  - Communications failure
  - Food spoilage
  - Basement flooding
  - Carbon monoxide exposure from generators
  - Individuals dependent on medical equipment
  - Access to potable water
  - High cost to government and community services

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Risk Assessment
Wildfire

$4.6 Billion — Building Replacement Cost Value

- 187 critical facilities in the WUI
- Villages of Mt. Morris and Nunda have the most critical facilities in the WUI



29% population — Wildland Urban Interface

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Next Steps

1. Participating municipalities will complete worksheets
2. Mitigation Strategy Workshop – September 8, 2021
3. Complete Jurisdictional Annexes
4. Complete the Hazard Mitigation Plan

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Contacts

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(585) 354-4216

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AGENDA

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Risk Assessment Review Meeting

Tuesday, August 31, 2021 | 2:00 – 4:00 p.m.

1. **Welcome**

2. **Project Schedule/Status Update**

3. **Risk Assessment**
    1. Drought
    2. Earthquake
    3. Flood
    4. Hazardous Materials
    5. Invasive Species
    6. Landslide
    7. Mine Subsidence
    8. Pandemic
    9. Severe Storms
    10. Severe Winter Storms
    11. Terrorism
    12. Utility Failure
    13. Wildfire

4. **Next Steps**
    a. Complete Worksheets (as needed)
    b. Mitigation Strategy Workshop – September 8, 2021
    c. Develop Mitigation Actions
    d. Complete Jurisdictional Annexes

To update the actions and initiatives for your mitigation strategy, please consider the questions below. Suggested actions will be developed based on Livingston County's needs and capabilities, or will be carried over from the previous hazard mitigation plan (HMP) update based on the responses given in Worksheet 4. Some questions may not apply to your municipality.

1. Which properties in your jurisdiction are most vulnerable to flood events and would have the greatest need for retrofitting or other flood hazard mitigation measures? Specific property addresses do not need to be listed (to ensure residential privacy), but names of streets or neighborhoods can be included.

2. What public outreach and education actions would you be most interested in implementing? Circle all that apply.
   A. Provide general hazard risk preparedness and mitigation and related National Flood Insurance Program (NFIP) information in regular newsletters and mailings.
   B. Provide hazard risk and risk-reduction information through social media channels and e-mail blast systems.
   C. Post flyers and other readily available NFIP informational materials at the municipal hall or distribute at regular civic meetings.
   D. Develop and maintain a hazard risk management webpage on the municipal website where information and mapping can be posted.
   E. Encourage private business owners and managers of infrastructure that provide critical services in post-disaster situations to develop Continuity of Operations Plans or Business Continuity Plans.
   F. Enhance public outreach to residents in NFIP floodplain areas, which may include distributing periodic articles and including handouts in the annual newsletter, to inform residents of annual grant opportunities.
   G. Other:

3. Which critical facilities still need or would benefit from a backup generator or redundant power supply?

4. Which critical facilities have been damaged by flood events and require floodproofing or relocation?

5. Which roads would benefit from mitigation or structural projects to reduce vulnerability to flood or stormwater incidents? Also, please specify the types of projects that would most help a high-risk road (for example, new/expanded culvert, road elevation, repaving, etc.), if this information is available.

6. What areas in the municipality are still in need of stormwater rehabilitation and upgrades?

7. Where do trees or vegetation need to be trimmed away from power or communications wires?

8. Has internet connectivity in your community been adequate to support people working and learning from home during the COVID-19 pandemic?

9. Can you identify private or public wells that might run dry during a drought?

10. Are there buildings in your community that are vulnerable to earthquake damage?

11. Does your municipality store hazardous materials, such as at a fire station or highway garage?

12. Which invasive species are impacting your community?

13. Are there critical facilities that are vulnerable to landsliding?

14. Has your community been impacted by the land subsidence from the AKZO salt mine collapse?

15. Does your municipality have enough equipment to clear roadways during severe winter weather?

16. Do your municipality protect its digital assets against cyber security?

17. Can the town identify which structures within its boundary are located in areas vulnerable to wildfire risk?

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Action Development

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version by September 17, 2021 2021 to:
Brian Kehoe, Tetra Tech
Phone: (585) 354-4216 E-mail: brian.kehoe@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet*: _____

Check in with your municipal planning team: Municipal officials or residents with historical knowledge, including OEM Coordinator, Police, Fire, DPW, building inspector, municipal engineer, etc.

What is your biggest hazard concern? (flooding, stormwater flooding, falling trees, fuel shortage, hazmat spill, power loss, etc.)

Problem	Solution

Critical Facilities - Backup Power

Please list critical facilities that require backup power. If you have specifics (size of the generator, potential cost, etc.), please provide that information as well.

Problem	Solution

Critical Facilities - Flood Protection

If your emailed problem statement list included critical facilities that were located in the special flood hazard area (100-year floodplain), list them here and identify if they are protected from the 0.2% (500-year) flood or what could be done to protect them (relocate, elevate, floodproof, etc.). If you are unsure of their protections, assume they need additional protections.

Problem	Solution

Culverts - Undersized/In Need of Upgrade

Please indicate the location (Street? Stream/river?) of any culverts in your community that are undersized or are damaged from past flood events.

Problem	Solution

Flood Protection – Elevation or Buyout

Please identify homes or neighborhoods that would benefit from elevation or buyout to prevent future flood damages.

Problem	Solution

Infrastructure Protection

Please identify roads and other infrastructure that needs protection from flooding, storms, etc. Indicate what the protection measures are (elevate roadway, harden infrastructure, etc.)

Problem	Solution

Other Projects

Please identify other projects that you have in mind after reviewing your problem statements, past actions, risk assessment results, and mitigation catalog.

Problem	Solution

Mitigation Catalog

DROUGHT		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the Hazard***:
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Consider stored water/captured water techniques during dry seasons.
  ○ Establishing an irrigation time/scheduling program or process so that all agricultural land gets the required amount of water. Through incremental timing, each area is irrigated at different times so that all water is not consumed at the same time. Spacing usage may also help with recharge of groundwater.
• ***Reduce vulnerability to the hazard:***
  ○ Drought resistant landscapes
  ○ Reduce water system losses
  ○ Regularly check for leaks to minimize water supply losses
  ○ Install low-flow water saving showerheads and toilets
  ○ Turn water flow off while brushing teeth or during other cleaning activities
  ○ Adjust sprinklers to water the lawn and not the sidewalk or street.
  ○ Run the dishwasher and washing machine only when they are full.
  ○ Check for leaks in plumping or dripping faucets.
	• ***Manipulate the Hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ Consider stored water/captured water techniques during dry seasons.
	• ***Reduce vulnerability to the hazard:***
	  ○ Drought resistant landscapes
	  ○ Reduce private water system losses
	  ○ Identify alternate water supply sources.
	  ○ Install low-flow water saving showerheads and toilets
	  ○ Adjust sprinklers to water the lawn and not the sidewalk or street.
	• ***Increase Capability:***
	  ○ Practice active water conservation
	  ○ Develop a COOP
	  ○ Create a water conservation plan.
		• ***Manipulate the Hazard:***
		  ○ Ground Water Recharge through stormwater management
		  ○ Implement cloud seeding techniques during dry seasons.
		• ***Reduce exposure to the hazard:***
		  ○ Identify and create ground water back up sources.
		  ○ Create /identify new impounded water supply points.
		  ○ Developing new or upgrading existing water delivery systems to eliminate breaks and leaks.
		• ***Reduce vulnerability to the hazard:***
		  ○ Water use conflict regulations
		  ○ Reduce water system losses
		  ○ Distribute water saving kits
		  ○ Identify sites ideally suited for ground water recharge.
		  ○ Implement stormwater retention in regions ideally suited for groundwater recharges.
		  ○ Utilize drought resistant landscapes on community owned facilities.
		  ○ Encourage citizens to take water-saving measures
		• ***Increase Capability:***
		  ○ Public education on drought resistance
		  ○ Identify alternative water supplies for time of drought. Mutual aid

Mitigation Catalog

DROUGHT		
Personal Scale	**Corporate Scale**	**Government Scale**
○ Install rain-capturing devices for irrigation. ○ Install graywater systems in homes to encourage water reuse. ○ Rotate crops by growing a series of different types of crops on the same fields every season to reduce soil erosion. ○ Planting “cover crops,” such as oats, wheat, and buckwheat, to prevent soil erosion. • ***Increase Capability*** ○ Practice active water conservation techniques. ○ Seek ways to operate wells in such a way to enhance their functional longevity and supply capability.		agreements with alternative suppliers. ○ Develop a drought contingency plan ○ Develop criteria-"triggers" for drought related actions ○ Improve accuracy of water supply forecasts ○ Provide incentives to influence active water conservation techniques such as water user rate reductions. ○ Establish protocol for saltwater de-salinization to be implemented during conditions of severe drought. ○ Consider providing incentives to property owners that utilize drought resistant landscapes in the design of their homes. ○ Use of water buffalo tankers ○ Promote well usage techniques that strive to enhance functional longevity and supply capability of private water supply wells. ○ Develop an ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling swimming pools, etc.

Mitigation Catalog

EARTHQUAKES		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Locate outside of hazard area (off soft soils)
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit structure (anchor house structure to foundation)
  ○ Secure household items that can cause injury or damage, such as water heaters, bookcases, and other appliances
  ○ Build to higher design standards
• ***Increase capability:***
  ○ Practice "drop, cover, and hold"
  ○ Develop household mitigation plan, such as creating a retrofit savings account, communication capability with outside, 72 hr self-sufficiency during an event
  ○ Increase capability by having cash reserves for reconstruction
  ○ Become informed on the hazard and risk reduction alternatives available
  ○ Develop a post-disaster action plan for your household
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ Locate/relocate mission critical functions outside hazard area where possible
	• ***Reduce vulnerability to the hazard:***
	  ○ Build redundancy for critical functions/facilities
	  ○ Retrofit critical buildings/areas housing mission critical functions
	• ***Increase capability:***
	  ○ Adopt higher standard for new construction; consider "performance-based design" when building new structures
	  ○ Increase capability by having cash reserves for reconstruction
	  ○ Inform your employees on the possible impacts of earthquake and how to deal with them at your work facility
	  ○ Develop a Continuity of Operations (COOP) Plan
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ Locate critical facilities or functions outside of hazard area where possible
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure
		  ○ Provide redundancy for critical functions
		  ○ Adopt higher regulatory standards for structures
		  ○ Conduct "rapid screening" programs for critical facilities to identify facilities that may be particularly prone to EQ damage, then develop investigation/action plans to address such structures
		• ***Increase capability:***
		  ○ Provide better hazard maps
		  ○ Provide technical information and guidance
		  ○ Enact tools to help manage development in hazard areas: tax incentives, information
		  ○ Include retrofitting/replacement of critical system elements in CIP
		  ○ Develop strategy to take advantage of post-disaster opportunities
		  ○ Warehouse critical infrastructure components such as pipe, power line, and road repair material

Mitigation Catalog

EARTHQUAKES		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Develop and adopt a Continuity of Operations/Continuity of Government Plan (COOP/COG) ○ Initiate triggers guiding improvements such as: (< 50% substantial damage/improvements) ○ Further enhance seismic risk assessment to target high hazard buildings for mitigation opportunities ○ Develop a post-disaster action plan that includes a grant funding and debris removal components ○ Utilize warning systems such as NY Alert ○ Educate builders and developers on seismic construction standards

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Clear stormwater drains and culverts
• ***Reduce exposure to the hazard:***
  ○ Locate or relocate outside of hazard area
  ○ Institute low impact development techniques on property
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit existing structures and utilities above Base Flood Elevation (BFE)
  ○ Floodproof existing structures (wet or dry flood-proofing)
  ○ Store hazardous materials above BFE or outside of flood-prone areas
• ***Increase capability:***
  ○ Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72-hr self-sufficiency during and after an event
  ○ Buy flood insurance
	• ***Manipulate the hazard:***
	  ○ Clear stormwater drains and culverts
	• ***Reduce exposure to the hazard:***
	  ○ Locate business critical facilities or functions outside hazard area
	  ○ Institute low impact development techniques on property
	• ***Reduce vulnerability to the hazard:***
	  ○ Build redundancy for critical functions/ retrofit critical buildings
	  ○ Provide flood-proofing measures when new critical infrastructure must be located in floodplains
	  ○ Harden structures and infrastructure (wet and dry flood-proofing)
	  ○ Store hazardous materials above BFE or outside of flood-prone areas
	• ***Increase capability:***
	  ○ Increase capability by having cash reserves for reconstruction
	  ○ Develop and adopt a COOP Plan
	  ○ Solicit “cost-sharing” through partnerships with private sector stakeholders on projects with multiple benefits
	  ○ Dam owner/operators should continue to be aware of and understand dam inspection and reporting requirements
	  ○ Ensure that all dam EAPs are kept in compliance with NYSDEC Regulations
		• ***Manipulate the hazard:***
		  ○ Clear stormwater drains and culverts
		  ○ Dredging, levee construction, providing retention areas
		  ○ Structural flood control: levees, dams, channelization, revetments
		  ○ Construct regional stormwater control facilities
		  ○ Lead and develop a county-wide stream clearing strategy, including the development of thresholds for response/action
		• ***Reduce exposure to the hazard:***
		  ○ Locate/relocate critical facilities outside of hazard area
		  ○ Acquire or relocate identified repetitive loss properties
		  ○ Promote open space uses in identified high hazard areas via techniques such as: PUDs, easements, setbacks, greenways, sensitive area tracks
		  ○ Adopt land development criteria such as PUDs, density transfers, clustering
		  ○ Institute low impact development techniques on property
		  ○ Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff
		  ○ Pass an ordinance to incorporate additional zoning classifications into flood zones within each municipality
		  ○ Increase floodplain standards within municipal ordinances and include

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		provisions for enforcing best practice standards by requiring a minimum freeboard of 2' to align with NY State Standards ○ Continue development application reviews by the county Planning Board to reduce risky development practices • ***Reduce vulnerability to the hazard:*** ○ Harden structures and infrastructure (wet and dry flood-proofing) ○ Provide redundancy for critical functions and infrastructure ○ Adopt appropriate regulatory standards such as cumulative substantial improvement/damage, freeboard, lower substantial damage threshold, compensatory storage ○ Stormwater management regulations and master planning ○ Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on down-stream communities ○ Participate in the Community Rating System (CRS) ○ Implement as-built regulatory requirements ○ Implement site review ordinances/requirements ○ Establish stream maintenance programs with stakeholders (e.g., Soil and Water Conservation District) and support county leads of such efforts

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Incorporate retrofitting/replacement of critical facilities and infrastructure in Capital Improvement Plans (CIPs) ○ Promote the use of vegetation/plants as green erosion control measures to reduce localized flooding ○ Work with the SWCD and other groups to address removal of debris, log jams, etc., in flood vulnerable stream sections • ***Increase capability:*** ○ Produce better hazard maps, and improve access to flood hazard mapping ○ Capture/survey "high-water" marks during flood events ○ Provide technical information and guidance on appropriate mitigation options available to businesses and homeowners ○ Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information) ○ Establish an additional layer of zoning within flood hazard areas ○ Develop strategy to take advantage of post-disaster opportunities ○ Improve compliance with and enforcement of the NFIP ○ Develop mitigation partnerships with regional stakeholders ○ Join CRS program or improve level of participation in CRS ○ Develop and implement a public information strategy for flood hazard

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		awareness, flood insurance (NFIP) and mitigation ○ Maintain existing data as well as gather new data needed to define risks and vulnerability ○ Create a building and elevation inventory of structures in the floodplain ○ Identify flood-prone areas that may be in need of new flood studies ○ Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g., elevations, relocations) ○ Charge a hazard mitigation fee on all new permits to create a hazard mitigation funding source for initiatives or grant cost-share requirements ○ Integrate floodplain management policies into other planning mechanisms within the planning area ○ Establish a Stormwater Utility to deal with urban drainage/flooding issues ○ Establish incentives to promote flood hazard mitigation of private property (e.g., permit fee waivers) ○ Adopt ordinances/standards for cumulative damages and/or improvements ○ Upgrade NFIP Floodplain ordinance as well as other ordinances to current or above current state and federal standards ○ Develop and adopt a COOP ○ Join “StormReady” Program

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Participate in county and regional training programs ○ Provide additional training/certification to NFIP floodplain administrators and code officials ○ Implement annual training to account for turnover of municipal officials ○ Maintain and enhance flood forecasting ability, including the establishment and maintenance of critical stream gages ○ Explore grant funding opportunities and potential partnerships to help maintain existing gages and install additional gages to improve forecasting and flood warning ability ○ Promote awareness and participation in alert systems such as NYAlert ○ Support and participate in regional flood management efforts ○ Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones ○ Provide continued and enhanced training for emergency responders ○ Establish a revolving “bank” or budget line item to fund grant application support ○ Continue to review updated Flood Insurance Rate Maps to ensure accuracy as well as maintaining lines of communication with homeowners to make them aware of potential changes related to their property status

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Provide trainings for FPAs on the NFIP/Floodplain Best Practices and also pursue CFM accreditation for municipal FPAs ○ Build and maintain relationships to develop regional watershed/floodplain mitigation solutions ○ Pursue grant funding opportunities to fund repairs of catchments and infrastructure on a proactive basis ○ Explore grant funding opportunities related to climate change to fund mitigation projects

Mitigation Catalog

HAZARDOUS MATERIALS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Identify and eliminate sources of potential hazardous material spills
• ***Reduce exposure to the hazard***:
  ○ Increase distance between hazardous material sites and development
• ***Reduce vulnerability to the hazard:***
  ○ None
• ***Increase capability:***
  ○ Personal planning for potential event
	• ***Manipulate the hazard:***
	  ○ Identify and eliminate sources of potential hazardous material spills
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase capability:***
	  ○ Increase inspection of hazardous material facilities and transport vehicles
	  ○ Conduct training for response
		• ***Manipulate the hazard:***
		  ○ Identify and eliminate sources of potential hazardous material spills
		• ***Reduce exposure to the hazard:***
		  ○ Increase inspection of hazardous material facilities and transport vehicles
		• ***Reduce vulnerability to the hazard:***
		  ○ None
		• ***Increase capability:***
		  ○ Increase inspection of hazardous material facilities and transport vehicles
		  ○ Conduct training for response
		  ○ Public outreach

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the Hazard***:
  ○ Participate in quarantine, control, or eradication programs.
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ Form citizen action groups to promote awareness and best practices on local levels.
• ***Increase Capability***
	• ***Manipulate the Hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase Capability:***
	Build and maintain partnerships with other stakeholders to coordinate information sharing,
		• ***Manipulate the Hazard:***
		  ○ Work with Federal/State agencies on quarantine, control, or eradication programs for invasive species.
		• ***Reduce exposure to the hazard:***
		  ○ Create/disseminate planting guides which explain which types of plants and vegetation

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**
○ Regularly check the NYSISRI Portal for updated information. ○ Comply with Invasive Species rules and regulations to minimize the chance for invasive species to spread. ○ " Broaden collaborations focused ○ on ecosystem restoration and ecosystem-based management. "	and response for Invasive Species throughout the county/region.	are safe to plant within the county. • ***Reduce vulnerability to the hazard:*** ○ Pass municipal ordinances to enforce best practices for invasive species at the local level. • ***Increase Capability:*** ○ Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Invasive Species throughout the county/region. ○ Work with federal/state agencies to disseminate information to local municipalities regarding Invasive Species from the NYS Invasive Species Research Institute portal. ○ Disseminate information to the general public to educate them on Invasive Species ○ Work with stakeholders to identify and expand resources for prevention and early detection of invasive species. ○ Support New York State's initiative for an invasive species early warning system. ○ Broaden collaborations focused on ecosystem restoration and

Mitigation Catalog

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**
		ecosystem-based management." Build ecological restoration planning into IS management projects. Support New York State's marketing, branding, and educational initiatives.

Mitigation Catalog

LANDSLIDE		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Apply soil stabilization measures, such as planting soil stabilizing vegetation on steep slopes
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ None
• ***Increase capability:***
  ○ None
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase capability:***
	  ○ None
		• ***Manipulate the hazard:***
		  ○ Implement reinforcement measures in high-risk areas
		  ○ Use debris flow measures that may reduce damage in sloping areas, such as stabilization, emergency dissipation, and flow control measures
		  ○ Apply soil stabilization measures, such as planting soil stabilizing vegetation on steep, publicly owned slopes
		• ***Reduce exposure to the hazard:***
		  ○ Consider hazard areas in land use planning, zoning, and development siting
		  ○ Acquire structures in highest hazard areas (demolish and convert to restricted open space)
		  ○ Relocation of structures
		  ○ Open space preservation
		  ○ Create or increase setback limits on parcels near high-risk parcels
		• ***Reduce vulnerability to the hazard:***
		  ○ Consider hazard areas in land use planning and development siting
		  ○ Stabilize vulnerable slopes near structures and infrastructure
		  ○ Work with stakeholders such as USGS and SWCD to develop appropriate risk reduction strategies

Mitigation Catalog

LANDSLIDE		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Install catch-fall nets for rocks at steep slopes near roadways • ***Increase capability:*** ○ Increase understanding of hazard areas (e.g., Landslide Susceptibility Maps) geotechnical surveys, LIDAR, and mapping ○ Assessing vegetation in wildfire-prone areas to prevent landslides after fires (e.g., encourage plants with strong root systems) ○ Work with stakeholders such as USGS, NYS - Geological Survey and SWCD to develop appropriate risk reduction strategies ○ Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones ○ Develop county-level programs to document slide events (landslide inventory), and maintain its currency

Mitigation Catalog

PANDEMIC		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Proper hygiene
  ○ PPE
  ○ Social distancing
• ***Reduce vulnerability to the hazard:***
  ○ Focus on personal health
• ***Increase capability:***
  ○ Storage of PPE
  ○ Storage of supplies and food to reduce need to enter public spaces
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ PPE
	  ○ Social distancing
	• ***Reduce vulnerability to the hazard:***
	  ○ Distanced work environment
	  ○ Regular cleaning of work environment
	• ***Increase capability:***
	  ○ Storage of PPE
	  ○ Equipment for monitoring
	  ○ Trainings for staff
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ PPE
		  ○ Social distancing
		• ***Reduce vulnerability to the hazard:***
		  ○ Distanced work environment
		  ○ Regular cleaning of work environment
		• ***Increase capability:***
		  ○ Storage of PPE
		  ○ Equipment for monitoring/treatment
		  ○ Trainings for staff
		  ○ Public outreach

Mitigation Catalog

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit structures (improved roofing, glazing, insulation, etc.)
  ○ Provide for redundant heat and power
  ○ Contact municipality or utilities to trim or remove trees that could affect power lines
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation Program
• ***Increase capability:***
  ○ Improve awareness of impending severe weather (e.g., joining NYAlert, obtain a NOAA weather radio)
  ○ Promote 72-hour self-sufficiency
  ○ Provide for redundant heat and power
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	• ***Increase capability:***
	  ○ Contact municipality or utilities to trim or remove trees that could affect power lines
	  ○ Create redundancy (e.g., backup generators)
	  ○ Improve awareness of impending severe weather (e.g., joining NYAlert, obtain a NOAA weather radio)
	  ○ Develop a COOP Plan
	  ○ Monitor impending storm events so that you can release employees in such a manner as to not negatively impact emergency response personnel/services
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground
		  ○ Trimming trees back from power lines
		  ○ Designate and strengthen critical road sections and bridges
		  ○ Adopt ordinances that regulate the type and quantity of trees planted near utility lines
		  ○ Relocate critical infrastructure, such as power lines, underground
		• ***Increase capability:***
		  ○ Support programs such as "Tree Watch" that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Enforce building codes
		  ○ Increase communication alternatives
		  ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors
		  ○ Modify landscape and other ordinances to encourage appropriate planting near

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		overhead power, cable, and phone lines ○ Promote awareness and participation in alert systems such as NYAlert ○ Provide NOAA weather radios to the public ○ Create/enhance “mutual aid” agreements for response to all emergencies ○ Create/identify evacuation routes to be utilized during severe storm events ○ Develop debris management plans ○ Join StormReady program ○ Provide early warning of impending severe storm events to identified critical or essential facilities, including facilities such as large employments centers, schools, hospitals ○ Promote emergency power supplies to private property ○ Improve, expand, or harden communications facilities and services ○ Recruit additional emergency personnel or use mutual aid agreements ○ Increase sheltering capabilities ○ Increase capability to respond to power outages and downed power lines

Mitigation Catalog

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Establish partnerships with utility providers through proactive planning

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation)
• ***Reduce vulnerability to the hazard:***
  ○ Insulate house to provide greater thermal efficiency and reduce heat loss
  ○ Provide redundant heat and power
  ○ Insulate structure
  ○ Ensure natural gas input/release valves do not get covered in snow
• ***Increase capability:***
  ○ Trim or remove trees that could affect power lines
  ○ Prepare emergency food and supplies to be self-sufficient for at least 72 hours in the event of a severe winter storm
  ○ Be aware of inclement weather conditions and move your vehicles off of the street as severe weather systems approach
  ○ Retrofit structures
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	  ○ Install tree wire
	• ***Increase capability:***
	  ○ Trim or remove trees that could affect power lines
	  ○ Create redundancy in utilities and communications
	  ○ Develop a COOP Plan to address operations before, during, and after coastal storm events
	  ○ Utilize weather radios at the workplace to keep your employees aware of severe weather conditions
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground where appropriate
		  ○ Trimming trees back from power lines
		  ○ Designate snow routes and strengthen critical road sections and bridges
		  ○ Adopt codes and regulations that address the issues of parking vehicles along roadways during severe weather events
		  ○ Develop or enhance the capacity/capability of stormwater conveyance systems
		  ○ Provide backup power sources at vital critical facilities
		• ***Increase capability:***
		  ○ Support programs that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Establish and enforce building codes that require all roofs to withstand snow loads
		  ○ Develop, improve, and enforce building codes in hazard areas

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Increase communication alternatives ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors ○ Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines ○ Provide weather radios to vulnerable populations ○ Enhance public awareness campaigns to address those issues of alert and warning and actions to take during severe weather events ○ Utilize the best available technology to enhance the warning systems for all severe weather events (i.e., tornado warning systems) ○ Coordinate severe weather warning capabilities and the dissemination of warning amongst those agencies within the planning are with the highest degree of capability ○ Encourage local ordinances for planting trees near lines and join Tree City USA

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Increase tree management programs ○ Join the Community Rating System (CRS) ○ Join StormReady ○ Retrofit critical structures and promote hazard resistant construction ○ Keep open communications and education of hazards for mobile home communities ○ Retrofit above-ground utilities to underground facilities if appropriate ○ Create a salt reserve or research alternates to stretch salt reserve ○ Ensure accessibility to hospitals ○ Provide better debris logistics and removal ○ Provide better communication systems and backup communication systems to inform public of hazards and to communicate during the hazard event

Mitigation Catalog

UTILITY FAILURE		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation)
• ***Reduce vulnerability to the hazard:***
  ○ Insulate house to provide greater thermal efficiency and reduce heat loss
  ○ Provide redundant heat and power
  ○ Insulate structure
  ○ Ensure natural gas input/release valves do not get covered in snow
• ***Increase capability:***
  ○ Trim or remove trees that could affect power lines
  ○ Prepare emergency food and supplies to be self-sufficient for at least 72 hours
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	  ○ Install tree wire
	• ***Increase capability:***
	  ○ Trim or remove trees that could affect power lines
	  ○ Create redundancy in utilities and communications
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground where appropriate
		  ○ Trimming trees back from power lines
		  ○ Provide backup power sources at vital critical facilities
		• ***Increase capability:***
		  ○ Support programs that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Increase communication alternatives
		  ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors
		  ○ Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines
		  ○ Provide weather radios to vulnerable populations

Mitigation Catalog

UTILITY FAILURE		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Encourage local ordinances for planting trees near lines and join Tree City USA ○ Increase tree management programs ○ Join StormReady ○ Retrofit above-ground utilities to underground facilities if appropriate ○ Provide better communication systems and backup communication systems to inform public of hazards and to communicate during the hazard event

WILDFIRE		
Personal Scale	**Corporate Scale**	**Government Scale**
• ***Manipulate the Hazard***: ○ Clear potential fuels on property; dry, overgrown underbrush; diseased trees • ***Reduce exposure to the hazard***: ○ Clean and maintain defensible space around structures ○ Locate outside hazard area ○ Mow regularly	• ***Manipulate the Hazard:*** ○ None • ***Reduce exposure to the hazard:*** ○ None • ***Reduce vulnerability to the hazard:*** ○ Create and maintain defensible space around structure and infrastructure and provide water onsite	• ***Manipulate the Hazard:*** ○ None • ***Reduce exposure to the hazard:*** ○ Clear fuels (dry underbrush, diseased trees) on land that can trigger and maintain wildfires ○ Implement Best Management Practices on public lands • ***Reduce vulnerability to the hazard:***

Mitigation Catalog

WILDFIRE		

• ***Reduce vulnerability to the hazard:***
  ○ Create and maintain defensible space around structures, provide water on site.
  ○ Use fire-retardant building materials
  ○ Create defensible spaces around your home.
• ***Increase Capability***
  ○ Employ Firewise techniques to safeguard your home
  ○ Identify alternative water supply points proximate to your home such as swimming pools, lakes, streams
  ○ Support your local fire department
  ○ Be aware of weather conditions that support/enhance the probability of wildfires
	○ Use fire-retardant building materials
	○ Provide stored water to be utilized for firefighting with appropriate fire department connections at facilities not equipped with fire hydrants or inadequate fire hydrant spacing
	• ***Increase Capability:***
	  ○ Support Firewise community initiatives
		○ Create and maintain defensible space around structure and infrastructure
		○ Higher regulatory standards
		○ Establish water main supply and hydrants in unhydranted areas
		○ Decrease hydrant spacing
		• ***Increase Capability:***
		  ○ More public outreach and education efforts including an active “Firewise” program
		  ○ Identify fire response and alternative evacuation routes
		  ○ Seek alternative water supplies in urban wildland interface areas.
		  ○ Become a "Firewise" community
		  ○ Increase capability to fight wildfires utilizing equipment that can support wildfire fighting such as: tankers, engines with "pump-and-run" capabilities, dump tanks for tanker shuttle operations.
		  ○ Develop/implement wildfire management plans.
		  ○ Establish Mutual Aid Agreements
		  ○ Develop a Water Supply Plan

Potential Mitigation Funding Sources

While it is important to recognize the mitigation strategies for each jurisdiction to help achieve the mitigation goals and objectives of the Hazard Mitigation Plan (HMP), it is also important to provide sources for funding to implement these strategies. The table below provides a list of programs, descriptions, and links for those seeking funding sources. Please note that this table is not intended to be a comprehensive list but rather a starting point to help identify potential sources of funding for the identified mitigation strategies.

Table 1. Mitigation Funding Sources

Program	Description	Lead Agency	Website
Federal			
Hazard Mitigation Assistance (HMA)	Grants to provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages – includes FMA, HMGP, PDM.	FEMA	https://www.fema.gov/hazard-mitigation-assistance
Flood Mitigation Assistance (FMA)	Program grants to states and communities for pre-disaster mitigation planning and projects to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program.	FEMA	https://www.fema.gov/flood-mitigation-assistance-grant-program
Hazard Mitigation Grant Program (HMGP)	Grants to states and communities for planning and projects providing long-term hazard mitigation measures following a major disaster declaration.	FEMA	https://www.fema.gov/hazard-mitigation-grant-program
Building Resilient Infrastructure and Communities (BRIC)	Grants to states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.	FEMA	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
Public Assistance: Hazard Mitigation Funding Under Section 406	Hazard mitigation discretionary funding available under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act following a Presidentially declared disaster.	FEMA	https://www.fema.gov/news-release/2017/05/03/4309/fema-hazard-mitigation-grants-404-and-406
Assistance to Firefighters Grant Program	The primary goal of the Assistance to Firefighters Grants (AFG) is to enhance the safety of the public and firefighters with respect to fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated Emergency Medical Services organizations, and State Fire Training Academies. This funding is for critically needed resources to equip and train emergency personnel to recognized standards, enhance operations efficiencies, foster interoperability, and support community resilience.	FEMA	https://www.fema.gov/welcome-assistance-firefighters-grant-program
High Hazard Potential Dams (HHPD) Rehabilitation Grant	The Rehabilitation of High Hazard Potential Dams Grant Program (HHPD provides technical, planning, design, and construction assistance in the form of grants to non-Federal governmental organizations or nonprofit organizations for rehabilitation of eligible high hazard potential dams.	FEMA	https://www.grants.gov/web/grants/view-opportunity.html?oppId=316238
Fire Management Assistance Grant Program	Assistance for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster. Provides a 75% Federal cost share. State pays the remaining 25% for actual cost.	FEMA	https://www.fema.gov/fire-management-assistance-grant-program

Program	Description	Lead Agency	Website
Disaster Housing Program	Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage, and rental assistance.	HUD	https://www.hud.gov/program_offices/public_indian_housing/publications/dhap
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing (including financial support for property acquisition and rehabilitation for low-income persons).	HUD	https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/
HUD Disaster Recovery Assistance	Grants to fund gaps in available recovery assistance after disasters (including mitigation).	HUD	https://www.hud.gov/info/disasterresources
Section 108 Loan Guarantee	Enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans for disaster-distressed areas.	HUD	https://www.hudexchange.info/programs/section-108/
Smart Growth Implementation Assistance (SGIA) program	The SGIA program focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design, or medical and social service facilities siting.	EPA	https://www.epa.gov/smartgrowth
Partners for Fish and Wildlife	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats.	U.S. Fish and Wildlife Service	https://www.fws.gov/partners/
FHWA Emergency Relief Program	Fund for the repair or reconstruction of Federal-aid highways that have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause.	U.S. Department of Transportation (DOT)	https://www.fhwa.dot.gov/programadmin/erelief.cfm
Transportation Investment Generating Economic Recovery (TIGER)	Investing in critical road, rail, transit, and port projects across the nation.	U.S. DOT	https://www.transportation.gov/tags/tiger-grants
Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area and does not include private, commercial, or business undertakings.	USDA	https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program
Emergency Loan Program	USDA's Farm Service Agency (FSA) provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters, or quarantine.	USDA	https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index
Emergency Watershed Protection (EWP) program	Provide assistance to relieve imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences.	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/
Financial Assistance	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal, and related resources on agricultural lands and non-industrial private forest land.	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/

Program	Description	Lead Agency	Website
Emergency Management Performance Grants (EMPG) Program	Assist local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities.	U.S. DHS	https://www.fema.gov/emergency-management-performance-grant-program
Reimbursement for Firefighting on Federal Property	Provides reimbursement only for direct costs and losses over and above normal operating costs.	U.S. DHS	https://www.usfa.fema.gov/grants/firefighting_federal_property.html
Department of Homeland Security Grant Program (HSGP)	HSGP is composed of three interconnected grant programs, including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these competitive grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.	U.S. DHS	https://www.dhs.gov/homeland-security-grant-program-hsgp
Land & Water Conservation Fund	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies).	National Park Service	https://www.nps.gov/subjects/lwcf/index.htm
USSBA	Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.	Small Business Administration (SBA)	https://www.sba.gov/funding-programs/disaster-assistance
State			
Local Government Records Management Improvement Fund (LGRMIF) Disaster Recovery Grants	Grants for disaster recovery projects related to damage caused by a sudden, unexpected event involving fire, water, man-made or natural phenomena where a timely response is necessary to prevent the irretrievable loss of vital or archival records, or to ensure reasonable, timely access to vital records.	New York State Archives / New York State Education Department	http://www.archives.nysed.gov/grants/grants_lgrmif.shtml
The New York State Emergency Services Revolving Loan	Repair of firefighting apparatus, ambulances, or rescue vehicles; renovation, rehabilitation, or repair of facilities that house firefighting equipment, ambulances, rescue vehicles, and related equipment.	NYS DHSES	http://www.dhses.ny.gov/ofpc/services/loan/
Environmental Protection Fund (EPF)	Matching grants for the acquisition, planning, development, and improvement of parks, historic properties.	New York State Parks, Recreation & Historic Preservation (NYSOPRHP)	https://www.dec.ny.gov/about/92815.html
Recreational Trails (RTP)	Program matching grants for the acquisition, development, rehabilitation, and maintenance of trails and trail-related projects.	NYSOPRHP	https://parks.ny.gov/grants/recreational-trails/default.aspx

Program	Description	Lead Agency	Website
Environmental Protection & Improvement Grants	Competitive grants for environmental protection and improvement; available for municipalities, community organizations, not-for-profit organizations, and others.	New York State Department of Environmental Conservation	https://www.dec.ny.gov/about/92815.html
Volunteer Fire Assistance Grants	The grant is a 50/50 matching funds program. Its purpose is to make funds available to rural fire companies for the purchase of wildland firefighting equipment such as portable backpack pumps, Nomex protective clothing, hand tools, hard hats, hose, portable radios, and dry hydrants.	NYSDEC	https://www.dec.ny.gov/regulations/2364.html
Clean Water Act Section 604(b) Water Quality Planning Grants	Provide funding to implement regional comprehensive water quality management planning activities as described in Section 604(b) of the federal Clean Water Act. 604(b) funds are to be used for water quality management planning activities, including tasks to determine the nature, extent, and causes of point and nonpoint source water pollution problems and to develop plans to resolve these problems.	NYSDEC	https://www.dec.ny.gov/lands/53122.html
Water Quality Improvement Project (WQIP) Program	The Water Quality Improvement Project (WQIP) program is a competitive reimbursement grant program that funds projects that directly address documented water quality impairments. Applications are typically available each spring through the Consolidated Funding Application.	NYSDEC	https://www.dec.ny.gov/pubs/4774.html
New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)	The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects. The ultimate goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, Water Quality Improvement Project program, or other funding entities to further pursue the identified solution.	NYSDEC	https://www.dec.ny.gov/pubs/81196.html
Climate Smart Communities Grant Program	The CSC Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties (or boroughs of New York City) of the State of New York for eligible climate adaptation and mitigation projects.	NYSDEC	https://www.dec.ny.gov/energy/109181.html
BRIDGE NY	New York State is making funding available for local governments to rehabilitate and replace bridges and culverts statewide.	NYS DOT	https://www.dot.ny.gov/BRIDGENY

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Mitigation Strategy Workshop Meeting		
Date	September 8, 2021	**Time**	9:30 - 10:45 a.m.
Location	Webinar		
Attendees	Heather Ferrero, Deputy Director, Livingston County Planning Department		
	Thomas Perkins, Code Enforcement Officer, Town of Caledonia		
	Peter Vogt, Mayor, Village of Dansville		
	Sarah Wright, Clerk, Town of Geneseo		
	Aprile Mack, Clerk, Village of Geneseo		
	Cal Lathan, Mayor, Village of Livonia		
	Dennis Mahus, Supervisor, Town of North Dansville		
	Dwight Knapp, Supervisor, Town of Ossian		
	Deb Babbit Henry, Town of Springwater		
	Chris Harris, Town of York		
	Brian Kehoe, Planner, Consultant - Tetra Tech		
	Kate Long, Planner, Consultant - Tetra Tech		

Purpose

The purpose of the Mitigation Strategy Workshop was to work with the jurisdictional participants of the Livingston County HMP to identify problems and potential mitigation actions to include in their jurisdictional annexes.

Discussion Points

This section summarizes each discussion point addressed during the meeting.

Welcome and Opening Remarks

Ms. Ferrero thanked participants for attending the meeting and participating in the planning process. Mr. Kehoe described the purpose of the meeting, which was to review the hazard mitigation planning process and develop mitigation strategies.

Hazard Mitigation Review

Mr. Kehoe provided a brief review of the concepts and benefits of hazard mitigation.

Developing Mitigation Strategies

Mr. Kehoe reviewed the hazards of concern and discussed different methods of risk reduction. Mr. Kehoe then reviewed the NYS and FEMA requirements for updating the mitigation strategy. Each jurisdiction will need to meet the following requirements:

- Develop at least two Mitigation Action Development worksheets.

- Repetitive and Severe Repetitive Loss Properties need an action with specific details (street or neighborhood names).
- Critical facilities need to be protected to the 500-year flood event (0.2% annual chance) or worst-case scenario.
- Evacuation routes and shelters must be made viable.
- Temporary and permanent housing locations must be identified.
- Address the actual and projected impacts of climate change.
- Proposed actions must have specific information when discussing the problem and solution and identify information such as:
    - Project lead
    - Estimated cost
    - Timeline
    - Whether the action involves a critical facility

Mr. Kehoe explained that mitigation actions must have a clear connection to the risk and capability assessments; municipalities should aim to address the riskiest hazards in their mitigation actions. Mr. Kehoe reviewed the types of mitigation actions that should be considered:

- Structure and Infrastructure Projects
- Local Plans and Regulations
- Natural Systems Protection Projects
- Education and Awareness Programs

Mr. Kehoe explained to participants that proposed mitigation actions must be created/updated with more specific details. Mr. Kehoe provided examples of how to generate proposed actions that meet current standards of the HMP planning process.

Fill Out and Return the Mitigation Action Development Worksheet

Mr. Kehoe explained how participants should fill out the Mitigation Action Development Worksheet. The worksheet is designed to gather as much information as possible from municipal participants so that appropriately detailed mitigation actions can be developed. The worksheet is to be filled out and returned to the county by September 17, 2021.

Mr. Kehoe reviewed the proposed action table and action worksheet line by line and detailed the level of detail required for each. Mr. Kehoe explained that identifying known problem areas is a good starting point and that the municipalities may have already identified potential mitigation solutions. All of this information should be recorded on the action worksheets. Each municipality must develop at least two Action Worksheets, and these should aim to meet FEMA funding eligibility criteria. County Staff are available to assist with this effort.

Comments

The following comments/questions were received during the meeting:

- Ms. Mack, Village of Geneseo, asked about carrying over projects from the 2015 countywide HMP to which Mr. Kehoe responded in the affirmative. Worksheet #4 was circulated to all municipalities and contains a listing of 2015 proposed projects. Where appropriate and desired, these can be carried over to the new plan with refinements, as necessary. Ms. Mack asked about how to include other village officials in the process of devising proposed actions, and Mr. Kehoe shared ideas for encouraging involvement by these officials.
- Ms. Ferrero stated that about six municipalities have not returned previously circulated worksheets and that she will continue to reach out to them accordingly. Only those municipalities participating in the HMP update process will be eligible to apply for specified FEMA funding solicitations in the future.

Next Steps

The meeting closed with a reminder to municipal officials were reminded that Action Worksheets should be returned by September 17, 2021.

- Contact information for Mr. Kehoe and Ms. Ferrero was provided.

Mr. Kehoe made a final request for input and comments, thanked participants for their time, and stated that he would remain on the line to field questions/comments.

The meeting adjourned at 10:45 a.m.

TETRA TECH

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Livingston County Hazard Mitigation Plan

2022 Update



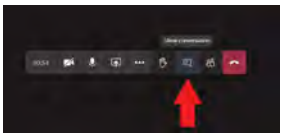
Mitigation Strategy Review Meeting

September 8, 2021
9:30–11:00 a.m.

1

Welcome

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat window.
  - Bring your mouse to the lower part of the screen until a set of buttons appears.
  - Click Show conversation.



2

Today's Topics

- Hazard Mitigation Review
- Developing Mitigation Strategies
- Making Previous Actions More Specific
- Fill Out and Return the Mitigation Action Development Worksheet
- Proposed Action Table
- Action Worksheets
- Questions
- Next Steps

3

3

What Is Hazard Mitigation?

Sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event



"…provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability…" (CFR)

4

4

Mitigation Works.

The nation saves **$6** for every **$1** spent through **mitigation** grants funded via select federal agencies.

National Benefit-Cost Ratio (BCR) Per Peril *BCR numbers in this study have been rounded	Beyond Code Requirements	Federally Funded
Overall Hazard Benefit-Cost Ratio	$4:1	$6:1
Riverine Flood	$5:1	$7:1
Hurricane Surge	$7:1	
Wind	$5:1	$5:1
Earthquake	$4:1	$3:1
Wildland-Urban Interface Fire	$4:1	$3:1

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Hazard Mitigation Components



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2021/22 HMP Hazards of Concern

Drought
Earthquake
Flood
Hazardous Materials
Invasive Species
Landslide
Mine Subsidence
Pandemic
Severe Storms
Severe Winter Storms
Terrorism
Utility Failure
Wildfire

7

7

Risk Reduction

To reduce risk:

- **Manipulate the hazard:**
  - **Structural flood control**
- ***Reduce/eliminate exposure*:**
  - **Property acquisition**
- **Reduce vulnerability:**
  - **Retrofit**
- **Increase capability:**
  - **Funding, preparation, technical assistance, planning, enforcement**



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NYS & FEMA Requirements for Mitigation Strategy Update

- Develop *at least two Action Worksheets*.
- *Address Repetitive and Severe Repetitive Loss Properties* – Need an action with specific details (street or neighborhood names).
- Identify critical facilities, assess vulnerabilities, and ensure protection to the 500-year flood event or worst-case scenario.
  - If already protected, we must note how.
  - *If not protected, a mitigation action must be developed.*
- Plan for climate change and propose actions to address.

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NYS Requirements: Mitigation Strategy

- MUST identify evacuation routes and shelters in the plan.
  - Identify actions to make evacuation routes and shelters viable, if not already.
- MUST identify temporary housing and permanent housing locations in the plan.
  - Identify actions to develop these locations, even if outside of jurisdictional boundaries.

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NYS Requirements: Mitigation Strategy

- Proposed actions MUST have specified information identified, including:
  - Project lead
  - Estimated cost
  - Timeline
  - Whether the action involves a critical facility
  - Etc.
- All of these required items are identified within the proposed action table. Each cell of the table MUST be filled out.

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Connection to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges/opportunities for the mitigation strategy as well.
- Provides the factual basis for activities proposed in the mitigation strategy.

Risk and Capability Assessments → Mitigation Strategy

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Connection to the Mitigation Strategy

- More specific actions:
  - Specific projects, in specific locations, in a specific timeframe
- Diverse actions:
  - Focus on highest ranked hazards but also look to address other hazards
  - Include a variety in the types of actions

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FEMA Mitigation Action Types

Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.

Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.

Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.

Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.

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Update the Mitigation Strategy

- Review the Goals and Objectives.
- Start with Problems :
  - Areas that have been impacted
  - Recurring issues
  - Critical/lifeline facilities in the floodplain
  - RL/SRL properties that need mitigating
  - Lack of identified locations for temporary housing and permanent housing (outside of the floodplain)

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Update the Mitigation Strategy

- **Identify new mitigation actions/projects.**
- **Modify carry-over projects from the 2015 HMP.**
  - Be more specific or address different aspect of original problem.

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TETRA TECH

Make Previous Actions More Specific

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Previous Problem/Action (2015 HMP)

- Problem: Critical facilities require backup power.
- Solution: Acquire backup power for critical facilities.

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Improved Problem and Action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and can also serve as a backup shelter. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase the appropriately sized backup generator for the Town Hall. The DPW will install the backup generator and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.

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EVEN MORE Improved Problem and Action

- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and can also serve as a backup shelter for approximately 100 people. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase a 75 kW generator for the Town Hall. The DPW will install the backup generator on the roof of the Town Hall, install necessary electrical components, and be responsible for testing and upkeep of the generator after installation.

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Previous Problem and Action

- **Problem:** Falling trees result in power outages.
- **Solution:** Complete tree trimming.

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Improved Problem and Action

- **Problem:** High-hazard trees pose a risk for falling on private property and utilities during storm events. The town does not have a program in place to monitor and inspect trees and identify trees that need to be trimmed or removed.
- **Solution:** The Town will develop a vegetation management program. This program will include routine inspections of trees in the municipal rights-of-way, identify trees that are in need of trimming or removal, and conduct the trimming and removal. This will help reduce tree damage, road closures, and power outages during severe weather events. A majority of the tree work will be conducted by the Highway Department; however, outside contractors might be used if removal is beyond the Highway Department's capability.

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Mitigation Action Development Worksheet

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Proposed Action Table

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	NFIP Insured	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Prepared/ Not Prepared	Old Category
2020-Misc-001				Problem: Solution:										
2020-Misc-002				Problem: Solution:										
2020-Misc-003				Problem: Solution:										
2020-Misc-004				Problem: Solution:										
2020-Misc-005				Problem: Solution:										

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Action Worksheets

- Each jurisdiction must develop at least two Action Worksheets.
- Jurisdictions should also develop Action Worksheets for projects for which they plan to apply for FEMA funding support within the next five years.
- Not every action requires an Action Worksheet to be developed, but the same sort of information about those actions is still needed in the Proposed Actions table of the annex.

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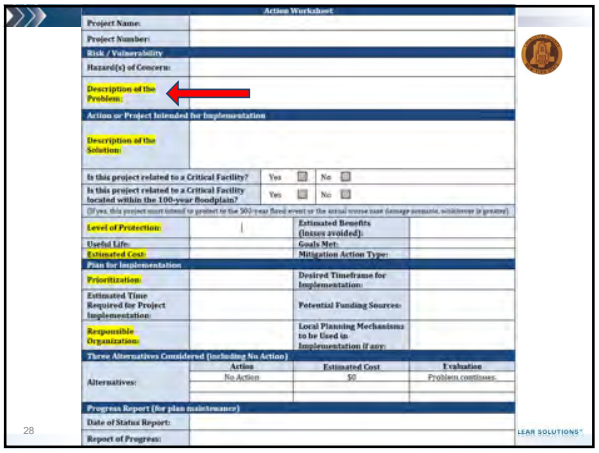
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Action Worksheet

- Complete the highlighted areas.
- Areas not highlighted will be completed by county staff.

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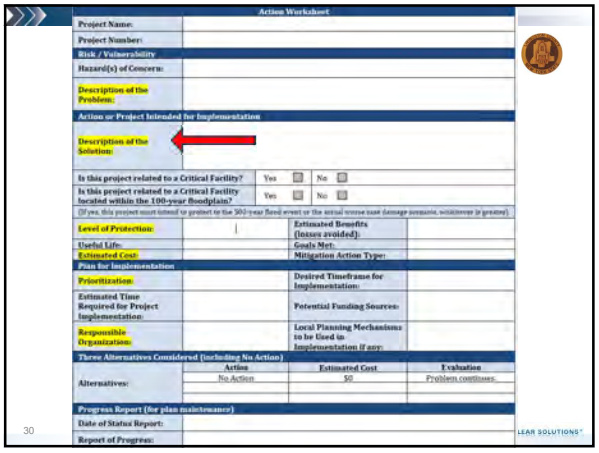
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Action Worksheet

- Description of the Problem:
  - What is the problem?
  - What is the risk?
  - Where is the problem occurring?
  - Who is the problem impacting?
  - Have there been past damages?
  - How frequently does the problem occur?

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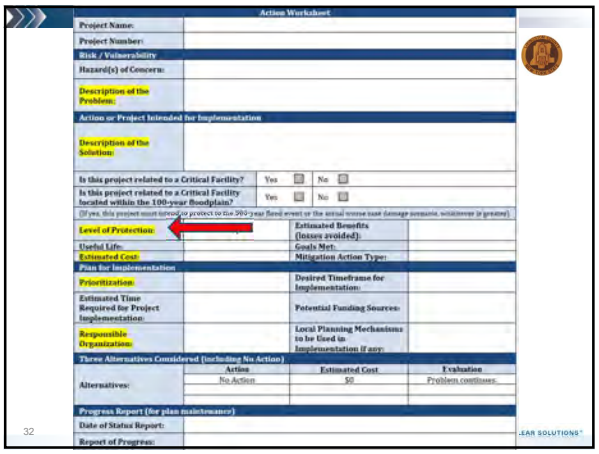
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Action Worksheet

- Description of the Solution:
  - How do you propose to solve or mitigate the problem?
  - What are the design specifications?
    - Height and length of a floodwall
    - kW for backup generators
    - Number of structures to be bought out or elevated
  - Who is responsible for what aspects of the project?

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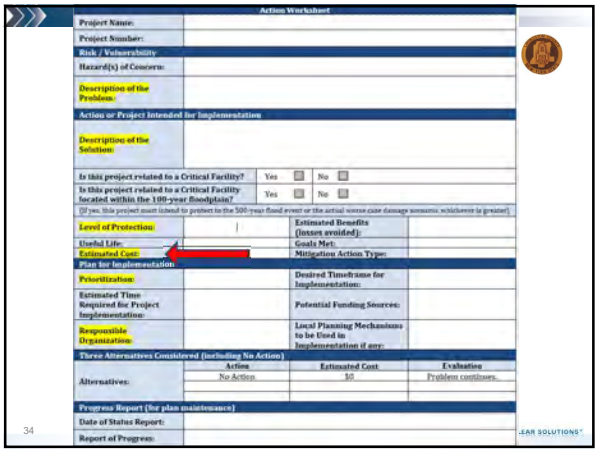
32

Action Worksheet

- Level of Protection
  - What level event is the project being designed to protect to?
    - For flood protection: 1% flood (100-year flood), 0.2% flood (500-year flood)
    - For stormwater improvements: 5-year rain events, 10-year rain events
  - If not a specific level, include brief description of what protections are in place.
    - For generators: Prevents power loss

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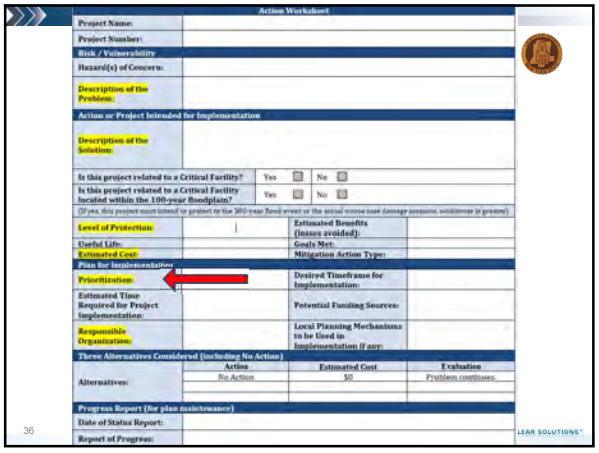
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Action Worksheet

- Estimated cost
  - What will the project cost?
  - If project includes phases or components, what will each phase or component cost?
    - New generator: $25K, elevation platform for generator: $1K

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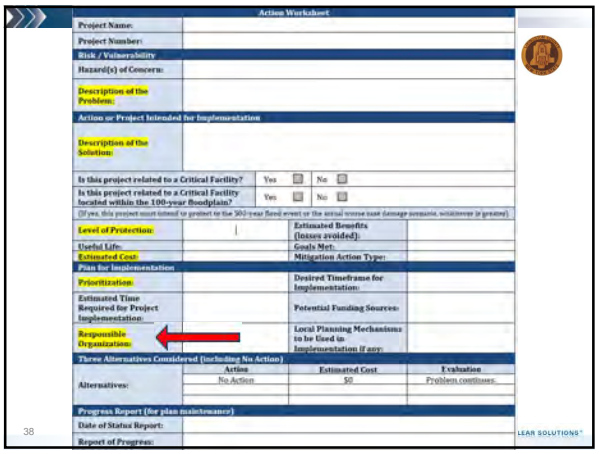
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Action Worksheet

- Prioritization
  - High, Medium, or Low
  - Use the second page of the Action Worksheet to evaluate each action and assist in the determination of priority (to be discussed shortly).

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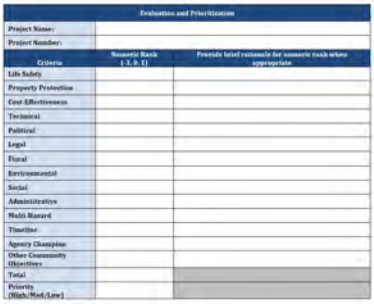
Action Worksheet

- Responsible Organization
  - Identify the lead organization, department, or individual for the project.
  - Identify any supporting organizations, departments, or individuals for the project.

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Evaluation of Actions



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Prioritization of Actions

- Consider the benefits and costs.
- Consider the implementation timeline.
- Consider the areas/problems of greatest need.
- Consider the funding sources.
- Determine High, Medium, or Low priority.

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Schedule Review and Next Steps

- Return your Mitigation Development Worksheet by **September 17, 2021.**
- Work with county staff to complete your annex and the development of your actions.
- All annexes and actions must be complete by **the end of October 2021.**
- Targeting posting of the draft plan in November 2021.

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For More Information…

- Livingston County HMP Website (livingstoncountynyhmp.com)
- Livingston County Department of Planning (https://livingstoncounty.us/210/Planning-Department)
- Livingston County Office of Emergency Management (https://livingstoncounty.us/203/Emergency-Management-Office-of)



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Contacts

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brian.kehoe@tetratech.com
(585) 354-4216

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AGENDA

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Strategy Workshop

Wednesday, September 8, 2021 | 9:30 – 11:00 a.m.

1. **Welcome and Opening Remarks**
2. **Hazard Mitigation Review**
3. **Developing Mitigation Strategies**
   a. NYS Requirements
   b. Areas of Focus
   c. Types of Mitigation Actions
4. **Making Previous Actions More Specific**
5. **Fill Out and Return the Mitigation Action Development Worksheet**
6. **Proposed Action Tables**
7. **Action Worksheets**
8. **Questions**
9. **Next Steps**

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Action Development

Please work with your municipal planning team and complete this worksheet. Please send electronic Word version by September 17, 2021 2021 to:
Brian Kehoe, Tetra Tech
Phone: (585) 354-4216 E-mail: brian.kehoe@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet*: _____

Check in with your municipal planning team: Municipal officials or residents with historical knowledge, including OEM Coordinator, Police, Fire, DPW, building inspector, municipal engineer, etc.

What is your biggest hazard concern? (flooding, stormwater flooding, falling trees, fuel shortage, hazmat spill, power loss, etc.)

Problem	Solution

Critical Facilities - Backup Power

Please list critical facilities that require backup power. If you have specifics (size of the generator, potential cost, etc.), please provide that information as well.

Problem	Solution

Critical Facilities - Flood Protection

If your emailed problem statement list included critical facilities that were located in the special flood hazard area (100-year floodplain), list them here and identify if they are protected from the 0.2% (500-year) flood or what could be done to protect them (relocate, elevate, floodproof, etc.). If you are unsure of their protections, assume they need additional protections.

Problem	Solution

Culverts - Undersized/In Need of Upgrade

Please indicate the location (Street? Stream/river?) of any culverts in your community that are undersized or are damaged from past flood events.

Problem	Solution

Flood Protection – Elevation or Buyout

Please identify homes or neighborhoods that would benefit from elevation or buyout to prevent future flood damages.

Problem	Solution

Infrastructure Protection

Please identify roads and other infrastructure that needs protection from flooding, storms, etc. Indicate what the protection measures are (elevate roadway, harden infrastructure, etc.)

Problem	Solution

Other Projects

Please identify other projects that you have in mind after reviewing your problem statements, past actions, risk assessment results, and mitigation catalog.

Problem	Solution

Action Worksheet				
Project Name:				
Project Number:				
Risk / Vulnerability				
Hazard(s) of Concern:				
Description of the Problem:				
Action or Project Intended for Implementation				
Description of the Solution:				
Is this project related to a Critical Facility?	Yes ☐	No ☐		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☐		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:		**Estimated Benefits (losses avoided):**		
Useful Life:		**Goals Met:**		
Estimated Cost:		**Mitigation Action Type:**		
Plan for Implementation				
Prioritization:		**Desired Timeframe for Implementation:**		
Estimated Time Required for Project Implementation:		**Potential Funding Sources:**		
Responsible Organization:		**Local Planning Mechanisms to be Used in Implementation if any:**		
Three Alternatives Considered (including No Action)				
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**	
	No Action	$0	Problem continues.	
Progress Report (for plan maintenance)				
Date of Status Report:				
Report of Progress:				
Update Evaluation of the Problem and/or Solution:				

Evaluation and Prioritization		
Project Name:		
Project Number:		
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
Total		
Priority (High/Med/Low)		

Guidance to Complete the Mitigation Action Worksheet

The following provides additional guidance on how to complete the Mitigation Action Worksheet. Please note that NYS DHSES requires a minimum of two proposed mitigation activities; one of which cannot be a generator.

- If you have NFIP repetitive or severe repetitive flood loss properties, you must include a specific project to mitigate including the general location (neighborhood name, area of town – do not include specific addresses), type of mitigation (acquisition, elevation), details regarding outreach to homeowners and schedule for implementation.

- If you have critical facilities or lifelines in the floodplain, please identify a mitigation project to reduce flood impacts. If you already mitigated, please indicate the action completed. If it is not within your jurisdiction, consider working with the facility owner to conduct a feasibility study to identify the most effective path forward – need an outcome of the study to determine next steps.

Action Worksheet

Project Name: Please identify a unique project name for the mitigation action.

Project Number: 2020-Jurisdiction-001.

Assessing the Risk and Vulnerability

Hazard(s) of Concern: Please identify the hazard(s) being addressed with this action.

Description of the Problem: Provide a detailed narrative of the problem. Describe the hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.

Action/Project Intended for Implementation

Description of the Solution: Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).

Critical Facility: Please indicate whether or not the identified project is related to a critical facility or lifeline in your community.

Level of Protection: Please identify the level of protection the proposed project will provide. For example, 100-year (1%) flood.

Useful Life: Identify the number of years the project will provide protection against the hazard.

Estimated Cost: Identify all estimate costs associated with implementation.

Estimated Benefits: Identify the benefits that implementation of this project will provide (e.g., risk reduction). If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.

Mitigation Action Type:

Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.

Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Goals:

Goal 1: Protect life, property, and critical infrastructure from hazard impacts.

Goal 2: Reduce the risk of hazards on life, property, and the environment.

Goal 3: Educate the public, officials, and other stakeholders about the hazards they face and what can be done to mitigate hazard impacts.

Plan for Implementation

Prioritization: Please enter High/Medium/Low. Refer to the prioritization exercise and table.

Estimated Time Required for Project Implementation: Provide the estimated time required to complete the project from start to end.

Responsible Organization: Identify the name of a department or agency responsible for implementation, not the jurisdiction.

Desired Timeline for Implementation: Identify the desired start time for this project. For example, within six months.

Potential Funding Source(s): Identify multiple sources of potential funding. For example, FEMA HMGP and PDM Grants, CDBG-DR funding, etc.

Local Planning Mechanism to be Used in Implementation (if any): Consider the use of local planning mechanisms that will be used to implement the project.

Evaluation of Potential Actions/Projects

Actions/Projects Considered: Please consider three different options to mitigate the problem identified. One alternative is always to accept the current level or risk (tolerate the vulnerability/problem) by deciding to take no action at this time. Please include the name of the action considered, estimated cost to complete the project, and a description of the pros and cons of the project.

Reporting on Progress (for plan maintenance)

Date of Status Report: This section should be completed during plan maintenance/evaluation.

Report of Progress: Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.

Update Evaluation of the Problem and/or Solution: Provide an updated description of the problem and solution, and what has happened since initial consideration/development.

Please note this report on progress should be done, at minimum, each year prior to the annual Planning Committee update outlined in the plan maintenance procedures.

Mitigation Catalog

DROUGHT		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the Hazard***:
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Consider stored water/captured water techniques during dry seasons.
  ○ Establishing an irrigation time/scheduling program or process so that all agricultural land gets the required amount of water. Through incremental timing, each area is irrigated at different times so that all water is not consumed at the same time. Spacing usage may also help with recharge of groundwater.
• ***Reduce vulnerability to the hazard:***
  ○ Drought resistant landscapes
  ○ Reduce water system losses
  ○ Regularly check for leaks to minimize water supply losses
  ○ Install low-flow water saving showerheads and toilets
  ○ Turn water flow off while brushing teeth or during other cleaning activities
  ○ Adjust sprinklers to water the lawn and not the sidewalk or street.
  ○ Run the dishwasher and washing machine only when they are full.
  ○ Check for leaks in plumping or dripping faucets.
	• ***Manipulate the Hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ Consider stored water/captured water techniques during dry seasons.
	• ***Reduce vulnerability to the hazard:***
	  ○ Drought resistant landscapes
	  ○ Reduce private water system losses
	  ○ Identify alternate water supply sources.
	  ○ Install low-flow water saving showerheads and toilets
	  ○ Adjust sprinklers to water the lawn and not the sidewalk or street.
	• ***Increase Capability:***
	  ○ Practice active water conservation
	  ○ Develop a COOP
	  ○ Create a water conservation plan.
		• ***Manipulate the Hazard:***
		  ○ Ground Water Recharge through stormwater management
		  ○ Implement cloud seeding techniques during dry seasons.
		• ***Reduce exposure to the hazard:***
		  ○ Identify and create ground water back up sources.
		  ○ Create /identify new impounded water supply points.
		  ○ Developing new or upgrading existing water delivery systems to eliminate breaks and leaks.
		• ***Reduce vulnerability to the hazard:***
		  ○ Water use conflict regulations
		  ○ Reduce water system losses
		  ○ Distribute water saving kits
		  ○ Identify sites ideally suited for ground water recharge.
		  ○ Implement stormwater retention in regions ideally suited for groundwater recharges.
		  ○ Utilize drought resistant landscapes on community owned facilities.
		  ○ Encourage citizens to take water-saving measures
		• ***Increase Capability:***
		  ○ Public education on drought resistance
		  ○ Identify alternative water supplies for time of drought. Mutual aid

Mitigation Catalog

DROUGHT		
Personal Scale	**Corporate Scale**	**Government Scale**
○ Install rain-capturing devices for irrigation. ○ Install graywater systems in homes to encourage water reuse. ○ Rotate crops by growing a series of different types of crops on the same fields every season to reduce soil erosion. ○ Planting “cover crops,” such as oats, wheat, and buckwheat, to prevent soil erosion. • ***Increase Capability*** ○ Practice active water conservation techniques. ○ Seek ways to operate wells in such a way to enhance their functional longevity and supply capability.		agreements with alternative suppliers. ○ Develop a drought contingency plan ○ Develop criteria-"triggers" for drought related actions ○ Improve accuracy of water supply forecasts ○ Provide incentives to influence active water conservation techniques such as water user rate reductions. ○ Establish protocol for saltwater de-salinization to be implemented during conditions of severe drought. ○ Consider providing incentives to property owners that utilize drought resistant landscapes in the design of their homes. ○ Use of water buffalo tankers ○ Promote well usage techniques that strive to enhance functional longevity and supply capability of private water supply wells. ○ Develop an ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling swimming pools, etc.

Mitigation Catalog

EARTHQUAKES		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Locate outside of hazard area (off soft soils)
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit structure (anchor house structure to foundation)
  ○ Secure household items that can cause injury or damage, such as water heaters, bookcases, and other appliances
  ○ Build to higher design standards
• ***Increase capability:***
  ○ Practice "drop, cover, and hold"
  ○ Develop household mitigation plan, such as creating a retrofit savings account, communication capability with outside, 72 hr self-sufficiency during an event
  ○ Increase capability by having cash reserves for reconstruction
  ○ Become informed on the hazard and risk reduction alternatives available
  ○ Develop a post-disaster action plan for your household
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ Locate/relocate mission critical functions outside hazard area where possible
	• ***Reduce vulnerability to the hazard:***
	  ○ Build redundancy for critical functions/facilities
	  ○ Retrofit critical buildings/areas housing mission critical functions
	• ***Increase capability:***
	  ○ Adopt higher standard for new construction; consider "performance-based design" when building new structures
	  ○ Increase capability by having cash reserves for reconstruction
	  ○ Inform your employees on the possible impacts of earthquake and how to deal with them at your work facility
	  ○ Develop a Continuity of Operations (COOP) Plan
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ Locate critical facilities or functions outside of hazard area where possible
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure
		  ○ Provide redundancy for critical functions
		  ○ Adopt higher regulatory standards for structures
		  ○ Conduct "rapid screening" programs for critical facilities to identify facilities that may be particularly prone to EQ damage, then develop investigation/action plans to address such structures
		• ***Increase capability:***
		  ○ Provide better hazard maps
		  ○ Provide technical information and guidance
		  ○ Enact tools to help manage development in hazard areas: tax incentives, information
		  ○ Include retrofitting/replacement of critical system elements in CIP
		  ○ Develop strategy to take advantage of post-disaster opportunities
		  ○ Warehouse critical infrastructure components such as pipe, power line, and road repair material

Mitigation Catalog

EARTHQUAKES		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Develop and adopt a Continuity of Operations/Continuity of Government Plan (COOP/COG) ○ Initiate triggers guiding improvements such as: (< 50% substantial damage/improvements) ○ Further enhance seismic risk assessment to target high hazard buildings for mitigation opportunities ○ Develop a post-disaster action plan that includes a grant funding and debris removal components ○ Utilize warning systems such as NY Alert ○ Educate builders and developers on seismic construction standards

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Clear stormwater drains and culverts
• ***Reduce exposure to the hazard:***
  ○ Locate or relocate outside of hazard area
  ○ Institute low impact development techniques on property
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit existing structures and utilities above Base Flood Elevation (BFE)
  ○ Floodproof existing structures (wet or dry flood-proofing)
  ○ Store hazardous materials above BFE or outside of flood-prone areas
• ***Increase capability:***
  ○ Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72-hr self-sufficiency during and after an event
  ○ Buy flood insurance
	• ***Manipulate the hazard:***
	  ○ Clear stormwater drains and culverts
	• ***Reduce exposure to the hazard:***
	  ○ Locate business critical facilities or functions outside hazard area
	  ○ Institute low impact development techniques on property
	• ***Reduce vulnerability to the hazard:***
	  ○ Build redundancy for critical functions/ retrofit critical buildings
	  ○ Provide flood-proofing measures when new critical infrastructure must be located in floodplains
	  ○ Harden structures and infrastructure (wet and dry flood-proofing)
	  ○ Store hazardous materials above BFE or outside of flood-prone areas
	• ***Increase capability:***
	  ○ Increase capability by having cash reserves for reconstruction
	  ○ Develop and adopt a COOP Plan
	  ○ Solicit “cost-sharing” through partnerships with private sector stakeholders on projects with multiple benefits
	  ○ Dam owner/operators should continue to be aware of and understand dam inspection and reporting requirements
	  ○ Ensure that all dam EAPs are kept in compliance with NYSDEC Regulations
		• ***Manipulate the hazard:***
		  ○ Clear stormwater drains and culverts
		  ○ Dredging, levee construction, providing retention areas
		  ○ Structural flood control: levees, dams, channelization, revetments
		  ○ Construct regional stormwater control facilities
		  ○ Lead and develop a county-wide stream clearing strategy, including the development of thresholds for response/action
		• ***Reduce exposure to the hazard:***
		  ○ Locate/relocate critical facilities outside of hazard area
		  ○ Acquire or relocate identified repetitive loss properties
		  ○ Promote open space uses in identified high hazard areas via techniques such as: PUDs, easements, setbacks, greenways, sensitive area tracks
		  ○ Adopt land development criteria such as PUDs, density transfers, clustering
		  ○ Institute low impact development techniques on property
		  ○ Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff
		  ○ Pass an ordinance to incorporate additional zoning classifications into flood zones within each municipality
		  ○ Increase floodplain standards within municipal ordinances and include

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		provisions for enforcing best practice standards by requiring a minimum freeboard of 2' to align with NY State Standards ○ Continue development application reviews by the county Planning Board to reduce risky development practices • ***Reduce vulnerability to the hazard:*** ○ Harden structures and infrastructure (wet and dry flood-proofing) ○ Provide redundancy for critical functions and infrastructure ○ Adopt appropriate regulatory standards such as cumulative substantial improvement/damage, freeboard, lower substantial damage threshold, compensatory storage ○ Stormwater management regulations and master planning ○ Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on down-stream communities ○ Participate in the Community Rating System (CRS) ○ Implement as-built regulatory requirements ○ Implement site review ordinances/requirements ○ Establish stream maintenance programs with stakeholders (e.g., Soil and Water Conservation District) and support county leads of such efforts

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Incorporate retrofitting/replacement of critical facilities and infrastructure in Capital Improvement Plans (CIPs) ○ Promote the use of vegetation/plants as green erosion control measures to reduce localized flooding ○ Work with the SWCD and other groups to address removal of debris, log jams, etc., in flood vulnerable stream sections • ***Increase capability:*** ○ Produce better hazard maps, and improve access to flood hazard mapping ○ Capture/survey "high-water" marks during flood events ○ Provide technical information and guidance on appropriate mitigation options available to businesses and homeowners ○ Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information) ○ Establish an additional layer of zoning within flood hazard areas ○ Develop strategy to take advantage of post-disaster opportunities ○ Improve compliance with and enforcement of the NFIP ○ Develop mitigation partnerships with regional stakeholders ○ Join CRS program or improve level of participation in CRS ○ Develop and implement a public information strategy for flood hazard

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		awareness, flood insurance (NFIP) and mitigation ○ Maintain existing data as well as gather new data needed to define risks and vulnerability ○ Create a building and elevation inventory of structures in the floodplain ○ Identify flood-prone areas that may be in need of new flood studies ○ Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g., elevations, relocations) ○ Charge a hazard mitigation fee on all new permits to create a hazard mitigation funding source for initiatives or grant cost-share requirements ○ Integrate floodplain management policies into other planning mechanisms within the planning area ○ Establish a Stormwater Utility to deal with urban drainage/flooding issues ○ Establish incentives to promote flood hazard mitigation of private property (e.g., permit fee waivers) ○ Adopt ordinances/standards for cumulative damages and/or improvements ○ Upgrade NFIP Floodplain ordinance as well as other ordinances to current or above current state and federal standards ○ Develop and adopt a COOP ○ Join “StormReady” Program

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Participate in county and regional training programs ○ Provide additional training/certification to NFIP floodplain administrators and code officials ○ Implement annual training to account for turnover of municipal officials ○ Maintain and enhance flood forecasting ability, including the establishment and maintenance of critical stream gages ○ Explore grant funding opportunities and potential partnerships to help maintain existing gages and install additional gages to improve forecasting and flood warning ability ○ Promote awareness and participation in alert systems such as NYAlert ○ Support and participate in regional flood management efforts ○ Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones ○ Provide continued and enhanced training for emergency responders ○ Establish a revolving “bank” or budget line item to fund grant application support ○ Continue to review updated Flood Insurance Rate Maps to ensure accuracy as well as maintaining lines of communication with homeowners to make them aware of potential changes related to their property status

Mitigation Catalog

FLOOD		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Provide trainings for FPAs on the NFIP/Floodplain Best Practices and also pursue CFM accreditation for municipal FPAs ○ Build and maintain relationships to develop regional watershed/floodplain mitigation solutions ○ Pursue grant funding opportunities to fund repairs of catchments and infrastructure on a proactive basis ○ Explore grant funding opportunities related to climate change to fund mitigation projects

Mitigation Catalog

HAZARDOUS MATERIALS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Identify and eliminate sources of potential hazardous material spills
• ***Reduce exposure to the hazard***:
  ○ Increase distance between hazardous material sites and development
• ***Reduce vulnerability to the hazard:***
  ○ None
• ***Increase capability:***
  ○ Personal planning for potential event
	• ***Manipulate the hazard:***
	  ○ Identify and eliminate sources of potential hazardous material spills
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase capability:***
	  ○ Increase inspection of hazardous material facilities and transport vehicles
	  ○ Conduct training for response
		• ***Manipulate the hazard:***
		  ○ Identify and eliminate sources of potential hazardous material spills
		• ***Reduce exposure to the hazard:***
		  ○ Increase inspection of hazardous material facilities and transport vehicles
		• ***Reduce vulnerability to the hazard:***
		  ○ None
		• ***Increase capability:***
		  ○ Increase inspection of hazardous material facilities and transport vehicles
		  ○ Conduct training for response
		  ○ Public outreach

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the Hazard***:
  ○ Participate in quarantine, control, or eradication programs.
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ Form citizen action groups to promote awareness and best practices on local levels.
• ***Increase Capability***
	• ***Manipulate the Hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase Capability:***
	Build and maintain partnerships with other stakeholders to coordinate information sharing,
		• ***Manipulate the Hazard:***
		  ○ Work with Federal/State agencies on quarantine, control, or eradication programs for invasive species.
		• ***Reduce exposure to the hazard:***
		  ○ Create/disseminate planting guides which explain which types of plants and vegetation

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**
○ Regularly check the NYSISRI Portal for updated information. ○ Comply with Invasive Species rules and regulations to minimize the chance for invasive species to spread. ○ " Broaden collaborations focused ○ on ecosystem restoration and ecosystem-based management. "	and response for Invasive Species throughout the county/region.	are safe to plant within the county. • ***Reduce vulnerability to the hazard:*** ○ Pass municipal ordinances to enforce best practices for invasive species at the local level. • ***Increase Capability:*** ○ Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Invasive Species throughout the county/region. ○ Work with federal/state agencies to disseminate information to local municipalities regarding Invasive Species from the NYS Invasive Species Research Institute portal. ○ Disseminate information to the general public to educate them on Invasive Species ○ Work with stakeholders to identify and expand resources for prevention and early detection of invasive species. ○ Support New York State's initiative for an invasive species early warning system. ○ Broaden collaborations focused on ecosystem restoration and

Mitigation Catalog

INVASIVE SPECIES		
Personal Scale	**Corporate Scale**	**Government Scale**
		ecosystem-based management." Build ecological restoration planning into IS management projects. Support New York State's marketing, branding, and educational initiatives.

Mitigation Catalog

LANDSLIDE		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ Apply soil stabilization measures, such as planting soil stabilizing vegetation on steep slopes
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ None
• ***Increase capability:***
  ○ None
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ None
	• ***Increase capability:***
	  ○ None
		• ***Manipulate the hazard:***
		  ○ Implement reinforcement measures in high-risk areas
		  ○ Use debris flow measures that may reduce damage in sloping areas, such as stabilization, emergency dissipation, and flow control measures
		  ○ Apply soil stabilization measures, such as planting soil stabilizing vegetation on steep, publicly owned slopes
		• ***Reduce exposure to the hazard:***
		  ○ Consider hazard areas in land use planning, zoning, and development siting
		  ○ Acquire structures in highest hazard areas (demolish and convert to restricted open space)
		  ○ Relocation of structures
		  ○ Open space preservation
		  ○ Create or increase setback limits on parcels near high-risk parcels
		• ***Reduce vulnerability to the hazard:***
		  ○ Consider hazard areas in land use planning and development siting
		  ○ Stabilize vulnerable slopes near structures and infrastructure
		  ○ Work with stakeholders such as USGS and SWCD to develop appropriate risk reduction strategies

Mitigation Catalog

LANDSLIDE		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Install catch-fall nets for rocks at steep slopes near roadways • ***Increase capability:*** ○ Increase understanding of hazard areas (e.g., Landslide Susceptibility Maps) geotechnical surveys, LIDAR, and mapping ○ Assessing vegetation in wildfire-prone areas to prevent landslides after fires (e.g., encourage plants with strong root systems) ○ Work with stakeholders such as USGS, NYS - Geological Survey and SWCD to develop appropriate risk reduction strategies ○ Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones ○ Develop county-level programs to document slide events (landslide inventory), and maintain its currency

Mitigation Catalog

PANDEMIC		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Proper hygiene
  ○ PPE
  ○ Social distancing
• ***Reduce vulnerability to the hazard:***
  ○ Focus on personal health
• ***Increase capability:***
  ○ Storage of PPE
  ○ Storage of supplies and food to reduce need to enter public spaces
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ PPE
	  ○ Social distancing
	• ***Reduce vulnerability to the hazard:***
	  ○ Distanced work environment
	  ○ Regular cleaning of work environment
	• ***Increase capability:***
	  ○ Storage of PPE
	  ○ Equipment for monitoring
	  ○ Trainings for staff
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ PPE
		  ○ Social distancing
		• ***Reduce vulnerability to the hazard:***
		  ○ Distanced work environment
		  ○ Regular cleaning of work environment
		• ***Increase capability:***
		  ○ Storage of PPE
		  ○ Equipment for monitoring/treatment
		  ○ Trainings for staff
		  ○ Public outreach

Mitigation Catalog

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ None
• ***Reduce vulnerability to the hazard:***
  ○ Retrofit structures (improved roofing, glazing, insulation, etc.)
  ○ Provide for redundant heat and power
  ○ Contact municipality or utilities to trim or remove trees that could affect power lines
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation Program
• ***Increase capability:***
  ○ Improve awareness of impending severe weather (e.g., joining NYAlert, obtain a NOAA weather radio)
  ○ Promote 72-hour self-sufficiency
  ○ Provide for redundant heat and power
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	• ***Increase capability:***
	  ○ Contact municipality or utilities to trim or remove trees that could affect power lines
	  ○ Create redundancy (e.g., backup generators)
	  ○ Improve awareness of impending severe weather (e.g., joining NYAlert, obtain a NOAA weather radio)
	  ○ Develop a COOP Plan
	  ○ Monitor impending storm events so that you can release employees in such a manner as to not negatively impact emergency response personnel/services
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground
		  ○ Trimming trees back from power lines
		  ○ Designate and strengthen critical road sections and bridges
		  ○ Adopt ordinances that regulate the type and quantity of trees planted near utility lines
		  ○ Relocate critical infrastructure, such as power lines, underground
		• ***Increase capability:***
		  ○ Support programs such as "Tree Watch" that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Enforce building codes
		  ○ Increase communication alternatives
		  ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors
		  ○ Modify landscape and other ordinances to encourage appropriate planting near

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		overhead power, cable, and phone lines ○ Promote awareness and participation in alert systems such as NYAlert ○ Provide NOAA weather radios to the public ○ Create/enhance “mutual aid” agreements for response to all emergencies ○ Create/identify evacuation routes to be utilized during severe storm events ○ Develop debris management plans ○ Join StormReady program ○ Provide early warning of impending severe storm events to identified critical or essential facilities, including facilities such as large employments centers, schools, hospitals ○ Promote emergency power supplies to private property ○ Improve, expand, or harden communications facilities and services ○ Recruit additional emergency personnel or use mutual aid agreements ○ Increase sheltering capabilities ○ Increase capability to respond to power outages and downed power lines

Mitigation Catalog

SEVERE STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Establish partnerships with utility providers through proactive planning

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation)
• ***Reduce vulnerability to the hazard:***
  ○ Insulate house to provide greater thermal efficiency and reduce heat loss
  ○ Provide redundant heat and power
  ○ Insulate structure
  ○ Ensure natural gas input/release valves do not get covered in snow
• ***Increase capability:***
  ○ Trim or remove trees that could affect power lines
  ○ Prepare emergency food and supplies to be self-sufficient for at least 72 hours in the event of a severe winter storm
  ○ Be aware of inclement weather conditions and move your vehicles off of the street as severe weather systems approach
  ○ Retrofit structures
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	  ○ Install tree wire
	• ***Increase capability:***
	  ○ Trim or remove trees that could affect power lines
	  ○ Create redundancy in utilities and communications
	  ○ Develop a COOP Plan to address operations before, during, and after coastal storm events
	  ○ Utilize weather radios at the workplace to keep your employees aware of severe weather conditions
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground where appropriate
		  ○ Trimming trees back from power lines
		  ○ Designate snow routes and strengthen critical road sections and bridges
		  ○ Adopt codes and regulations that address the issues of parking vehicles along roadways during severe weather events
		  ○ Develop or enhance the capacity/capability of stormwater conveyance systems
		  ○ Provide backup power sources at vital critical facilities
		• ***Increase capability:***
		  ○ Support programs that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Establish and enforce building codes that require all roofs to withstand snow loads
		  ○ Develop, improve, and enforce building codes in hazard areas

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Increase communication alternatives ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors ○ Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines ○ Provide weather radios to vulnerable populations ○ Enhance public awareness campaigns to address those issues of alert and warning and actions to take during severe weather events ○ Utilize the best available technology to enhance the warning systems for all severe weather events (i.e., tornado warning systems) ○ Coordinate severe weather warning capabilities and the dissemination of warning amongst those agencies within the planning are with the highest degree of capability ○ Encourage local ordinances for planting trees near lines and join Tree City USA

Mitigation Catalog

SEVERE WINTER STORMS		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Increase tree management programs ○ Join the Community Rating System (CRS) ○ Join StormReady ○ Retrofit critical structures and promote hazard resistant construction ○ Keep open communications and education of hazards for mobile home communities ○ Retrofit above-ground utilities to underground facilities if appropriate ○ Create a salt reserve or research alternates to stretch salt reserve ○ Ensure accessibility to hospitals ○ Provide better debris logistics and removal ○ Provide better communication systems and backup communication systems to inform public of hazards and to communicate during the hazard event

Mitigation Catalog

UTILITY FAILURE		
Personal Scale	**Corporate Scale**	**Government Scale**

• ***Manipulate the hazard:***
  ○ None
• ***Reduce exposure to the hazard***:
  ○ Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation)
• ***Reduce vulnerability to the hazard:***
  ○ Insulate house to provide greater thermal efficiency and reduce heat loss
  ○ Provide redundant heat and power
  ○ Insulate structure
  ○ Ensure natural gas input/release valves do not get covered in snow
• ***Increase capability:***
  ○ Trim or remove trees that could affect power lines
  ○ Prepare emergency food and supplies to be self-sufficient for at least 72 hours
	• ***Manipulate the hazard:***
	  ○ None
	• ***Reduce exposure to the hazard:***
	  ○ None
	• ***Reduce vulnerability to the hazard:***
	  ○ Relocate critical infrastructure, such as power lines, underground
	  ○ Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations
	  ○ Install tree wire
	• ***Increase capability:***
	  ○ Trim or remove trees that could affect power lines
	  ○ Create redundancy in utilities and communications
		• ***Manipulate the hazard:***
		  ○ None
		• ***Reduce exposure to the hazard:***
		  ○ None
		• ***Reduce vulnerability to the hazard:***
		  ○ Harden infrastructure such as locating utilities underground where appropriate
		  ○ Trimming trees back from power lines
		  ○ Provide backup power sources at vital critical facilities
		• ***Increase capability:***
		  ○ Support programs that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc.
		  ○ Increase communication alternatives
		  ○ Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors
		  ○ Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines
		  ○ Provide weather radios to vulnerable populations

Mitigation Catalog

UTILITY FAILURE		
Personal Scale	**Corporate Scale**	**Government Scale**
		○ Encourage local ordinances for planting trees near lines and join Tree City USA ○ Increase tree management programs ○ Join StormReady ○ Retrofit above-ground utilities to underground facilities if appropriate ○ Provide better communication systems and backup communication systems to inform public of hazards and to communicate during the hazard event

WILDFIRE		
Personal Scale	**Corporate Scale**	**Government Scale**
• ***Manipulate the Hazard***: ○ Clear potential fuels on property; dry, overgrown underbrush; diseased trees • ***Reduce exposure to the hazard***: ○ Clean and maintain defensible space around structures ○ Locate outside hazard area ○ Mow regularly	• ***Manipulate the Hazard:*** ○ None • ***Reduce exposure to the hazard:*** ○ None • ***Reduce vulnerability to the hazard:*** ○ Create and maintain defensible space around structure and infrastructure and provide water onsite	• ***Manipulate the Hazard:*** ○ None • ***Reduce exposure to the hazard:*** ○ Clear fuels (dry underbrush, diseased trees) on land that can trigger and maintain wildfires ○ Implement Best Management Practices on public lands • ***Reduce vulnerability to the hazard:***

Mitigation Catalog

WILDFIRE		

• ***Reduce vulnerability to the hazard:***
  ○ Create and maintain defensible space around structures, provide water on site.
  ○ Use fire-retardant building materials
  ○ Create defensible spaces around your home.
• ***Increase Capability***
  ○ Employ Firewise techniques to safeguard your home
  ○ Identify alternative water supply points proximate to your home such as swimming pools, lakes, streams
  ○ Support your local fire department
  ○ Be aware of weather conditions that support/enhance the probability of wildfires
	○ Use fire-retardant building materials
	○ Provide stored water to be utilized for firefighting with appropriate fire department connections at facilities not equipped with fire hydrants or inadequate fire hydrant spacing
	• ***Increase Capability:***
	  ○ Support Firewise community initiatives
		○ Create and maintain defensible space around structure and infrastructure
		○ Higher regulatory standards
		○ Establish water main supply and hydrants in unhydranted areas
		○ Decrease hydrant spacing
		• ***Increase Capability:***
		  ○ More public outreach and education efforts including an active “Firewise” program
		  ○ Identify fire response and alternative evacuation routes
		  ○ Seek alternative water supplies in urban wildland interface areas.
		  ○ Become a "Firewise" community
		  ○ Increase capability to fight wildfires utilizing equipment that can support wildfire fighting such as: tankers, engines with "pump-and-run" capabilities, dump tanks for tanker shuttle operations.
		  ○ Develop/implement wildfire management plans.
		  ○ Establish Mutual Aid Agreements
		  ○ Develop a Water Supply Plan

Potential Mitigation Funding Sources

While it is important to recognize the mitigation strategies for each jurisdiction to help achieve the mitigation goals and objectives of the Hazard Mitigation Plan (HMP), it is also important to provide sources for funding to implement these strategies. The table below provides a list of programs, descriptions, and links for those seeking funding sources. Please note that this table is not intended to be a comprehensive list but rather a starting point to help identify potential sources of funding for the identified mitigation strategies.

Table 1. Mitigation Funding Sources

Program	Description	Lead Agency	Website
Federal			
Hazard Mitigation Assistance (HMA)	Grants to provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages – includes FMA, HMGP, PDM.	FEMA	https://www.fema.gov/hazard-mitigation-assistance
Flood Mitigation Assistance (FMA)	Program grants to states and communities for pre-disaster mitigation planning and projects to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program.	FEMA	https://www.fema.gov/flood-mitigation-assistance-grant-program
Hazard Mitigation Grant Program (HMGP)	Grants to states and communities for planning and projects providing long-term hazard mitigation measures following a major disaster declaration.	FEMA	https://www.fema.gov/hazard-mitigation-grant-program
Building Resilient Infrastructure and Communities (BRIC)	Grants to states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.	FEMA	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
Public Assistance: Hazard Mitigation Funding Under Section 406	Hazard mitigation discretionary funding available under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act following a Presidentially declared disaster.	FEMA	https://www.fema.gov/news-release/2017/05/03/4309/fema-hazard-mitigation-grants-404-and-406
Assistance to Firefighters Grant Program	The primary goal of the Assistance to Firefighters Grants (AFG) is to enhance the safety of the public and firefighters with respect to fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated Emergency Medical Services organizations, and State Fire Training Academies. This funding is for critically needed resources to equip and train emergency personnel to recognized standards, enhance operations efficiencies, foster interoperability, and support community resilience.	FEMA	https://www.fema.gov/welcome-assistance-firefighters-grant-program
High Hazard Potential Dams (HHPD) Rehabilitation Grant	The Rehabilitation of High Hazard Potential Dams Grant Program (HHPD provides technical, planning, design, and construction assistance in the form of grants to non-Federal governmental organizations or nonprofit organizations for rehabilitation of eligible high hazard potential dams.	FEMA	https://www.grants.gov/web/grants/view-opportunity.html?oppId=316238
Fire Management Assistance Grant Program	Assistance for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster. Provides a 75% Federal cost share. State pays the remaining 25% for actual cost.	FEMA	https://www.fema.gov/fire-management-assistance-grant-program

Program	Description	Lead Agency	Website
Disaster Housing Program	Emergency assistance for housing, including minor repair of home to establish livable conditions, mortgage, and rental assistance.	HUD	https://www.hud.gov/program_offices/public_indian_housing/publications/dhap
HOME Investment Partnerships Program	Grants to local and state government and consortia for permanent and transitional housing (including financial support for property acquisition and rehabilitation for low-income persons).	HUD	https://www.hud.gov/program_offices/comm_planning/affordablehousing/programs/home/
HUD Disaster Recovery Assistance	Grants to fund gaps in available recovery assistance after disasters (including mitigation).	HUD	https://www.hud.gov/info/disasterresources
Section 108 Loan Guarantee	Enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans for disaster-distressed areas.	HUD	https://www.hudexchange.info/programs/section-108/
Smart Growth Implementation Assistance (SGIA) program	The SGIA program focuses on complex or cutting-edge issues, such as stormwater management, code revision, transit-oriented development, affordable housing, infill development, corridor planning, green building, and climate change. Applicants can submit proposals under 4 categories: community resilience to disasters, job creation, the role of manufactured homes in sustainable neighborhood design, or medical and social service facilities siting.	EPA	https://www.epa.gov/smartgrowth
Partners for Fish and Wildlife	Financial and technical assistance to private landowners interested in pursuing restoration projects affecting wetlands and riparian habitats.	U.S. Fish and Wildlife Service	https://www.fws.gov/partners/
FHWA Emergency Relief Program	Fund for the repair or reconstruction of Federal-aid highways that have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause.	U.S. Department of Transportation (DOT)	https://www.fhwa.dot.gov/programadmin/erelief.cfm
Transportation Investment Generating Economic Recovery (TIGER)	Investing in critical road, rail, transit, and port projects across the nation.	U.S. DOT	https://www.transportation.gov/tags/tiger-grants
Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area and does not include private, commercial, or business undertakings.	USDA	https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program
Emergency Loan Program	USDA's Farm Service Agency (FSA) provides emergency loans to help producers recover from production and physical losses due to drought, flooding, other natural disasters, or quarantine.	USDA	https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index
Emergency Watershed Protection (EWP) program	Provide assistance to relieve imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences.	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/
Financial Assistance	Financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal, and related resources on agricultural lands and non-industrial private forest land.	NRCS	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/

Program	Description	Lead Agency	Website
Emergency Management Performance Grants (EMPG) Program	Assist local, tribal, territorial, and state governments in enhancing and sustaining all-hazards emergency management capabilities.	U.S. DHS	https://www.fema.gov/emergency-management-performance-grant-program
Reimbursement for Firefighting on Federal Property	Provides reimbursement only for direct costs and losses over and above normal operating costs.	U.S. DHS	https://www.usfa.fema.gov/grants/firefighting_federal_property.html
Department of Homeland Security Grant Program (HSGP)	HSGP is composed of three interconnected grant programs, including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these competitive grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.	U.S. DHS	https://www.dhs.gov/homeland-security-grant-program-hsgp
Land & Water Conservation Fund	Matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies).	National Park Service	https://www.nps.gov/subjects/lwcf/index.htm
USSBA	Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.	Small Business Administration (SBA)	https://www.sba.gov/funding-programs/disaster-assistance
State			
Local Government Records Management Improvement Fund (LGRMIF) Disaster Recovery Grants	Grants for disaster recovery projects related to damage caused by a sudden, unexpected event involving fire, water, man-made or natural phenomena where a timely response is necessary to prevent the irretrievable loss of vital or archival records, or to ensure reasonable, timely access to vital records.	New York State Archives / New York State Education Department	http://www.archives.nysed.gov/grants/grants_lgrmif.shtml
The New York State Emergency Services Revolving Loan	Repair of firefighting apparatus, ambulances, or rescue vehicles; renovation, rehabilitation, or repair of facilities that house firefighting equipment, ambulances, rescue vehicles, and related equipment.	NYS DHSES	http://www.dhses.ny.gov/ofpc/services/loan/
Environmental Protection Fund (EPF)	Matching grants for the acquisition, planning, development, and improvement of parks, historic properties.	New York State Parks, Recreation & Historic Preservation (NYSOPRHP)	https://www.dec.ny.gov/about/92815.html
Recreational Trails (RTP)	Program matching grants for the acquisition, development, rehabilitation, and maintenance of trails and trail-related projects.	NYSOPRHP	https://parks.ny.gov/grants/recreational-trails/default.aspx

Program	Description	Lead Agency	Website
Environmental Protection & Improvement Grants	Competitive grants for environmental protection and improvement; available for municipalities, community organizations, not-for-profit organizations, and others.	New York State Department of Environmental Conservation	https://www.dec.ny.gov/about/92815.html
Volunteer Fire Assistance Grants	The grant is a 50/50 matching funds program. Its purpose is to make funds available to rural fire companies for the purchase of wildland firefighting equipment such as portable backpack pumps, Nomex protective clothing, hand tools, hard hats, hose, portable radios, and dry hydrants.	NYSDEC	https://www.dec.ny.gov/regulations/2364.html
Clean Water Act Section 604(b) Water Quality Planning Grants	Provide funding to implement regional comprehensive water quality management planning activities as described in Section 604(b) of the federal Clean Water Act. 604(b) funds are to be used for water quality management planning activities, including tasks to determine the nature, extent, and causes of point and nonpoint source water pollution problems and to develop plans to resolve these problems.	NYSDEC	https://www.dec.ny.gov/lands/53122.html
Water Quality Improvement Project (WQIP) Program	The Water Quality Improvement Project (WQIP) program is a competitive reimbursement grant program that funds projects that directly address documented water quality impairments. Applications are typically available each spring through the Consolidated Funding Application.	NYSDEC	https://www.dec.ny.gov/pubs/4774.html
New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)	The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects. The ultimate goal of the EPG program is to advance water quality projects to construction, so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, Water Quality Improvement Project program, or other funding entities to further pursue the identified solution.	NYSDEC	https://www.dec.ny.gov/pubs/81196.html
Climate Smart Communities Grant Program	The CSC Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties (or boroughs of New York City) of the State of New York for eligible climate adaptation and mitigation projects.	NYSDEC	https://www.dec.ny.gov/energy/109181.html
BRIDGE NY	New York State is making funding available for local governments to rehabilitate and replace bridges and culverts statewide.	NYS DOT	https://www.dot.ny.gov/BRIDGENY

MEETING NOTES

Meeting	Livingston County Hazard Mitigation Plan (HMP) Update Draft Review Meeting		
Date	December 13, 2021	**Time**	6:00 – 6:25 p.m.
Location	Webinar		
Attendees	Heather Ferrero, Deputy Director, Livingston County Planning Department		
	Andrew Brodell, Director, Livingston County Office of Emergency Management (OEM)		
	Kevin Clapp, Planning Manager, New York State Division of Homeland Security and Emergency Services (NYS DHSES)		
	Heather Apgar, Planner, Consultant - Tetra Tech		

Purpose

The purpose of this meeting was to collect comments on the complete draft of the updated HMP.

Discussion Points

This section summarizes each discussion point addressed during the meeting.

Draft Plan Review

Ms. Apgar led a discussion regarding each of the sections of the HMP. These sections are available on the HMP project website. Information addressed in each section is summarized below:

- **Section 1: Introduction** describes mitigation planning, identifies the participating jurisdictions, and provides an overview of the HMP. Attendees had no comments on, or corrections to, this section.
- **Section 2: Plan Adoption** describes the plan adoption process. Attendees had no comments on, or corrections to, this section.
- **Section 3: Planning Process** identifies the participants of the planning process, describes the planning activities undertaken during the HMP update process, and describes how the planning process will continue after the draft is approved. Ms. Apgar listed the meetings that were conducted as part of the planning process. She also pointed out that four municipalities (the Village of Lima, the Town of Livonia, the Village of Livonia, and the Village of Mount Morris) did not participate in the plan update. Attendees had no comments on, or corrections to, this section.
- **Section 4: County Profile** describes the history of the county, its physical features, the population and demographics, building stock, land use and trends, and critical facilities. Attendees had no comments on, or corrections to, this section.
- **Section 5: Risk Assessment** identifies the hazards of concern, describes how each hazard is prioritized based on the level of risk it poses to the county and its jurisdictions, and includes full profiles of each hazard of concern. The hazards of concern are drought, earthquake, flood, hazardous materials, invasive species, landslide, mine subsidence, pandemic, severe

storm, winter storm, terrorism, utility failure, and wildfire. Attendees had no comments on, or corrections to, this section.

- **Section 6: Mitigation Strategies** describes past accomplishments in implementing hazard mitigation initiatives throughout the county; lists the hazard mitigation goals and objectives; describes the federal, state, county, and local capabilities that can be leveraged to reduce vulnerability to hazards; and describes how mitigation actions were identified, evaluated, and prioritized by each jurisdiction. Mr. Clapp pointed out that NYS DHSES is updating its website, and links listed in this section may not work in the near future.
- **Section 7: Plan Maintenance** identifies the HMP Coordinator and describes the responsibilities associated with this role. Mr. Brodell will be the Livingston County HMP Coordinator. Section 7 also identifies members of the Planning Partnership that will maintain the plan over the next 5 years and describes how the plan will be monitored, evaluated, and updated. This section also describes the ways in which the HMP is integrated into other planning mechanisms and vice versa. Attendees had no comments on, or corrections to, this section.
- **Section 8: Planning Partnership** lists the participating jurisdictions and introduces the content of the jurisdictional annexes. Attendees had no comments on, or corrections to, this section.
- **Section 9: Jurisdictional Annexes** contains an annex for each participating jurisdiction. Each annex includes the following information: municipal planning team, municipal profile, municipal-specific capabilities (planning, development/permitting, administrative, fiscal, education and outreach, community classifications, and adaptive capacity), NFIP compliance, information on evacuation/sheltering/temp/permanent housing; growth and development trends; municipal-specific risk assessment (history of hazard events in the last 5 years, hazard ranking, critical facilities); identified issues/vulnerable areas; status of actions from the last plan; new actions for the 2021 HMP; prioritizing the actions; and action worksheets.
- Ms. Apgar described the set of appendices that are included in the plan. Attendees had no comments on, or corrections to, the appendices.

Next Steps

The following next steps were identified during the meeting:

- Ms. Ferrero will provide additional comments to Mr. Tony Subbio of Tetra Tech.
- Tetra Tech will finalize the HMP draft and provide updates to Mr. Clapp.
- Mr. Clapp will then forward the HMP to the Federal Emergency Management Agency (FEMA) for review.
- Once FEMA determines that the HMP meets FEMA's requirements, the plan will be granted "approvable pending adoption" (APA) status.
- The county and municipalities will formally adopt the HMP after it receives APA status.

The meeting adjourned at 6:25 p.m.

TETRA TECH

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Livingston County Hazard Mitigation Plan

2022 Update



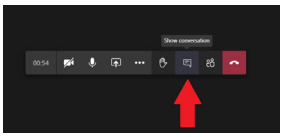
Plan Draft Review Meeting

December 13, 2021
6:00 – 8:00 p.m.

1

Welcome

- If you are attending the webinar on your computer, please add your name, title, and organization(s) to the chat window.
  - Bring your mouse to the lower part of the screen until a set of buttons appears.
  - Click Show conversation.



2

Agenda

- Draft Plan Review
- Next Steps
- Questions



3

Draft Plan Review

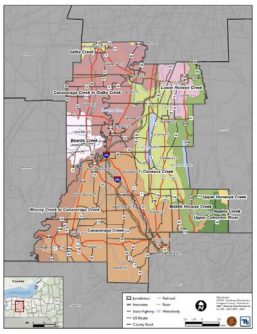
- Section 1: Introduction
  - Mitigation Planning
  - Participating Jurisdictions
  - Overview
- Section 2: Plan Adoption
  - Adoption Process
- Section 3: Planning Process
  - Participants
  - Activities
  - Ongoing Process



4

Draft Plan Review

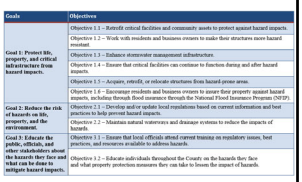
- Section 4: County Profile
  - History
  - Physical Setting
  - Population and Demographics
  - General Building Stock
  - Land Use and Population Trends
  - Critical Facilities
- Section 5: Risk Assessment
  - Hazards of Concern
  - Hazard Ranking
  - Hazard Profiles



5

Draft Plan Review

- Section 6: Mitigation Strategies
  - Past Accomplishments
  - Goals and Objectives
  - Capability Assessment
    - Plans, Programs, and Resources Available
    - Administrative and Technical Capabilities
    - Fiscal Capabilities
  - Mitigation Strategy Development and Update
    - Action Identification
    - Evaluation and Prioritization
    - Benefit/Cost Review



6

Draft Plan Review

- Section 7: Plan Maintenance
  - HMP Coordinator
  - Ongoing Planning Partnership
  - Monitoring
  - Continuous Evaluation and Progress Reports
  - Updating
  - Integration of Hazard Mitigation with Existing and Future Programs
  - Continued Public Involvement

7

Draft Plan Review

- Section 8: Planning Partnership
  - Participating Jurisdictions
  - Introduce Jurisdictional Annexes
- Section 9: Jurisdictional Annexes
  - Municipal Planning Team
  - Municipal Profile
  - Hazard Event History
  - Vulnerabilities
  - Capabilities
  - Mitigation Strategy
  - Status of Past Mitigation Actions
  - Current Mitigation Actions



8

Draft Plan Review

- Appendices
  - Appendix A: Adoption Resolutions
  - Appendix B: Participation Matrix
  - Appendix C: Meeting Documentation
  - Appendix D: Public and Stakeholder Outreach
  - Appendix E: Risk Assessment Supplementary Data
  - Appendix F: Critical Facilities
  - Appendix G: Plan Review Tools
  - Appendix H: Linkage Procedures



9

9

Next Steps

- Finalize the draft based on this meeting
- Submit final version to NYS DHSES
- NYS DHSES completes review
- Update and submit to FEMA for review
- FEMA review for up to 45 days
- Approvable Pending Adoption (APA) status
- Municipal adoption

10



11

11

Contacts

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Heather Ferrero, Deputy Director, Planning Department
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Tony Subbio, Project Manager
tony.subbio@tetratech.com
(717) 839-5654

Heather Apgar, Planner
heather.apgar@tetratech.com
(973) 630-8046

12

AGENDA

LIVINGSTON COUNTY HAZARD MITIGATION PLAN UPDATE
Plan Draft Review Meeting

Monday, December 13, 2021 | 6:00 – 8:00 p.m.

1. **Welcome**
2. **Draft Plan Review**
   a. Section 1: Introduction
   b. Section 2: Plan Adoption
   c. Section 3: Planning Process
   d. Section 4: County Profile
   e. Section 5: Risk Assessment
   f. Section 6: Mitigation Strategies
   g. Section 7: Plan Maintenance
   h. Section 8: Planning Partnership
   i. Section 9: Jurisdictional Annexes
   j. Appendices
3. **Next Steps**
4. **Questions**

APPENDIX D. PUBLIC AND STAKEHOLDER OUTREACH DOCUMENTATION

Appendix D includes outreach to stakeholders including academia, industry, business and other sectors, plus public hearing notices, survey instruments, and survey responses.

News from Livingston County, N.Y.

FOR IMMEDIATE RELEASE

Contact: Julie Barry, Grants and Public Information Coordinator

Phone: 585.243.7051

Email: jbarry@co.livingston.ny.us

Livingston County Seeks Input on Hazard Mitigation Plan Update

GENESEO, N.Y., August 16, 2021 — Livingston County is updating its Hazard Mitigation Plan (HMP) in 2021 per the five-year update cycle required of the Federal Emergency Management Agency (FEMA) and the federal Disaster Mitigation Act of 2000.

The HMP analyzes Livingston County's vulnerabilities to natural and human-caused hazards – such as floods, severe weather, and cyberattacks – and identifies mitigation actions the County can take to minimize property damage and reduce the loss of life by lessening the impacts of disasters.

Heather Ferrero, Livingston County's Deputy Planning Director, stated, "Local knowledge is critical to the success of this Hazard Mitigation Plan. As part of the current planning process, we are asking residents and business owners to provide input on the types of natural hazards that impact Livingston County as well as location-specific information related to these impacts."

Livingston County has released two quick and easy-to-use online surveys to gather input on natural hazards from residents and businesses. Click here to access the general HMP survey and here for the location-specific mapping survey. The mapping survey allows participants to identify the locations of known hazards via a mapping tool and insert photos, if available. Please complete and submit ***both*** surveys by **September 5, 2021**.

For more information or to request paper copies of the surveys, contact the Livingston County Planning Department at 585-243-7550 or visit http://www.livingstoncountynyhmp.com.

About Livingston County:

Founded in 1821, Livingston County, N.Y., is comprised of more than 61,000 residents in 17 towns located across 640 square miles of the Finger Lakes region.



###

Online Surveys Facebook Post – August 16, 2021

Livingston County, New York
August 16 at 9:29 AM ·

WE WANT TO HEAR FROM YOU! Livingston County is currently updating its Hazard Mitigation Plan and has released two quick and easy-to-use online surveys to gather input on natural hazards from residents and businesses. Click here to access the surveys due September 5th:

General HMP Survey: https://bit.ly/3g9JFqi
Mapping Survey: https://bit.ly/2VZrX1Z

Read more here: https://bit.ly/37NdXKY



2 Shares

Like Comment Share

Write a comment...

Risk Assessment Review Meeting Facebook Post – August 18, 2021

Livingston County, New York
August 18 at 8:00 AM ·

Livingston County is updating its Hazard Mitigation Plan (HMP). The HMP is designed to make our communities more resistant to losses from natural and man-made disasters, and to enable the County and municipalities to be eligible for federal funding for qualifying mitigation projects. Join us for a public webinar to review the updated risk assessment portion of the HMP.



TUE, AUG 31 AT 2 PM EDT

Hazard Mitigation Plan Risk Assessment Review

You like Livingston County, New York

☆ Interested

Like Comment Share

Genesee Country Express – August 19 and 26, 2021

LEGAL NOTICE
NOTICE OF PUBLIC WEBINAR
LIVINGSTON COUNTY, NY
LIVINGSTON COUNTY HAZARD MITIGATION PLAN (HMP)

ivingston County is updat-
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lan (HMP). The HMP is
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ıan-made disasters, and
) enable the County and
ıunicipalities to be eligible
)r federal funding for qual-
ying mitigation projects.

here will be a public
/ebinar to review the
ıpdated risk assessment
ortion of the HMP. The
/ebinar will be held from
:00-4:00 p.m. on August
1, 2021. All interested
esidents, businesses, and
)ther stakeholders are in-
ited to attend. For the
neeting link, please visit
ıttps://www.livingston-
:ountynyhmp.com/.

For additional information
:ontact Heather Ferrero
Deputy Director –
ivingston County Plan-
ıing Department at (585)
2 4 3 - 7 5 5 0 o r
ıferrero@co.livingston.ny

Livingston County News – August 26, 2021

LEGAL NOTICE
NOTICE OF PUBLIC WEBINAR
LIVINGSTON COUNTY, NY
LIVINGSTON COUNTY HAZARD MITIGATION PLAN (HMP)

Livingston County is updating its Hazard Mitigation Plan (HMP). The HMP is designed to make our communities more resistant to losses from natural and man-made disasters, and to enable the County and municipalities to be eligible for federal funding for qualifying mitigation projects.

There will be a public webinar to review the updated risk assessment portion of the HMP. The webinar will be held from 2:00-4:00 p.m. on August 31, 2021. All interested residents, businesses, and other stakeholders are invited to attend. For the meeting link, please visit https://www.livingstoncount . For additional information, contact Heather Ferrero, Deputy Director – Livingston County Planning Department at (585) 243-7550 or hferrero@co.livingston.ny.us

Subbio, Tony

From: HFerrero@co.livingston.ny.us
Sent: Friday, August 20, 2021 10:34 AM
To: aliotop%dansvillecsd@co.livingston.ny.us; .orgamack@geneseony.org; amgrat@frontiernet.net; andrew@chanleragency.com; ascutt@co.livingston.ny.us; bglise@avon-ny.org; bluft@villageoflima.us; Kehoe, Brian; bstrozewski@village.avon-ny.org; building&zoning@town.conesus.ny.us; bz@livoniany.org; caledoniapolicedepartment@frontiernet.net; calhwy@frontier.com; Calmayor@frontier.com; carlpeter@frontiernet.net; cbatzel@eastavonfd.org; cfbuckley@frontiernet.net; chris.young@mountmorrisny.us; cindyflowers@geneseocsd.org; clathan@rochester.rr.com; clerk@villageofnunda.org; clerk@townoflima.org; clerk@townofcaledonia.org; clerk@town.nunda.ny.us; clerk@northdansville.org; codeenforcement@townofwestsparta.org; codeoffice.1957@gmail.com; codes@townoflima.org; conesusfd34@yahoo.com; County_Dept_Heads%LIVINGSTON_COUNTY@co.livingston.ny.us; dean.pendergast@ny.usda.gov; dgfire2004@yahoo.com; dmfurletti@yorkcsd.org; dpw@villageofnunda.org; dpw23crew@frontiernet.net; efeinman@wccsk12.org; gbump@mt.morriscsd.org; geneseowaterworks@geneseony.org; grstqdma@gmail.com; hal.e.fellows.mil@mail.mil; hdwolcott@frontiernet.net; hemlockfire@gmail.com; highway@townofspringwaterny.org; highway@town.conesus.ny.us; highwaysup@grovelandny.org; highwaysuperintendent@townofwestsparta.org; hrandall@village.avon-ny.org; hwy@geneseony.org; hwysuper@townofleicester.org; info@sparta-ny.org; james.love@redcross.org; jamie.watson87 @yahoo.com; jeff.wiedrick@mountmorrisny.us; jgeer@village.avon-ny.org; jim20k@aol.com; jmolino@lcwsa.us; johnb585@gmail.com; joseph.rusin@avangrid.com; jperkins@springwaterny.org; jskiptunas@villageoflima.us; KDewar@co.livingston.ny.us; kcoty@live.com; kfarrell@village.avon-ny.org; livingston@cornell.edu; ltorcello117@frontiernet.net; mayor@villageofnunda.org; mayormike@rochester.rr.com; mduff@geneseony.org; mflowers@gvboces.org; mgtworden@frontiernet.net; MRees@co.livingston.ny.us; mmtc@frontier.net; mmtceo@frontiernet.net; mmtownhighway@frontier.net; mmtownhighway1@hotmail.com; mshay@dansvilleny.us; nundavillagecodeenforcement@yahoo.com; Paul.Gister@nationalgrid.com; police@geneseony.org; president@geneseo.edu; president@conesuslake.org; prowood35 @yahoo.com; pvogt@dansvilleny.us; rdale@nundapolice.org; regatuso1959@gmail.com; rich.alexander@livoniafiredept.org; rjkfireftr16@gmail.com; rmolisani@cal-mum.org; Robert.Stryker@ny.nacdnet.net; rpacatte@avoncsd.org; RTBuchanan@nyseg.com; ryanharvey89 @yahoo.com; sgriese@dansvilleny.us; slgelser@frontier.com; spartahighway@sparta-ny.org; springwatercode@yahoo.com; stephen.e.winslow@usace.army.mil; stracey@dansvilleny.us; stracy@dansvilleny.us; superintendent@livoniacsd.org; tannerharvey545@gmail.com; tcrye@avon-ny.org; tfreeman@village.avon-ny.org; tgbennett@frontier.com; tkopp@keshequa.org; tmcgoryc8 @rochester.rr.com; toaclerk@avon-ny.org; Subbio, Tony; town@geneseony.org; townclerk@townofleicester.org; townclerk@springwaterny.org; townclerk@livoniany.org; townclerk@grovelandny.org; towncode@geneseony.org; townofossian@frontiernet.net; townofportage@gmail.com; tvandevelt@yahoo.com; twpearson@aol.com; veronica_dasher@rge.com; villagecode@geneseony.org; villagelivonia@frontiernet.net; villageofleicester@frontiernet.net; volima@rochester.rr.com; wgall585@gmail.com; yorkclrk@rochester.rr.com; zoning@townofcaledoniany.org; Chuck Cagle; ICoyle@co.livingston.ny.us; AEllis@co.livingston.ny.us; WMann@co.livingston.ny.us; clerk@villageoflima.us; clerk@villageofleicester.org; PORTER, DANIEL
Subject: Re: Livingston County Hazard Mitigation Plan update - Risk Assessment Review Webinar 8/31

⚠ CAUTION: This email originated from an external sender. Verify the source before opening links or attachments. ⚠

In preparation for the 8/31 Risk Assessment Review Webinar, here is a link to a stakeholder survey...

Stakeholder: Livingston County Hazard Mitigation Plan -
Stakeholder Survey (surveymonkey.com)

Your input is valuable. Please take a moment or two to complete the survey prior to the webinar. Your time and knowledge are appreciated!

Best,

Heather Ferrero, AICP
Deputy Planning Director
Livingston County Planning Department

From: Heather Ferrero/Livingston County
To: aliotop@dansvillecsd.org, amack@geneseony.org, amgrat@frontiernet.net, andrew@chanleragency.com, ascutt@co.livingston.ny.us, bglise@avon-ny.org, bluft@villageoflima.us, Board of Supervisors, "Kehoe, Brian" <Brian.Kehoe@tetratech.com>, bstrozewski@village.avon-ny.org, building&zoning@town.conesus.ny.us, bz@livoniany.org, caledoniapolicedepartment@frontiernet.net, calhwy@frontier.com, Calmayor@frontier.com, carlpeter@frontiernet.net, cbatzel@eastavonfd.org, cfbuckley@frontiernet.net, chris.young@mountmorrisny.us, cindyflowers@geneseocsd.org, clathan@rochester.rr.com, clerk@villageofnunda.org, clerk@townoflima.org, clerk@townofcaledonia.org, clerk@town.nunda.ny.us, clerk@northdansville.org, codeenforcement@townofwestsparta.org, codeoffice.1957@gmail.com, codes@townoflima.org, conesusfd34@yahoo.com, County Dept Heads, dean.pendergast@ny.usda.gov, dgfire2004@yahoo.com, dmfurletti@yorkcsd.org, dpw@villageofnunda.org, dpw23crew@frontiernet.net, efeinman@wccsk12.org, gbump@mt.morriscsd.org, geneseowaterworks@geneseony.org, grstqdma@gmail.com, hal.e.fellows.mil@mail.mil, hdwolcott@frontiernet.net, hemlockfire@gmail.com, highway@townofspringwaterny.org, highway@town.conesus.ny.us, highwaysup@grovelandny.org, highwaysuperintendent@townofwestsparta.org, hrandall@village.avon-ny.org, hwy@geneseony.org, hwysuper@townofleicester.org, info@sparta-ny.org, james.love@redcross.org, jamie.watson87@yahoo.com, jeff.wiedrick@mountmorrisny.us, jgeer@village.avon-ny.org, jim20k@aol.com, jmolino@lcwsa.us, johnb585@gmail.com, joseph.rusin@avangrid.com, jperkins@springwaterny.org, jskiptunas@villageoflima.us, Karen Dewar/Livingston

County@Livingston County, kcoty@live.com, kfarrell@village.avon-ny.org, livingston@cornell.edu, ltorcello117@frontiernet.net, mayor@villageofnunda.org, mayormike@rochester.rr.com, mduff@geneseony.org, mflowers@gvboces.org, mgtworden@frontiernet.net, Michele Rees/Livingston County@Livingston County, mmtc@frontier.net, mmtceo@frontiernet.net, mmtownhighway@frontier.net, mmtownhighway1@hotmail.com, mshay@dansvilleny.us, nundavillagecodeenforcement@yahoo.com, Paul.Gister@nationalgrid.com, police@geneseony.org, president@geneseo.edu, president@conesuslake.org, prowood35@yahoo.com, pvogt@dansvilleny.us, rdale@nundapolice.org, regatuso1959@gmail.com, rich.alexander@livoniafiredept.org, rjkfireftr16@gmail.com, rmolisani@cal-mum.org, Robert.Stryker@ny.nacdnet.net, rpacatte@avoncsd.org, RTBuchanan@nyseg.com, ryanharvey89@yahoo.com, sgriese@dansvilleny.us, slgelser@frontier.com, spartahighway@sparta-ny.org, springwatercode@yahoo.com, stephen.e.winslow@usace.army.mil, stracey@dansvilleny.us, stracy@dansvilleny.us, superintendent@livoniacsd.org, tannerharvey545@gmail.com, tcrye@avon-ny.org, tfreeman@village.avon-ny.org, tgbennett@frontier.com, tkopp@keshequa.org, tmcgoryc8@rochester.rr.com, toaclerk@avon-ny.org, tony.subbio@tetratech.com, town@geneseony.org, townclerk@townofleicester.org, townclerk@springwaterny.org, townclerk@livoniany.org, townclerk@grovelandny.org, towncode@geneseony.org, townofossian@frontiernet.net, townofportage@gmail.com, tvandevelt@yahoo.com, twpearson@aol.com, veronica_dasher@rge.com, villagecode@geneseony.org, villagelivonia@frontiernet.net, villageofleicester@frontiernet.net, volima@rochester.rr.com, wgall585@gmail.com, yorkclrk@rochester.rr.com, zoning@townofcaledoniany.org, "Chuck Cagle" <chuck.cagle@mountmorrisny.us>

Cc: Ian Coyle/Livingston County@Livingston County, Angela Ellis/Livingston County@Livingston County, William Mann/Livingston County@Livingston County

Date: 08/20/2021 08:34 AM

Subject: Livingston County Hazard Mitigation Plan update - Risk Assessment Review Webinar 8/31

Dear Municipal Officials and Stakeholders,

As you know, Livingston County is organizing the update to the countywide Hazard Mitigation Plan (HMP). The HMP analyzes the hazards faced by the County and its municipalities and also identifies strategies for minimizing vulnerability to these hazards. The County's HMP was last updated in 2015 and has since expired.

Thank you to everyone who participated in the completion of the municipal worksheets. This webinar is the next step in the process. Your input into the HMP is key to its success as we aim to engage a large and diverse set of stakeholders

throughout Livingston County. You are invited to participate in a Risk Assessment Review Webinar, which will be held from
2:00-4:00 p.m. on August 31, 2021. This webinar is also open to the public.

The purpose of this webinar is to review threats posed by 13 hazard types and to develop strategies that minimize their destructive impacts. All interested residents, businesses, and other stakeholders are invited to attend. The meeting link is available at
https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.livingstoncountynyhmp.com%2F&data=04%7C01%7Ctony.subbio%40tetratech.com%7C34dfb97ca9494f3dec9608d963e78daf%7Ca40fe4baabc748fe8792b43889936400%7C0%7C0%7C637650668429219841%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=u8q2lCbvRgL4%2FU%2B4JgABFx3bptcLqC2m15Q%2BEJ1u7sk%3D&reserved=0. It is also included below, and a calendar invite will follow this email.

Thank you for your support, and we look forward to seeing you online for the meeting on August 31 from 2:00-4:00 pm. Please contact me if you have any questions.

Best,

Heather Ferrero, AICP
Deputy Planning Director
Livingston County Planning Department

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https://nam10.safelinks.protection.outlook.com/ap/t-59584e83/?url=https%3A%2F%2Fteams.microsoft.com%2Fl%2Fmeetup-join%2F19%253ameeting_ZWY2MmRjY2ItZTVmOC00Yzk2LThkYjctMWVlZjhjYmQ4MGM1%2540thread.v2%2F0%3Fcontext%3D%257b%2522Tid%2522%253a%2522a40fe4ba-abc7-48fe-8792-b43889936400%2522%252c%2522Oid%2522%253a%252274c247f2-0aad-47cf-9cb1-bcf9a56aa551%2522%257d&data=04%7C01%7Ctony.subbio%40tetratech.com%7C34dfb97ca9494f3dec9608d963e78daf%7Ca40fe4baabc748fe8792b43889936400%7C0%7C0%7C637650668429229839%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=FVqydN8m0udKSmLGxdy8yB289Q4gpDr9OOuEy7u6y3I%3D&reserved=0
>
Or call in (audio only)
+1 607-442-4346,,119490869#   United States, Elmira
Phone Conference ID: 119 490 869#

Subbio, Tony

From: HFerrero@co.livingston.ny.us
Sent: Friday, August 20, 2021 8:35 AM
To: aliotop@dansvillecsd.org; amack@geneseony.org; amgrat@frontiernet.net; andrew@chanleragency.com; ascutt@co.livingston.ny.us; bglise@avon-ny.org; bluft@villageoflima.us; Board_of_Supervisors%LIVINGSTON_COUNTY@co.livingston.ny.us; Kehoe, Brian; bstrozewski@village.avon-ny.org; building&zoning@town.conesus.ny.us; bz@livoniany.org; caledoniapolicedepartment@frontiernet.net; calhwy@frontier.com; Calmayor@frontier.com; carlpeter@frontiernet.net; cbatzel@eastavonfd.org; cfbuckley@frontiernet.net; chris.young@mountmorrisny.us; cindyflowers@geneseocsd.org; clathan@rochester.rr.com; clerk@villageofnunda.org; clerk@townoflima.org; clerk@townofcaledonia.org; clerk@town.nunda.ny.us; clerk@northdansville.org; codeenforcement@townofwestsparta.org; codeoffice.1957@gmail.com; codes@townoflima.org; conesusfd34@yahoo.com; County_Dept_Heads%LIVINGSTON_COUNTY@co.livingston.ny.us; dean.pendergast@ny.usda.gov; dgfire2004@yahoo.com; dmfurletti@yorkcsd.org; dpw@villageofnunda.org; dpw23crew@frontiernet.net; efeinman@wccsk12.org; gbump@mt.morriscsd.org; geneseowaterworks@geneseony.org; grstqdma@gmail.com; hal.e.fellows.mil@mail.mil; hdwolcott@frontiernet.net; hemlockfire@gmail.com; highway@townofspringwaterny.org; highway@town.conesus.ny.us; highwaysup@grovelandny.org; highwaysuperintendent@townofwestsparta.org; hrandall@village.avon-ny.org; hwy@geneseony.org; hwysuper@townofleicester.org; info@sparta-ny.org; james.love@redcross.org; jamie.watson87 @yahoo.com; jeff.wiedrick@mountmorrisny.us; jgeer@village.avon-ny.org; jim20k@aol.com; jmolino@lcwsa.us; johnb585@gmail.com; joseph.rusin@avangrid.com; jperkins@springwaterny.org; jskiptunas@villageoflima.us; KDewar@co.livingston.ny.us; kcoty@live.com; kfarrell@village.avon-ny.org; livingston@cornell.edu; ltorcello117@frontiernet.net; mayor@villageofnunda.org; mayormike@rochester.rr.com; mduff@geneseony.org; mflowers@gvboces.org; mgtworden@frontiernet.net; MRees@co.livingston.ny.us; mmtc@frontier.net; mmtceo@frontiernet.net; mmtownhighway@frontier.net; mmtownhighway1@hotmail.com; mshay@dansvilleny.us; nundavillagecodeenforcement@yahoo.com; Paul.Gister@nationalgrid.com; police@geneseony.org; president@geneseo.edu; president@conesuslake.org; prowood35 @yahoo.com; pvogt@dansvilleny.us; rdale@nundapolice.org; regatuso1959@gmail.com; rich.alexander@livoniafiredept.org; rjkfireftr16@gmail.com; rmolisani@cal-mum.org; Robert.Stryker@ny.nacdnet.net; rpacatte@avoncsd.org; RTBuchanan@nyseg.com; ryanharvey89 @yahoo.com; sgriese@dansvilleny.us; slgelser@frontier.com; spartahighway@sparta-ny.org; springwatercode@yahoo.com; stephen.e.winslow@usace.army.mil; stracey@dansvilleny.us; stracy@dansvilleny.us; superintendent@livoniacsd.org; tannerharvey545@gmail.com; tcrye@avon-ny.org; tfreeman@village.avon-ny.org; tgbennett@frontier.com; tkopp@keshequa.org; tmcgoryc8 @rochester.rr.com; toaclerk@avon-ny.org; Subbio, Tony; town@geneseony.org; townclerk@townofleicester.org; townclerk@springwaterny.org; townclerk@livoniany.org; townclerk@grovelandny.org; towncode@geneseony.org; townofossian@frontiernet.net; townofportage@gmail.com; tvandevelt@yahoo.com; twpearson@aol.com; veronica_dasher@rge.com; villagecode@geneseony.org; villagelivonia@frontiernet.net; villageofleicester@frontiernet.net; volima@rochester.rr.com; wgall585@gmail.com; yorkclrk@rochester.rr.com; zoning@townofcaledoniany.org; Chuck Cagle
Cc: lCoyle@co.livingston.ny.us; AEllis@co.livingston.ny.us; WMann@co.livingston.ny.us
Subject: Livingston County Hazard Mitigation Plan update - Risk Assessment Review Webinar 8/31

⚠ CAUTION: This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Dear Municipal Officials and Stakeholders,

As you know, Livingston County is organizing the update to the countywide Hazard Mitigation Plan (HMP). The HMP analyzes the hazards faced by the County and its municipalities and also identifies strategies for minimizing vulnerability to these hazards. The County's HMP was last updated in 2015 and has since expired.

Thank you to everyone who participated in the completion of the municipal worksheets. This webinar is the next step in the process. Your input into the HMP is key to its success as we aim to engage a large and diverse set of stakeholders throughout Livingston County. You are invited to participate in a Risk Assessment Review Webinar, which will be held from
2:00-4:00 p.m. on August 31, 2021. This webinar is also open to the public.

The purpose of this webinar is to review threats posed by 13 hazard types and to develop strategies that minimize their destructive impacts. All interested residents, businesses, and other stakeholders are invited to attend. The meeting link is available at
https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.livingstoncountynyhmp.com%2F&data=04%7C01%7Ctony.subbio%40tetratech.com%7Cff15567b0fbd4ef361e208d963d6e14c%7Ca40fe4baabc748fe8792b43889936400%7C0%7C0%7C637650596839368353%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=g7j34Gav52SHEJ8YPBNQxpgEEfpkGT2xobR6FXiI8io%3D&reserved=0. It is also included below, and a calendar invite will follow this email.

Thank you for your support, and we look forward to seeing you online for the meeting on August 31 from 2:00-4:00 pm. Please contact me if you have any questions.

Best,

Heather Ferrero, AICP
Deputy Planning Director
Livingston County Planning Department

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https://nam10.safelinks.protection.outlook.com/ap/t-59584e83/?url=https%3A%2F%2Fteams.microsoft.com%2Fl%2Fmeetup-join%2F19%253ameeting_ZWY2MmRjY2ItZTVmOC00Yzk2LThkYjctMWVlZjhjYmQ4MGM1%2540thread.v2%2F0%3Fcontext%3D%257b%2522Tid%2522%253a%2522a40fe4ba-abc7-48fe-8792-b43889936400%2522%252c%2522Oid%2522%253a%252274c247f2-0aad-47cf-9cb1-bcf9a56aa551%2522%257d&data=04%7C01%7Ctony.subbio%40tetratech.com%7Cff15567b0fbd4ef361e208d963d6e14c%7Ca40fe4baabc748fe8792b43889936400%7C0%7C0%7C637650596839368353%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=pUnUP3T%2B7LsDyTGCwn7fnfYmUCmEzfRZu5CwMzkl%2BJ8%3D&reserved=0
>
Or call in (audio only)
+1 607-442-4346,,119490869# United States, Elmira
Phone Conference ID: 119 490 869#

Subbio, Tony

From: HFerrero@co.livingston.ny.us
Sent: Monday, November 29, 2021 11:18 AM
Cc: ABrodell@co.livingston.ny.us; Subbio, Tony
Subject: Livingston County's All Hazard Mitigation Plan update - draft plan available - comments accepted up to December 13

⚠ CAUTION: This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Good morning,

I hope you all had a happy and healthy Thanksgiving.

We are on the home stretch of the County's All Hazard Mitigation Plan update project. The draft plan can be found on the project's website:
https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.livingstoncountynyhmp.com%2Fdraft-plans%2F&data=04%7C01%7CTony.Subbio%40tetratech.com%7Ca40379c4f7164e0ef2c808d9b353d5b4%7Ca40fe4baabc748fe8792b43889936400%7C0%7C0%7C637737994913625603%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=ArsquJAKJYFQkKWZai8W436b1hjdHGXsMoFHYoqcMZ4%3D&reserved=0

Comments are welcomed up to December 13 and can be emailed to me and Andrew Brodell.

There will also be a Plan Draft Review Meeting on Monday, December 13, from
6 - 8 p.m. if you are interested in attending. This will be a public meeting. The link to the meeting is here:

Microsoft Teams meeting
Join on your computer or mobile app
Click here to join the meeting<
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>
Or call in (audio only)
+1 607-442-4346,,915654026# United States, Elmira
Phone Conference ID: 915 654 026#

I apologize if you are receiving duplicate mailings. If you have any questions, I would be happy to assist.

Best,

Heather Ferrero, AICP

Deputy Planning Director
Livingston County Planning Department

LEGAL NOTICE
LIVINGSTON COUNTY, NY
LIVINGSTON COUNTY ALL HAZARD MITIGATION PLAN (AHMP)

"Since May 2021, Livingston County and our contractor, Tetra Tech, have been updating the County's All Hazard Mitigation Plan (AHMP) and working with each municipality in the county to develop their respective mitigation strategies. The full, updated AHMP is available for review at the project website: www.livingstoncountynyhmp.com. Please visit the site and review the documents posted there. We will review the draft of the updated AHMP and collect comments during a public webinar on Monday, December 13, 2021, from 6:00-8:00 p.m. Details about the webinar can be found on the website above. Contact Heather Ferrero, Deputy Planning Director, Livingston County Planning Department, at (585) 243-7550 for more information."or hferrero@co.livingston.ny.us

LEGAL NOTICE
LIVINGSTON COUNTY, NY
LIVINGSTON COUNTY ALL HAZARD MITIGATION PLAN (AHMP)
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Livingston County Hazard Mitigation Plan Update

Information Bulletin: A Primer for Individuals and Stakeholders

The Livingston County Planning Department has begun the process of updating the county-wide Hazard Mitigation Plan (HMP). The HMP analyzes the hazards faced by all towns and villages in the county, and identifies strategies to minimize vulnerability to known natural and man-made hazards.

The HMP update process is being conducted in accordance with requirements of the Disaster Mitigation Act of 2000 (DMA 2000). At the end of the process, the Federal Emergency Management Agency (FEMA) will review and approve the updated plan.

Tetra Tech, Inc. has deep experience in hazard mitigation and was selected by the county to guide the HMP planning process to a successful conclusion, including approval by FEMA.

The HMP update will assess and respond to risks posed by 13 different hazards;

- Drought
- Earthquake
- Flood
- Hazmat
- Invasive Species
- Landslide
- Mine Subsidence
- Pandemic
- Severe Storm
- Winter Storm
- Terrorism
- Utility Failure
- Wildfire

Why is a Hazard Mitigation Plan update important?

Livingston County's citizens, partner agencies, visitors, and business owners face a wide variety of natural and man-made hazards. These hazards can threaten lives, damage property, and interrupt a wide variety of day-to-day operations. By maintaining an up-to-date Hazard Mitigation Plan (HMP) and implementing the projects described within it, the impact of hazards can be reduced county-wide and in each town and village.

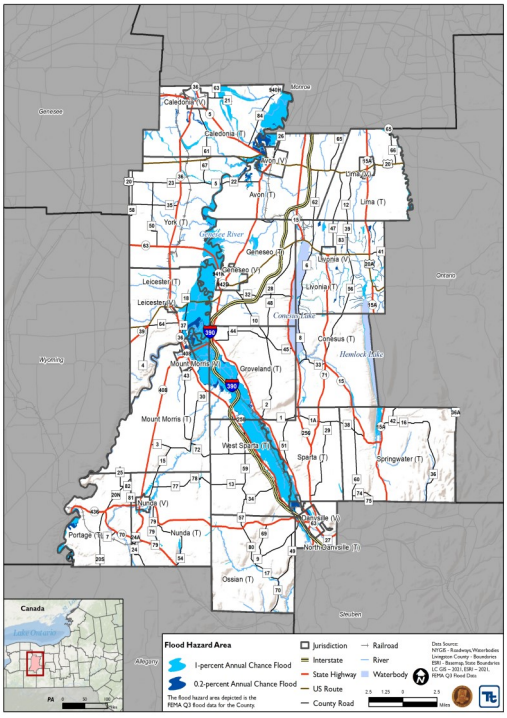
Citizens can reduce their own vulnerability by increasing awareness about all hazards and preparing for those hazards most likely to impact their home and community. It is important to note that, by completing the update, the county's towns and villages will be eligible for federal funding dedicated to hazard mitigation—municipalities that do not participate in the HMP update will not be able to access these funds.

Livingston County's HMP was last updated in 2015 and has since expired. The update process kicked off in June 2021 and we are working as a team to gain approval of the HMP from the Federal Emergency Management Agency (FEMA) in March 2022.

What is the general process to update the HMP?

The county has established a Planning Partnership consisting of representatives from Livingston County, plus municipalities and a variety of stakeholder organizations. The Planning Partnership meets periodically and has provided valuable information and guidance for the HMP update process. The Partnership reviewed the hazard risk assessment, the developing mitigation strategy and the HMP's multiple chapters. The project consultant, Tetra Tech, Inc., is conducting a detailed quantitative and qualitative hazard analysis that includes predictive modeling of hazard events at specified intensities (e.g., the 1% annual chance flood event or a 500-year earthquake).

The HMP will include a jurisdiction-specific annex for each participating municipality. The annex describes the jurisdiction's vulnerability to 13 different hazards, discusses the municipality's capabilities to implement hazard mitigation, and prioritizes the identified mitigation actions that the jurisdiction intends to carry out over the next five years, out to 2027.

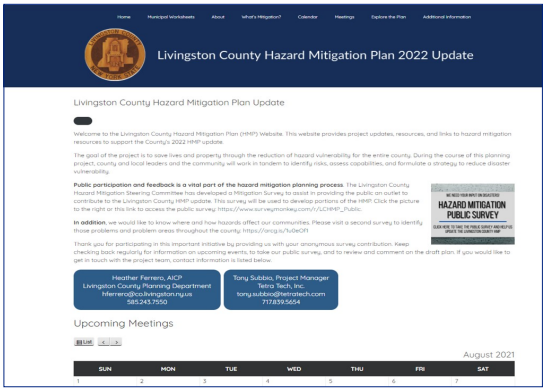


The HMP update will contain a rich set of data and maps. The HMP will show how and where your home may be affected by 13 different hazards. This map shows which areas lie within the 1% and 0.2% annual chance flood zones. Is your community impacted by flooding?

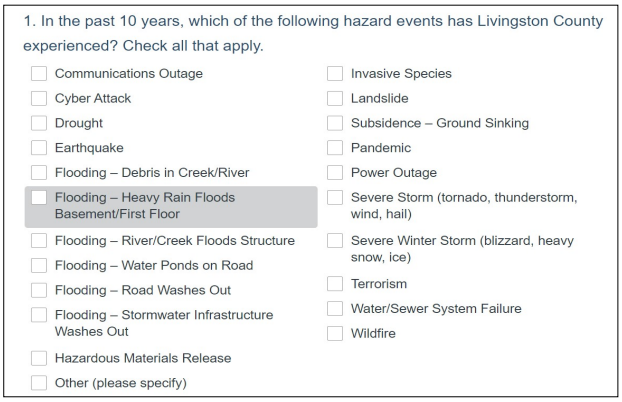
Livingston County Hazard Mitigation Plan Update

How do I get engaged in the HMP update process?

The Hazard Mitigation Plan analyzes the hazards faced by the county and its municipalities and also identifies strategies for minimizing vulnerability to these hazards. A high quality HMP incorporates the needs and knowledge of local citizens and a diverse set of stakeholders. Your input is valuable and there are several ways for to become involved in the planning process.



Visit the HMP Project website: The Project website is your source for up to date information on the HMP Planning process. The website contains information about upcoming public engagement and, as they are drafted, sections of the Plan are posted to the website for public review. livingstoncountynyhmp.com


1. In the past 10 years, which of the following hazard events has Livingston County experienced? Check all that apply.

- Communications Outage
- Cyber Attack
- Drought
- Earthquake
- Flooding – Debris in Creek/River
- Flooding – Heavy Rain Floods Basement/First Floor
- Flooding – River/Creek Floods Structure
- Flooding – Water Ponds on Road
- Flooding – Road Washes Out
- Flooding – Stormwater Infrastructure Washes Out
- Hazardous Materials Release
- Other (please specify)
- Invasive Species
- Landslide
- Subsidence – Ground Sinking
- Pandemic
- Power Outage
- Severe Storm (tornado, thunderstorm, wind, hail)
- Severe Winter Storm (blizzard, heavy snow, ice)
- Terrorism
- Water/Sewer System Failure
- Wildfire

Complete the Citizen Survey: This survey is designed to gather information from around Livingston County to help us better coordinate activities and reduce the risk of injury or property damage. A wide range of questions will prompt you for your local knowledge of the types of hazards that you observe and the impact they have upon you and your community. These questions are for information-gathering only and do not necessarily reflect any intent or future priorities of any governing body. Information will be shared with municipal, state, federal and county entities for planning purposes only. https://www.surveymonkey.com/r/LCHMP_Public

Complete the Problem Area Survey This survey tool helps identify problems and problem areas to be addressed in the HMP. The survey elicits fine-grained reporting about hazard impacts and the structures and facilities that are most in need of protection. Citizens can identify the hazard problem's exact location by placing a pin on a map and also by identifying the hazard(s) that impact(s) that specific location. If you are a property owner, the survey allows you to indicate your interest in having your property purchased so you can relocated out of a hazardous area. https://arcg.is/1u0eOf1



Actively participate in public engagement opportunities: The HMP update process features several opportunities for people to participate. COVID-related restrictions have moved meetings to a virtual format, but the public sessions held so far have been productive. The next designated opportunity for public input will be in October/November 2021 when all of the draft annexes, hazard profiles, and other HMP chapters will be available on the project website. We encourage you to review these documents—particularly the annex for your particular village or town and the profiles of the hazards that are of greatest concern

FOR MORE INFORMATION PLEASE CONTACT

Heather Ferrero, Deputy Director, Livingston County Planning Department (585) 243-7550 hferrero@co.livingston.ny.us

Brian Kehoe, Tetra Tech, Planner (585) 354-4216 brian.kehoe@tetratech.com

Livingston County Residents,

Livingston County has assembled a team to update our hazard mitigation plan which addresses hazards that impact our communities. Please help us plan for future disasters by completing this survey (will take approximately 15 minutes).

Hazard mitigation **is any action taken to reduce the loss of life and property by lessening the impact of disasters. These disasters include floods, severe storms, extreme temperatures, and others.**

This survey is designed to gather information from around Livingston County to help us better coordinate activities and reduce the risk of injury or property damage. These questions are for information-gathering only and do not necessarily reflect any intent or future priorities of any governing body. This information will be shared with municipal, state, federal and county entities for planning purposes only.

You will be asked if you live in a floodplain. If you do not know, or are not sure, please check the FEMA website: https://msc.fema.gov/portal/home.

For more information about hazard mitigation or the planning process, please visit https://www.livingstoncountynyhmp.com/. If you have any questions, please contact Heather Ferrero at the Livingston County Planning Department at HFerrero@co.livingston.ny.us or (585) 243-7550

We would like to thank you in advance for your cooperation and participation.

Hazard Information

In this section, we are looking for your input on the types of hazards that impact Livingston County and its residents. Please answer the following questions to help us understand the concerns throughout the county.

1. In the past 10 years, which of the following hazard events has Livingston County experienced? Check all that apply.

- [ ] Communications Outage
- [ ] Cyber Attack
- [ ] Drought
- [ ] Earthquake
- [ ] Flooding – Debris in Creek/River
- [ ] Flooding – Heavy Rain Floods Basement/First Floor
- [ ] Flooding – River/Creek Floods Structure
- [ ] Flooding – Water Ponds on Road
- [ ] Flooding – Road Washes Out
- [ ] Flooding – Stormwater Infrastructure Washes Out
- [ ] Hazardous Materials Release
- [ ] Invasive Species
- [ ] Landslide
- [ ] Subsidence – Ground Sinking
- [ ] Pandemic
- [ ] Power Outage
- [ ] Severe Storm (tornado, thunderstorm, wind, hail)
- [ ] Severe Winter Storm (blizzard, heavy snow, ice)
- [ ] Terrorism
- [ ] Water/Sewer System Failure
- [ ] Wildfire
- [ ] Other (please specify)

2. How concerned are you about the following natural hazards in Livingston County? Please check one for each hazard.

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Communications Outage	☐	☐	☐	☐	☐
Cyber Attack	☐	☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Flooding – Debris in Creek/River	☐	☐	☐	☐	☐
Flooding – Heavy Rain Floods Basement/First Floor	☐	☐	☐	☐	☐
Flooding – River/Creek Floods Structure	☐	☐	☐	☐	☐
Flooding – Water Ponds on Road	☐	☐	☐	☐	☐
Flooding – Road Washes Out	☐	☐	☐	☐	☐
Flooding – Stormwater Infrastructure Washes Out	☐	☐	☐	☐	☐
Hazardous Materials Release	☐	☐	☐	☐	☐
Invasive Species	☐	☐	☐	☐	☐
Landslide	☐	☐	☐	☐	☐
Subsidence – Ground Sinking	☐	☐	☐	☐	☐
Pandemic	☐	☐	☐	☐	☐
Power Outage	☐	☐	☐	☐	☐
Severe Storm (tornado, thunderstorm, wind, hail)	☐	☐	☐	☐	☐
Severe Winter Storm (blizzard, heavy snow, ice)	☐	☐	☐	☐	☐
Terrorism	☐	☐	☐	☐	☐
Water/Sewer System Failure	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐

Other (please specify)

3. How prepared is your household to get along without electricity or natural gas for up to five days?

- ○ Not at all prepared
- ○ Somewhat prepared
- ○ Very prepared

4. Please rank how prepared you feel and your household are for disaster events likely to occur within your community. Rank on a scale of 1 to 5, with 5 representing the most prepared.

1 (least) 3 5 (most)

5. How do you receive your information concerning a disaster? Check all that apply.

- [ ] County Website
- [ ] Municipal Websites
- [ ] Newspaper
- [ ] Municipal E-Mail
- [ ] Police, Fire, EMS, 9-1-1
- [ ] Telephone Book
- [ ] Informational Brochures
- [ ] Public Meetings, Workshops, Public Awareness Events
- [ ] Schools
- [ ] TV News
- [ ] TV Advertising
- [ ] Radio News
- [ ] Radio Advertisements
- [ ] Outdoor Advertisements
- [ ] Internet
- [ ] Social Media
- [ ] Chamber of Commerce
- [ ] Academic Institutions
- [ ] Books
- [ ] Public Library
- [ ] Mass Notification System
- [ ] Other (please specify)

6. Of the answers you provided above, what are the top three methods you use?

7. Which of the following steps has your household taken to prepare for a local hazard event? Check all that apply.

- [ ] Received first aid/CPR training
- [ ] Made an emergency plan
- [ ] Designated a meeting place
- [ ] Identified utility shutoffs
- [ ] Prepared a disaster supply kit
- [ ] Installed smoke detectors on each level of home
- [ ] Stored food and water
- [ ] Stored flashlights and batteries
- [ ] Stored a battery-operated radio
- [ ] Stored a fire extinguisher
- [ ] Stored medical supplies (first aid kit, medications)
- [ ] Registered to receive emergency alerts (i.e. Hyper-Reach, County Alert Center, etc.)
- [ ] Purchased additional insurance to cover losses (e.g., flood insurance)
- [ ] Identified the location of the nearest emergency shelter
- [ ] Received emergency preparedness information from a government source
- [ ] Other (please specify)

8. In the past, has your home been damaged by a hazard event? For example, the basement of your home flooded and damaged the hot water heater.

- ( ) Yes
- ( ) No
- ( ) Other (please specify)

9. If you answered "yes" to question #8, did you report the damages to your insurance company or local officials?

- ( ) Yes
- ( ) No
- ( ) Other (please specify)

10. If you answered "no" to question #9, why did you not report the damages?

11. Please explain the damage your structure sustained and when it occurred.

12. In the last 10 years, were you evacuated from your home as a result of a disaster (e.g. flooding)? If so, how long were you displaced? Did you go to a shelter?

13. To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

- ○ Yes
- ○ No
- ○ Don't Know

14. If your property is in the floodplain, do you have flood insurance?

- ○ Yes
- ○ No
- ○ N/A

15. If your property is located outside of the floodplain, do you have flood insurance?

- ○ Yes
- ○ No
- ○ N/A

16. If you do NOT have flood insurance, why not? Check all that apply.

- ☐ I don't need it
- ☐ My property has never flooded
- ☐ My property is located on high ground
- ☐ It is too expensive
- ☐ Other (please specify)
- ☐ Not familiar with it/don't know about it
- ☐ Insurance company will not provide
- ☐ I believe my homeowners insurance will cover me

17. Do you or did you have problems getting homeowners/renters insurance due to risks from hazards?

- ○ Yes
- ○ No

18. If you answered "yes" to the previous question, please identify the hazard risk that caused you to have problems obtaining homeowners/renters insurance.

Hazard Mitigation

As defined by FEMA, mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. In order for mitigation to be effective, we need to take action now - before the next disaster - to reduce human and financial consequences later.

Effective mitigation requires that we all understand local risks, address the hard choices, and invest in long-term community well-being. Without mitigation actions, we jeopardize our safety, financial security and self-reliance.

In this section of the survey, we want to hear from you how Livingston County can help mitigate the county and become more resilient before the next storm strikes.

19. Please identify any specific vulnerabilities that you are aware of in Livingston County (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

20. Please identify any specific vulnerabilities that you are aware of in the municipality you live in (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

You can also plot these vulnerabilities on a map using a simple mapping tool that was developed for this planning process. Click here.

21. What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Livingston County? Select your top three choices.

- [ ] Retrofit and strengthen essential facilities such as police, schools, and hospitals
- [ ] Retrofit infrastructure, such as elevating roadways and improving drainage systems
- [ ] Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)
- [ ] Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks
- [ ] Enhance stream maintenance programs/projects
- [ ] Replace inadequate or vulnerable bridges and causeways
- [ ] Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas
- [ ] Buy out flood prone properties and maintain as open space
- [ ] Inform property owners of ways they can mitigate damage to their properties
- [ ] Improve access to information about hazard risks and high-hazard areas
- [ ] Assist vulnerable property owners with securing funding to mitigate their properties
- [ ] Create a stream gage and weather monitoring program to provide more accurate data and warnings
- [ ] Other (please specify)

22. Do you feel that your municipality is doing enough towards flood prevention and mitigation or prevention/mitigation from other hazards?

- ○ Yes
- ○ No

Please provide details for your answer.

23. If your property were located in a designated high-hazard area (for example, NFIP flood zone) or had received repeated damages from a disaster event, would you consider any of the following options?

If your response is dependent on certain factors, such as the funding source, please indicate those factors in the following question.

	Yes	No	Unsure
Having your property bought out	○	○	○
Moving your structure to another property or a less risky part of your property	○	○	○
Elevating your structure	○	○	○
Floodproof your structure	○	○	○
Look into other ways to mitigate	○	○	○

Other (please specify)

24. Please select the factor(s) that would influence your decision on the mitigation options listed above (buyout/acquisition, relocation, or elevation).

- ☐ Cost
- ☐ Unaware of available programs
- ☐ Do not have the means to move/relocate
- ☐ Length of process
- ☐ Other (please specify)

25. If you have already had to spend money to mitigate your property, how much have you spent and on what measures?

26. Which (if any) incentives would motivate you to spend money on protecting your home from the possible impacts of a disaster? Such as lower interest rates, grant funding, waivers, etc.

27. Please list any additional types of projects you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption in Livingston County.

28. Do you have any other comments, questions, or concerns regarding hazard mitigation in Livingston County?

General Household Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan. Please note that individual answers will not be published in the plan.

29. Please indicate the municipality in which you live:

- Avon (T)
- Avon (V)
- Caledonia (T)
- Caledonia (V)
- Conesus (T)
- Dansville (V)
- Geneseo (T)
- Geneseo (V)
- Groveland (T)
- Leicester (T)
- Leicester (V)
- Lima (T)
- Lima (V)
- Livonia (T)
- Livonia (V)
- Mount Morris (T)
- Mount Morris (V)
- North Dansville (T)
- Nunda (T)
- Nunda (V)
- Ossian (T)
- Portage (T)
- Sparta (T)
- Springwater (T)
- West Sparta (T)
- York (T)
- Other (please specify)

30. How long have you lived here?

- Less than 1 year
- 1 to 5 years
- 6 to 9 years
- 10 to 19 years
- 20 years or more

31. Do you own or rent your place of residence?

- Own
- Rent

32. What type of residence do you live in?

- ○ Single-family detached
- ○ Condominium
- ○ Multi-family detached
- ○ Apartment Complex
- ○ Town Home
- ○ Commercial
- ○ Other (please specify)

33. If you received real estate disclosure information when you moved into your current residence, did your real estate agent or landlord explain the implications of living in a hazard risk zone and did you understand the information they presented?

- ○ Yes
- ○ Other (please specify)

34. Which of the following digital media outlets do you use and/or subscribe to receive general news and information about Livingston County?

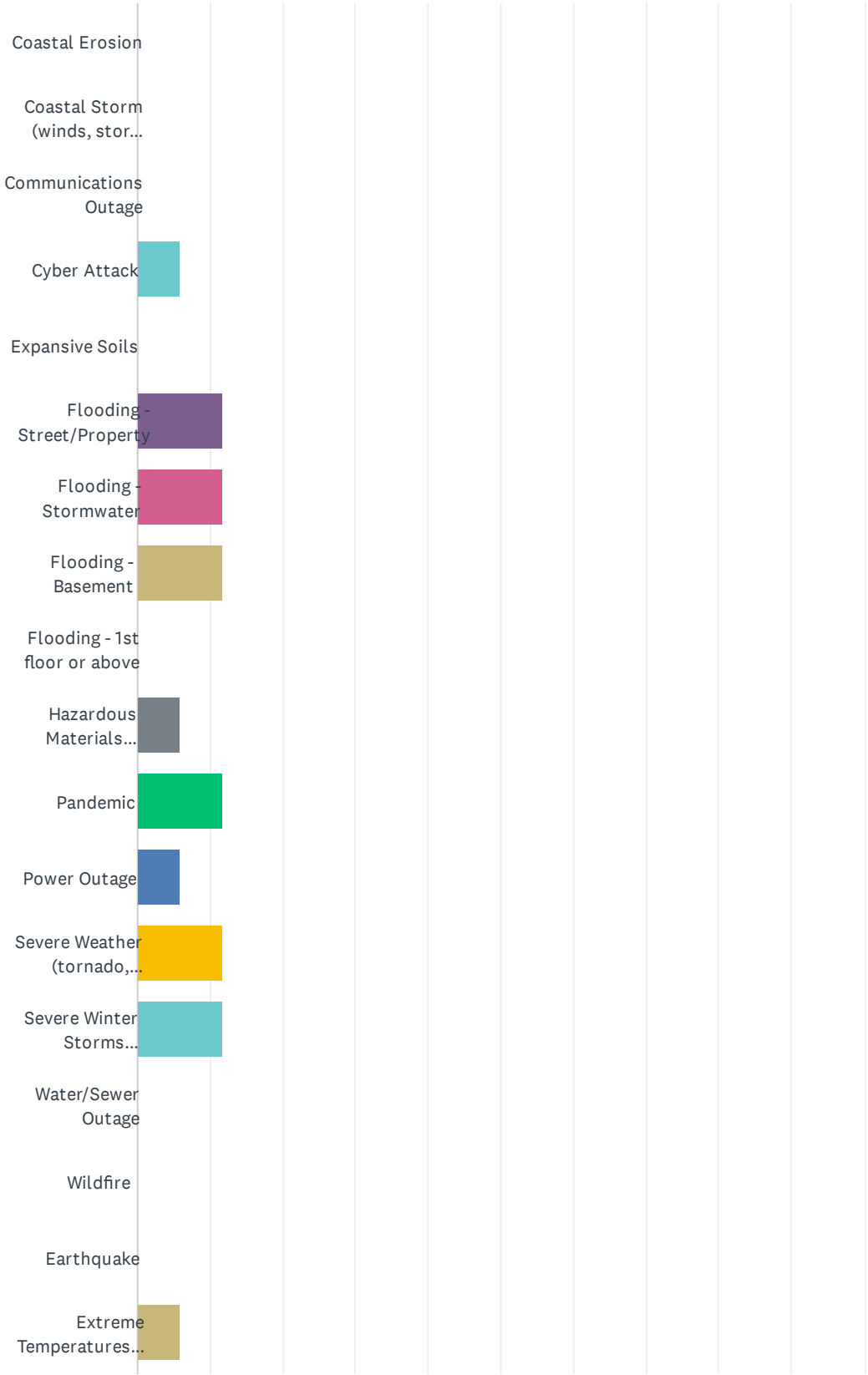
- ☐ Facebook
- ☐ Email and/or text messages
- ☐ Twitter
- ☐ Local News
- ☐ Mass Notification System
- ☐ Other (please specify)

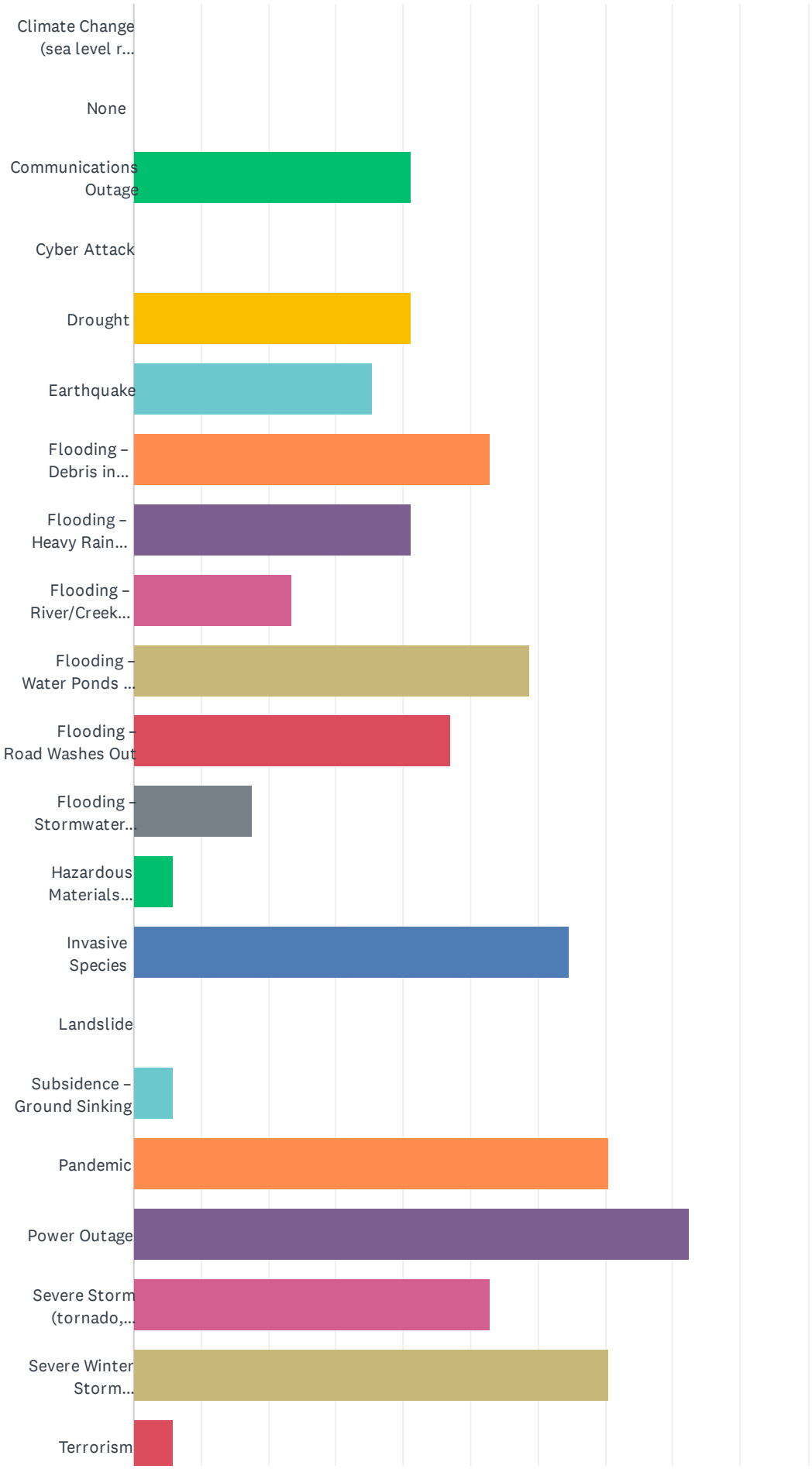
35. Please indicate your age range:

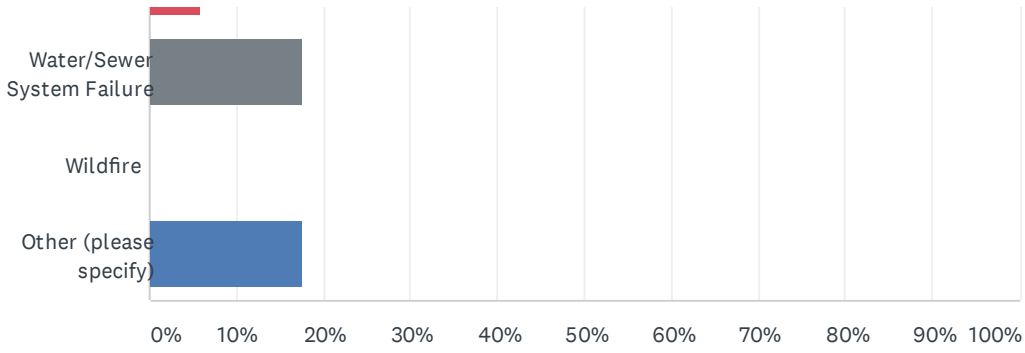
- ○ Under 18
- ○ 41 to 50
- ○ 18 to 30
- ○ 51 to 60
- ○ 31 to 40
- ○ 61+

Q1 In the past 10 years, which of the following hazard events has Livingston County experienced? Check all that apply.

Answered: 17 Skipped: 1




Climate Change (sea level r...
None
Communications Outage
Cyber Attack
Drought
Earthquake
Flooding – Debris in...
Flooding – Heavy Rain...
Flooding – River/Creek...
Flooding – Water Ponds ...
Flooding – Road Washes Out
Flooding – Stormwater...
Hazardous Materials...
Invasive Species
Landslide
Subsidence – Ground Sinking
Pandemic
Power Outage
Severe Storm (tornado,...
Severe Winter Storm...
Terrorism


Water/Sewer System Failure
Wildfire
Other (please specify)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

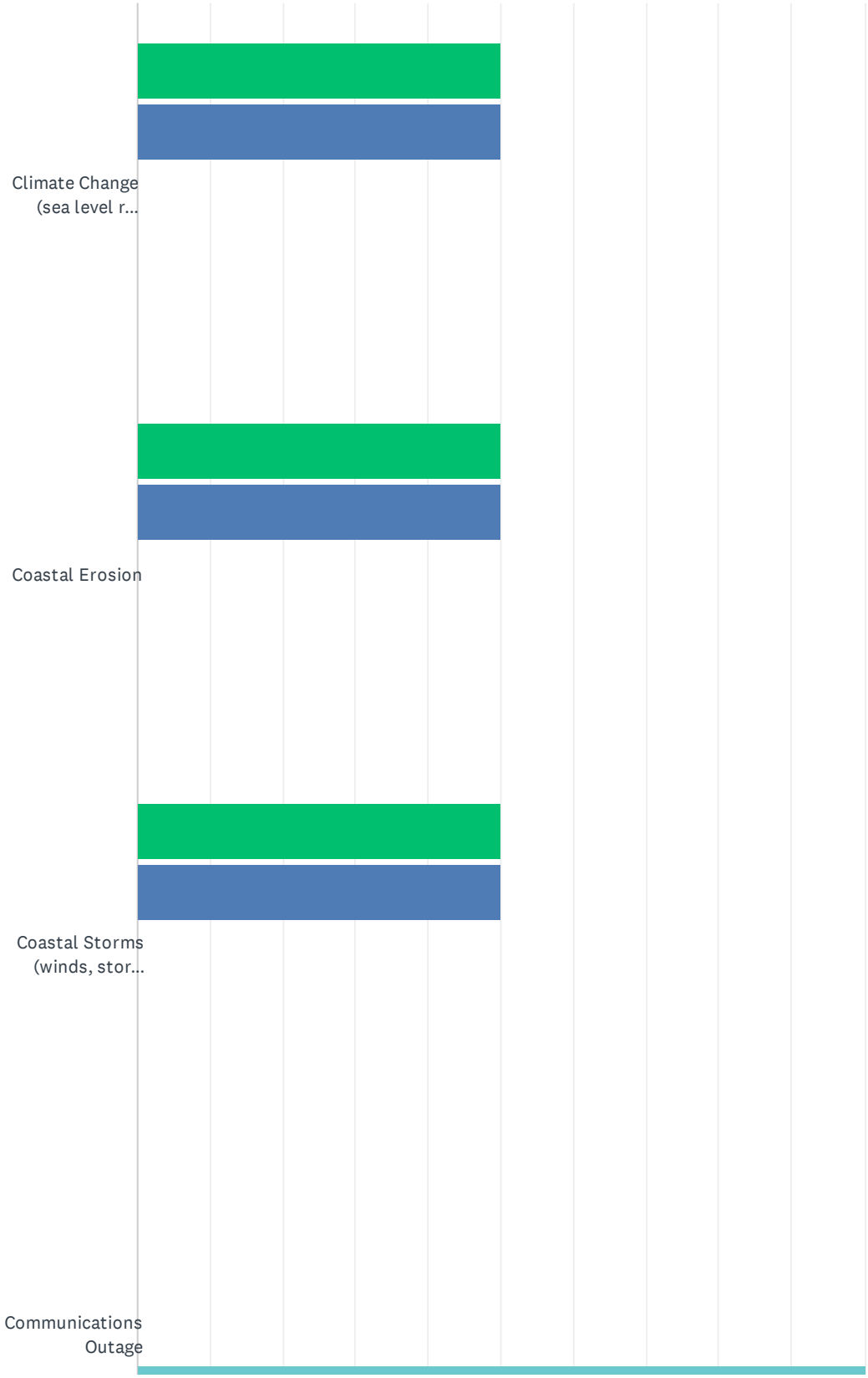
ANSWER CHOICES	RESPONSES	
Coastal Erosion	0.00%	0
Coastal Storm (winds, storm surge)	0.00%	0
Communications Outage	0.00%	0
Cyber Attack	5.88%	1
Expansive Soils	0.00%	0
Flooding - Street/Property	11.76%	2
Flooding - Stormwater	11.76%	2
Flooding - Basement	11.76%	2
Flooding - 1st floor or above	0.00%	0
Hazardous Materials Release	5.88%	1
Pandemic	11.76%	2
Power Outage	5.88%	1
Severe Weather (tornado, thunderstorm, hail)	11.76%	2
Severe Winter Storms (blizzard, heavy snow, ice)	11.76%	2
Water/Sewer Outage	0.00%	0
Wildfire	0.00%	0
Earthquake	0.00%	0
Extreme Temperatures (heat and cold)	5.88%	1
Climate Change (sea level rise or other)	0.00%	0
None	0.00%	0
Communications Outage	41.18%	7
Cyber Attack	0.00%	0
Drought	41.18%	7
Earthquake	35.29%	6
Flooding – Debris in Creek/River	52.94%	9
Flooding – Heavy Rain Floods Basement/First Floor	41.18%	7
Flooding – River/Creek Floods Structure	23.53%	4
Flooding – Water Ponds on Road	58.82%	10
Flooding – Road Washes Out	47.06%	8
Flooding – Stormwater Infrastructure Washes Out	17.65%	3
Hazardous Materials Release	5.88%	1
Invasive Species	64.71%	11

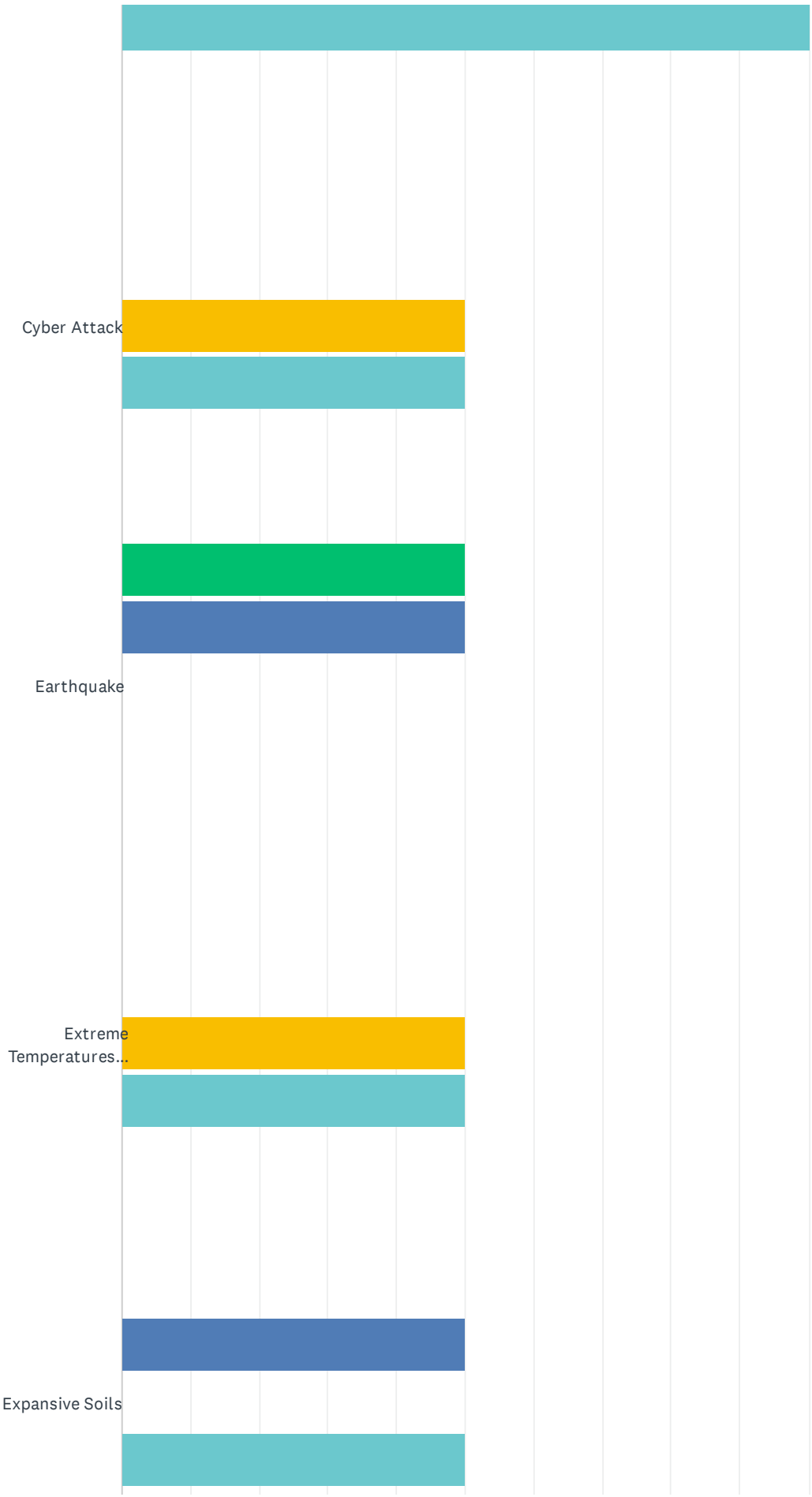
Landslide	0.00%	0
Subsidence – Ground Sinking	5.88%	1
Pandemic	70.59%	12
Power Outage	82.35%	14
Severe Storm (tornado, thunderstorm, wind, hail)	52.94%	9
Severe Winter Storm (blizzard, heavy snow, ice)	70.59%	12
Terrorism	5.88%	1
Water/Sewer System Failure	17.65%	3
Wildfire	0.00%	0
Other (please specify)	17.65%	3
Total Respondents: 17		

#	OTHER (PLEASE SPECIFY)	DATE
1	Grass/field fires	8/25/2021 9:15 PM
2	Increasing high temperatures-warming	8/24/2021 7:07 AM
3	Manure / chemical spill runoff from factory dairy farm	8/16/2021 12:08 PM

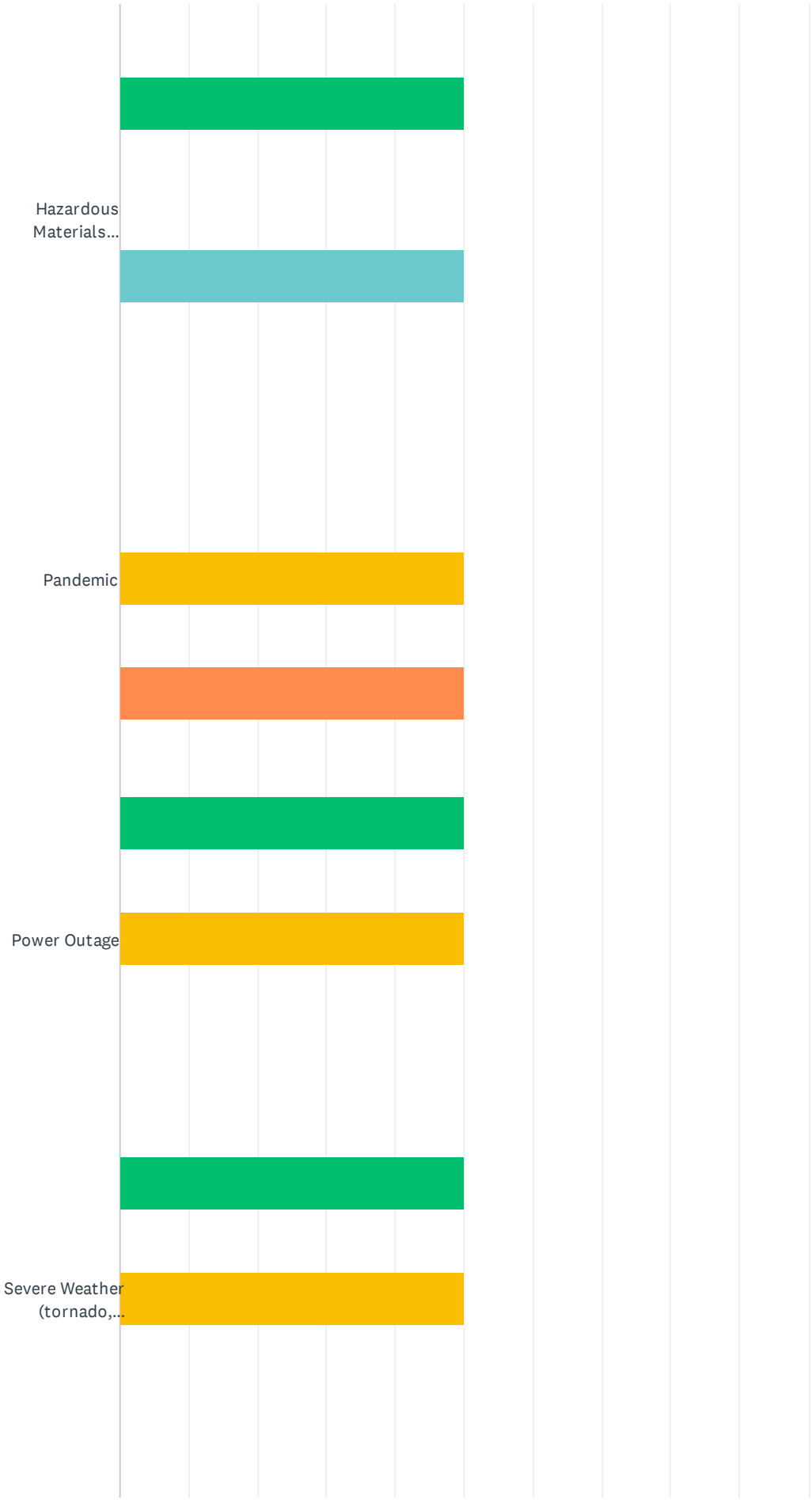
Q2 How concerned are you about the following natural hazards in Livingston County? Please check one for each hazard.

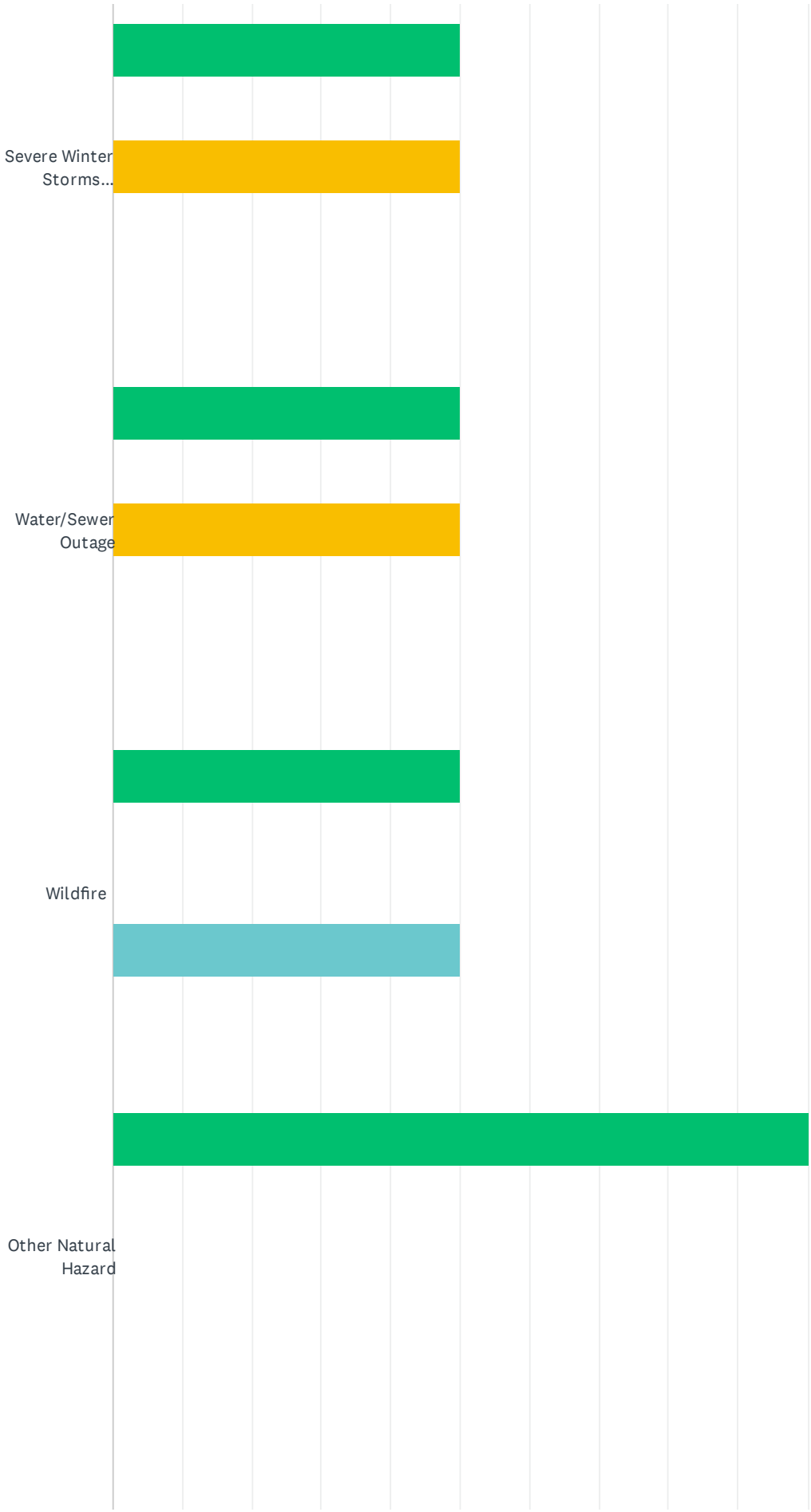
Answered: 17 Skipped: 1

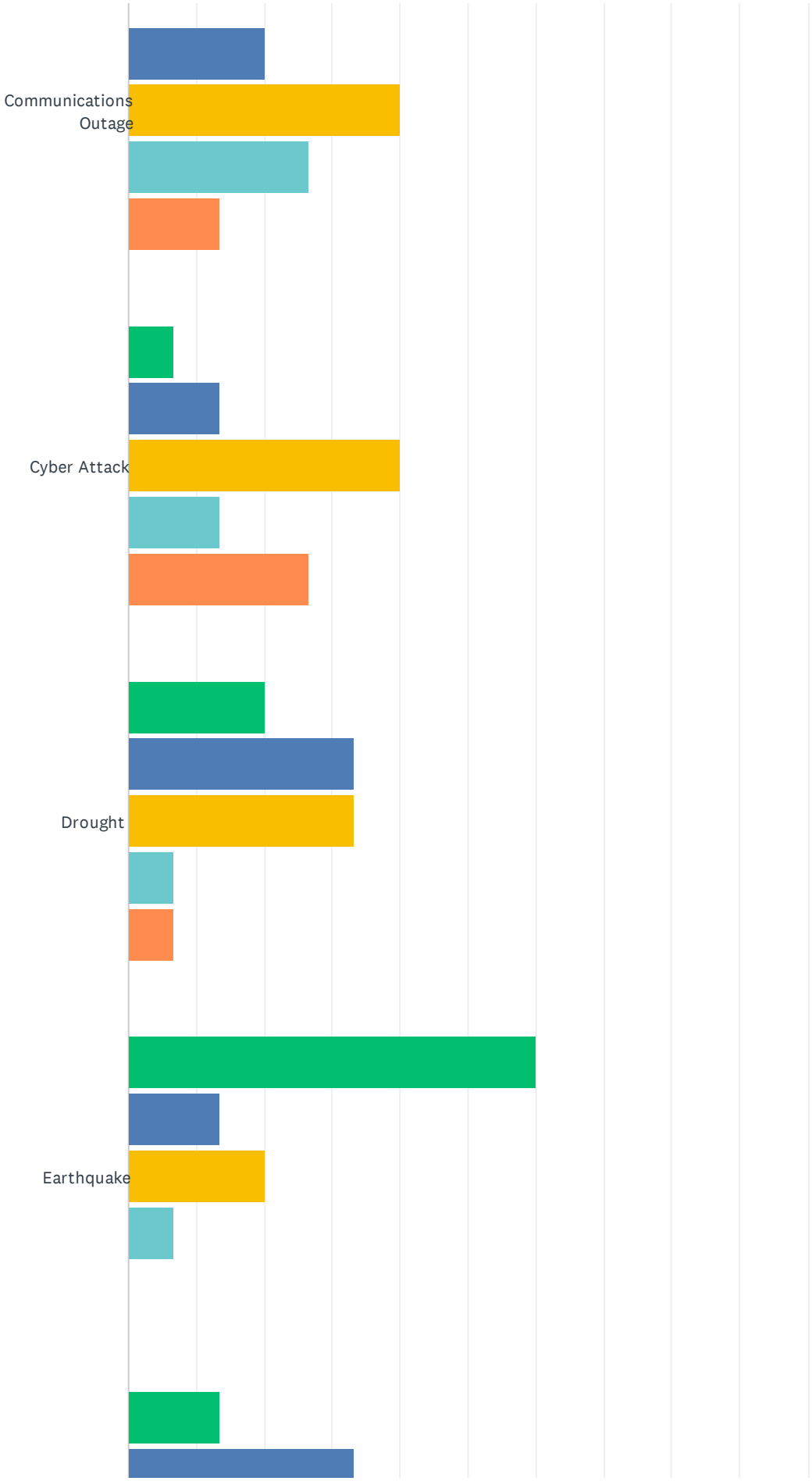


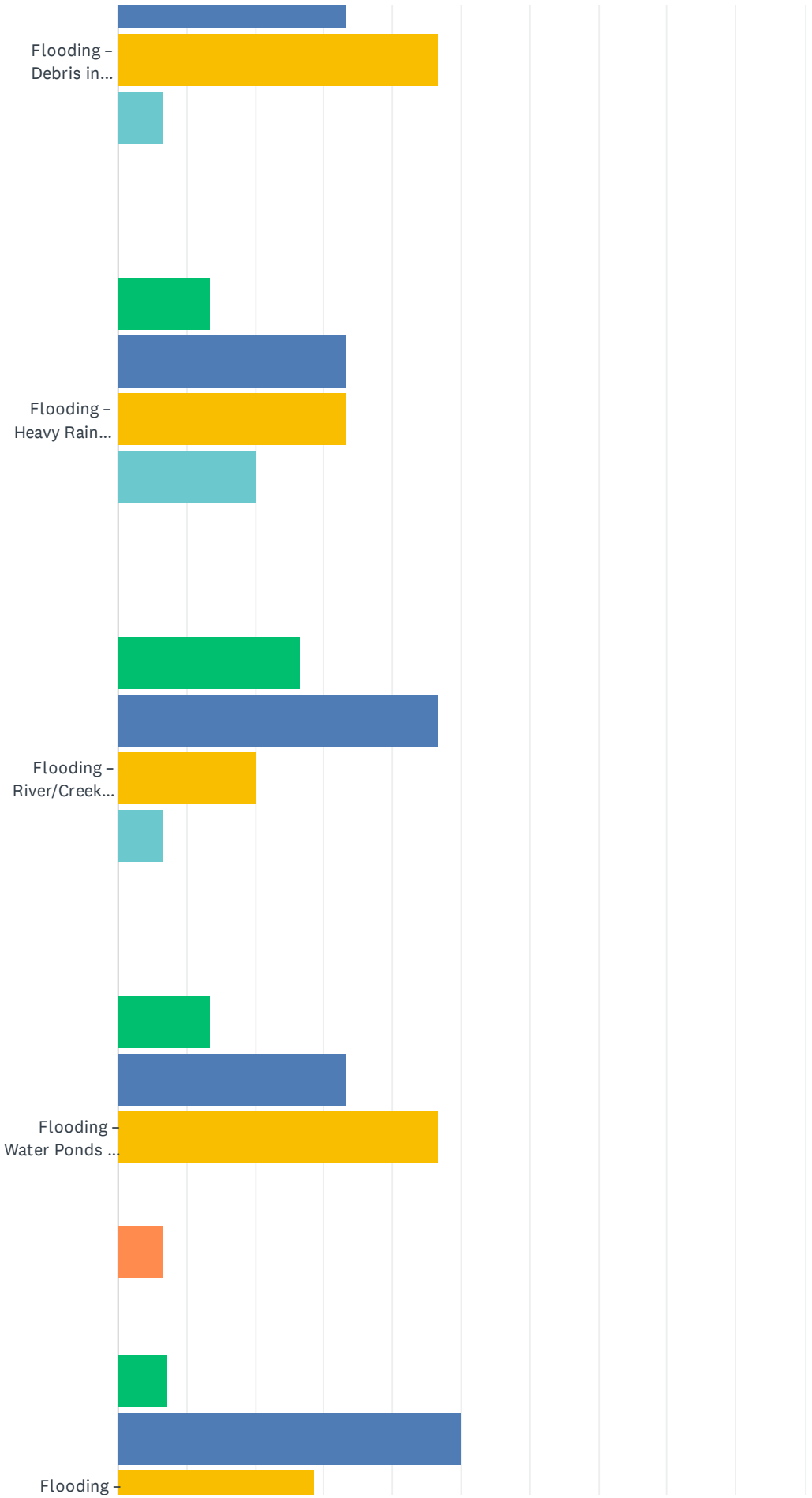

Cyber Attack
Earthquake
Extreme Temperatures...
Expansive Soils

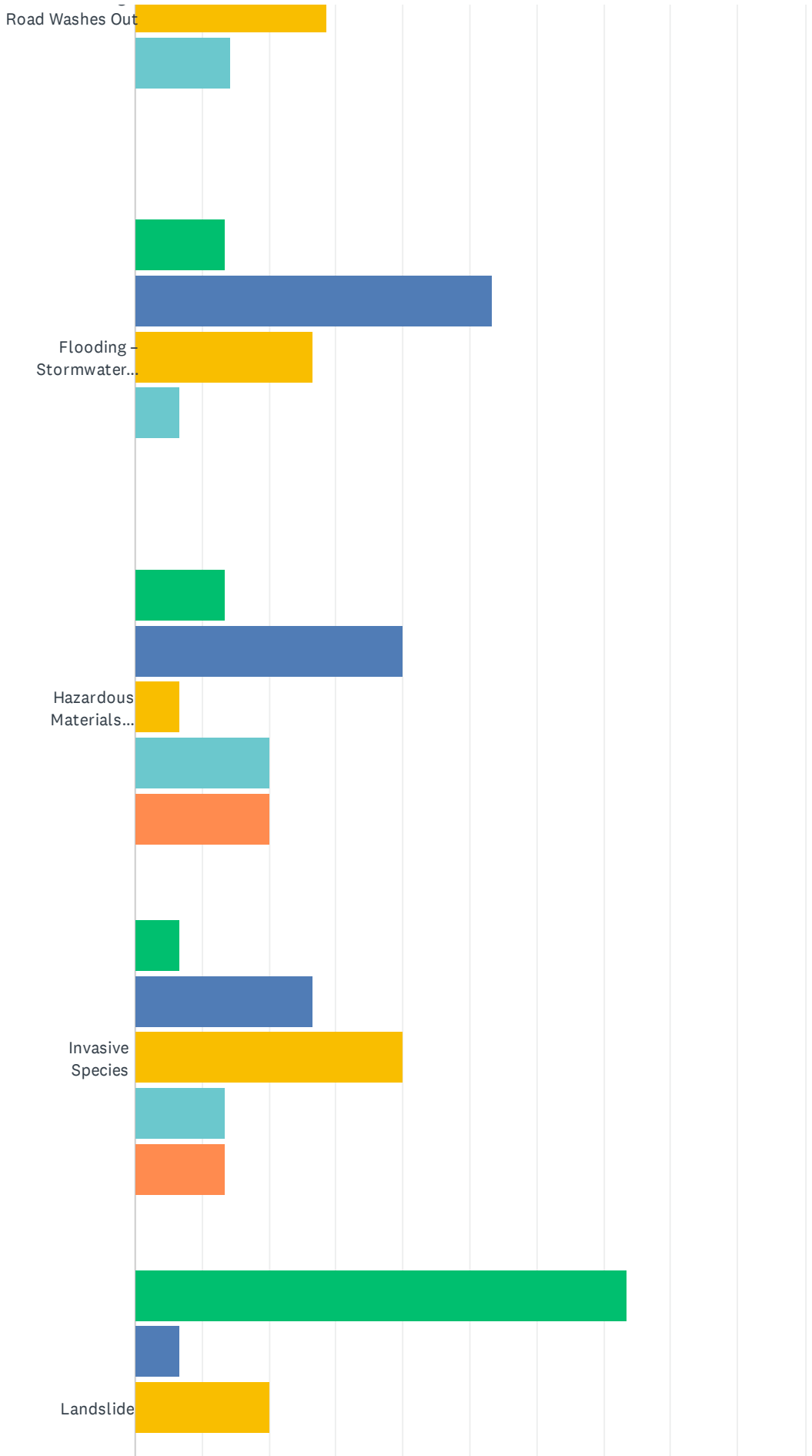

Flooding - Street/Property
Flooding - Stormwater
Flooding - Basement
Flooding - 1st Floor or above

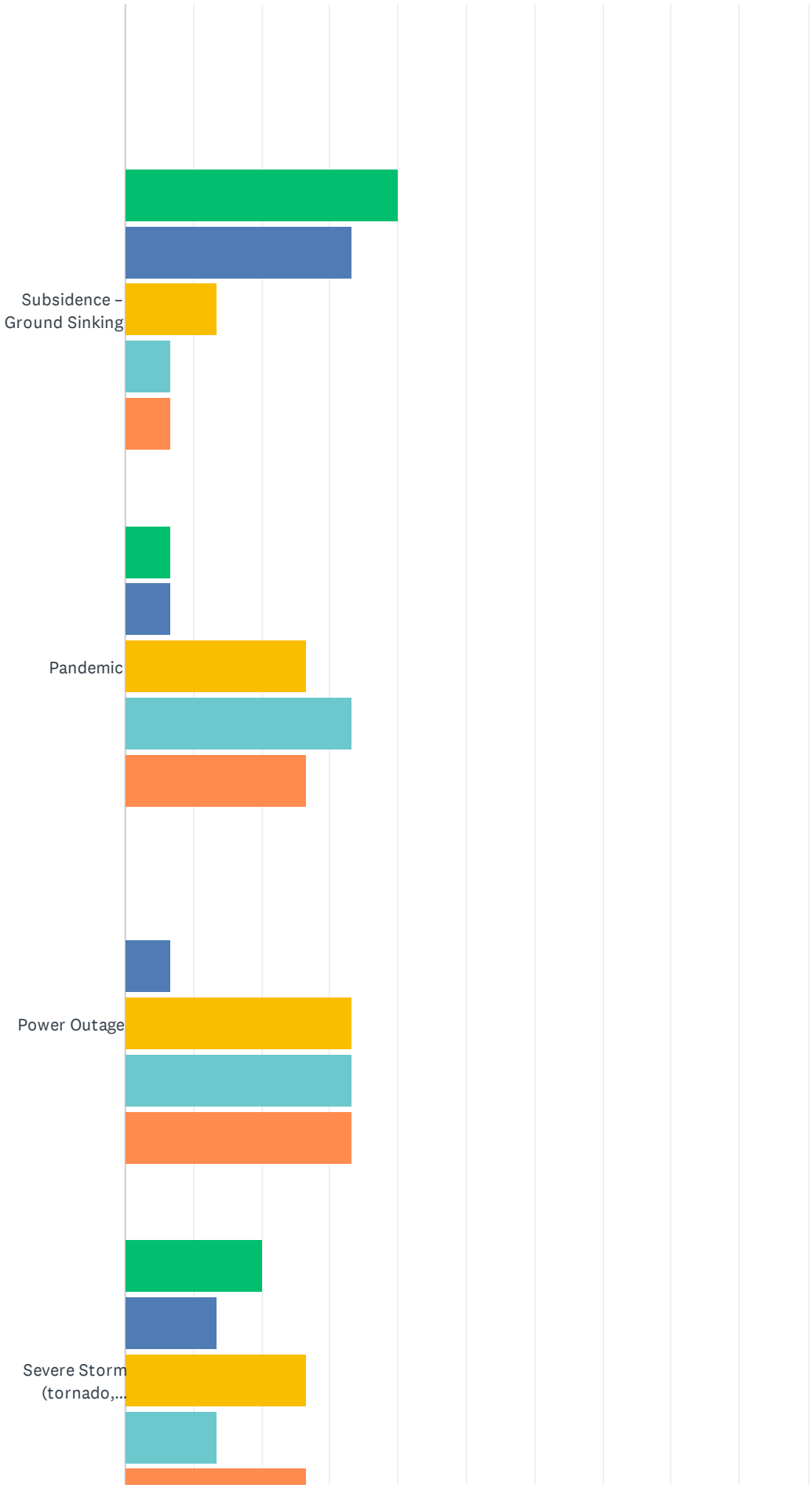

Hazardous Materials...
Pandemic
Power Outage
Severe Weather (tornado,...

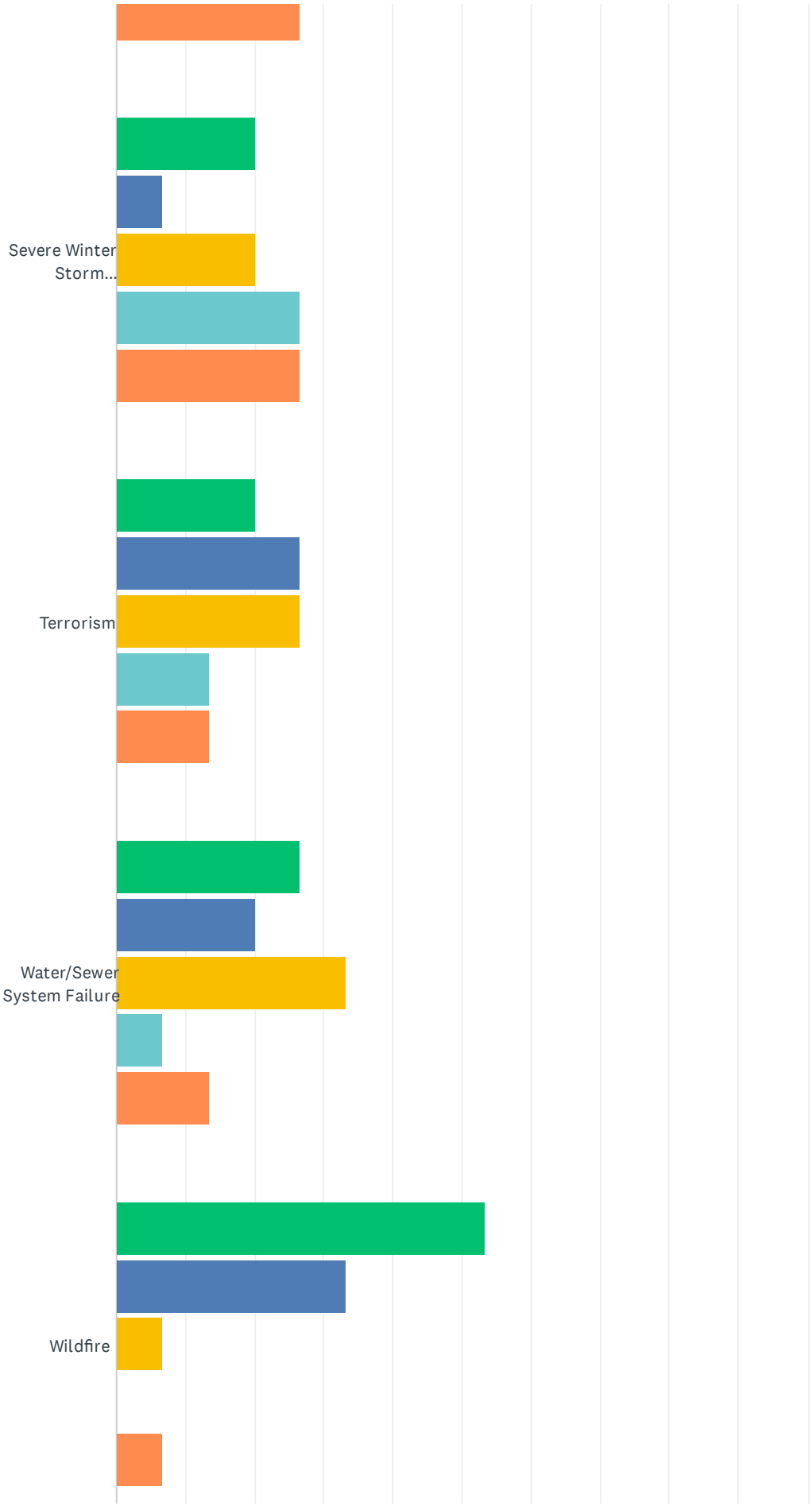

Severe Winter Storms...
Water/Sewer Outage
Wildfire
Other Natural Hazard

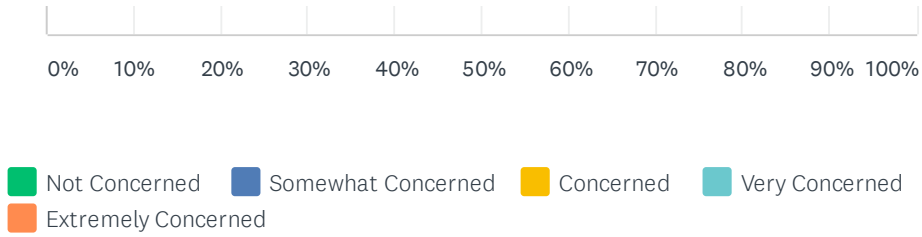

Communications Outage
Cyber Attack
Drought
Earthquake


Flooding – Debris in...
Flooding – Heavy Rain...
Flooding – River/Creek...
Flooding – Water Ponds ...
Flooding –


Road Washes Out
Flooding – Stormwater...
Hazardous Materials...
Invasive Species
Landslide


Subsidence – Ground Sinking
Pandemic
Power Outage
Severe Storm (tornado,...


Severe Winter Storm...
Terrorism
Water/Sewer System Failure
Wildfire


0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not Concerned
Somewhat Concerned
Concerned
Very Concerned
Extremely Concerned

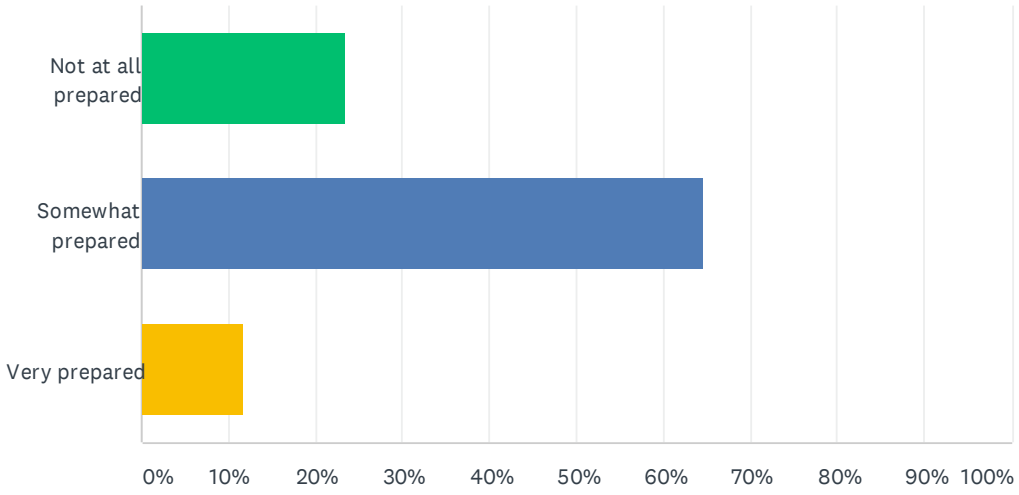
	NOT CONCERNED	SOMEWHAT CONCERNED	CONCERNED	VERY CONCERNED	EXTREMELY CONCERNED	TOTAL RESPONDENTS
Climate Change (sea level rise or other)	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	2
Coastal Erosion	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	2
Coastal Storms (winds, storm surge)	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	2
Communications Outage	0.00% 0	0.00% 0	0.00% 0	100.00% 2	0.00% 0	2
Cyber Attack	0.00% 0	0.00% 0	50.00% 1	50.00% 1	0.00% 0	2
Earthquake	50.00% 1	50.00% 1	0.00% 0	0.00% 0	0.00% 0	2
Extreme Temperatures (heat and cold)	0.00% 0	0.00% 0	50.00% 1	50.00% 1	0.00% 0	2
Expansive Soils	0.00% 0	50.00% 1	0.00% 0	50.00% 1	0.00% 0	2
Flooding - Street/Property	0.00% 0	0.00% 0	100.00% 2	0.00% 0	0.00% 0	2
Flooding - Stormwater	0.00% 0	0.00% 0	100.00% 2	0.00% 0	0.00% 0	2
Flooding - Basement	0.00% 0	0.00% 0	100.00% 2	0.00% 0	0.00% 0	2
Flooding - 1st Floor or above	0.00% 0	0.00% 0	100.00% 1	0.00% 0	0.00% 0	1
Hazardous Materials Releases	50.00% 1	0.00% 0	0.00% 0	50.00% 1	0.00% 0	2
Pandemic	0.00% 0	0.00% 0	50.00% 1	0.00% 0	50.00% 1	2
Power Outage	50.00% 1	0.00% 0	50.00% 1	0.00% 0	0.00% 0	2
Severe Weather (tornado, thunderstorm, hail)	50.00% 1	0.00% 0	50.00% 1	0.00% 0	0.00% 0	2
Severe Winter Storms (blizzard, heavy snow, ice)	50.00% 1	0.00% 0	50.00% 1	0.00% 0	0.00% 0	2
Water/Sewer Outage	50.00% 1	0.00% 0	50.00% 1	0.00% 0	0.00% 0	2
Wildfire	50.00% 1	0.00% 0	0.00% 0	50.00% 1	0.00% 0	2
Other Natural Hazard	100.00% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1
Communications Outage	0.00% 0	20.00% 3	40.00% 6	26.67% 4	13.33% 2	15
Cyber Attack	6.67% 1	13.33% 2	40.00% 6	13.33% 2	26.67% 4	15
Drought	20.00%	33.33%	33.33%	6.67%	6.67%	

	3	5	5	1	1	15
Earthquake	60.00% 9	13.33% 2	20.00% 3	6.67% 1	0.00% 0	15
Flooding – Debris in Creek/River	13.33% 2	33.33% 5	46.67% 7	6.67% 1	0.00% 0	15
Flooding – Heavy Rain Floods Basement/First Floor	13.33% 2	33.33% 5	33.33% 5	20.00% 3	0.00% 0	15
Flooding – River/Creek Floods Structure	26.67% 4	46.67% 7	20.00% 3	6.67% 1	0.00% 0	15
Flooding – Water Ponds on Road	13.33% 2	33.33% 5	46.67% 7	0.00% 0	6.67% 1	15
Flooding – Road Washes Out	7.14% 1	50.00% 7	28.57% 4	14.29% 2	0.00% 0	14
Flooding – Stormwater Infrastructure Washes Out	13.33% 2	53.33% 8	26.67% 4	6.67% 1	0.00% 0	15
Hazardous Materials Release	13.33% 2	40.00% 6	6.67% 1	20.00% 3	20.00% 3	15
Invasive Species	6.67% 1	26.67% 4	40.00% 6	13.33% 2	13.33% 2	15
Landslide	73.33% 11	6.67% 1	20.00% 3	0.00% 0	0.00% 0	15
Subsidence – Ground Sinking	40.00% 6	33.33% 5	13.33% 2	6.67% 1	6.67% 1	15
Pandemic	6.67% 1	6.67% 1	26.67% 4	33.33% 5	26.67% 4	15
Power Outage	0.00% 0	6.67% 1	33.33% 5	33.33% 5	33.33% 5	15
Severe Storm (tornado, thunderstorm, wind, hail)	20.00% 3	13.33% 2	26.67% 4	13.33% 2	26.67% 4	15
Severe Winter Storm (blizzard, heavy snow, ice)	20.00% 3	6.67% 1	20.00% 3	26.67% 4	26.67% 4	15
Terrorism	20.00% 3	26.67% 4	26.67% 4	13.33% 2	13.33% 2	15
Water/Sewer System Failure	26.67% 4	20.00% 3	33.33% 5	6.67% 1	13.33% 2	15
Wildfire	53.33% 8	33.33% 5	6.67% 1	0.00% 0	6.67% 1	15

#	OTHER (PLEASE SPECIFY)	DATE
1	Warming and farm chemical runoff	8/24/2021 7:07 AM

Q3 How prepared is your household to get along without electricity or natural gas for up to five days?

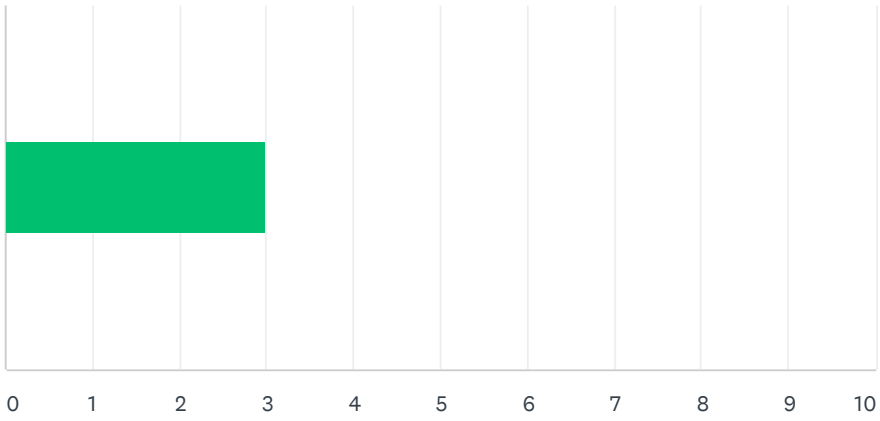
Answered: 17 Skipped: 1



ANSWER CHOICES	RESPONSES	
Not at all prepared	23.53%	4
Somewhat prepared	64.71%	11
Very prepared	11.76%	2
TOTAL		17

Q4 Please rank how prepared you feel and your household are for disaster events likely to occur within your community. Rank on a scale of 1 to 5, with 5 representing the most prepared.

Answered: 18 Skipped: 0

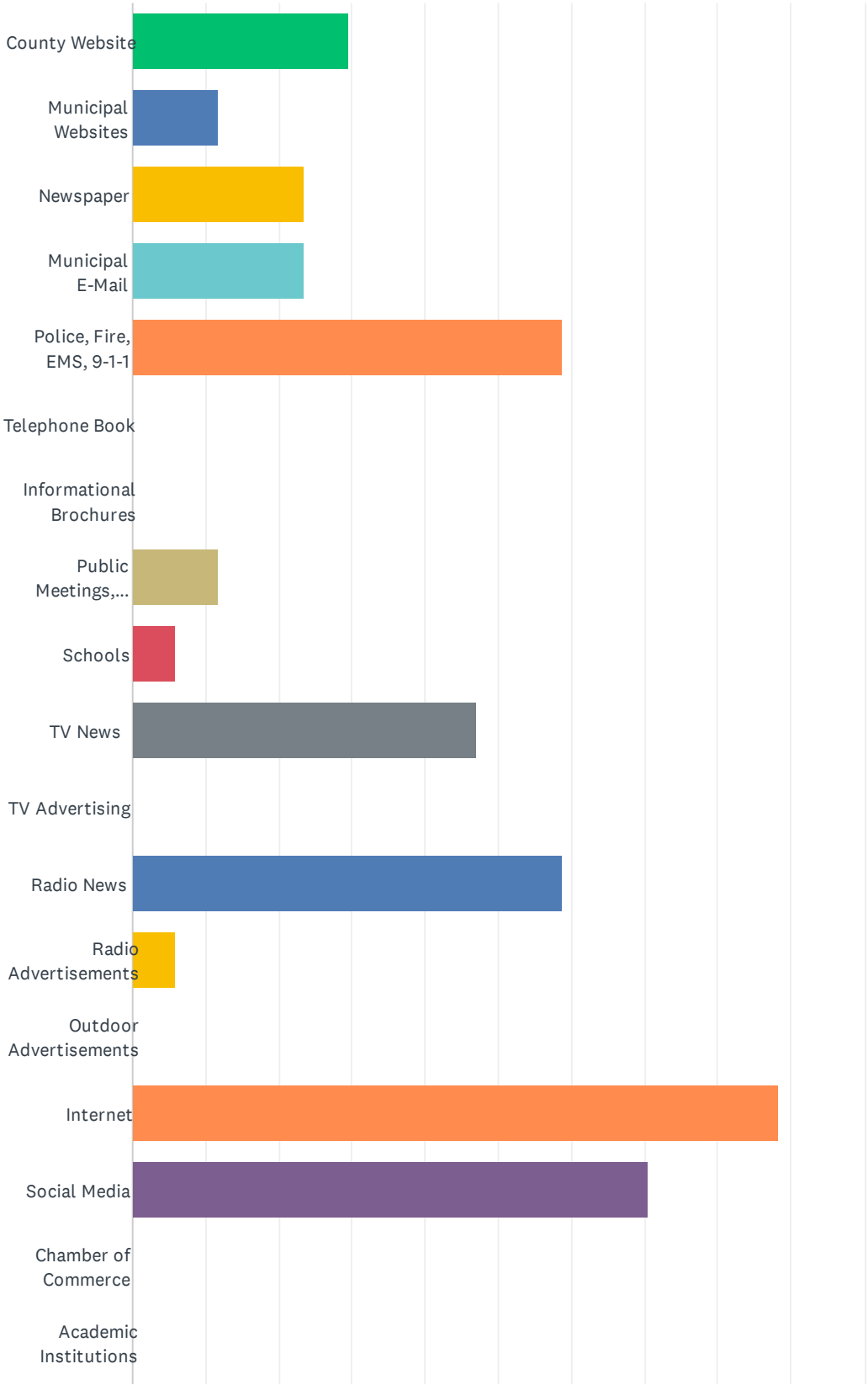


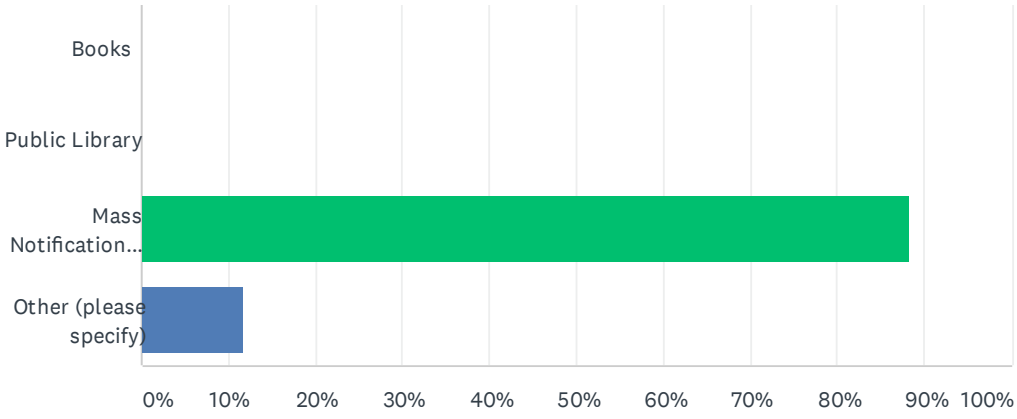
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	3	54	18
Total Respondents: 18			

#		DATE
1	4	9/3/2021 12:51 PM
2	3	8/25/2021 9:15 PM
3	3	8/25/2021 7:01 AM
4	3	8/24/2021 1:44 PM
5	3	8/24/2021 11:59 AM
6	1	8/24/2021 11:51 AM
7	4	8/24/2021 8:38 AM
8	4	8/24/2021 7:07 AM
9	2	8/20/2021 11:07 AM
10	3	8/16/2021 7:35 PM
11	3	8/16/2021 6:03 PM
12	5	8/16/2021 3:37 PM
13	1	8/16/2021 12:08 PM
14	3	8/16/2021 10:53 AM
15	4	8/16/2021 10:05 AM
16	1	7/30/2021 4:19 PM
17	4	6/24/2021 3:08 PM
18	3	2/17/2021 10:17 PM

Q5 How do you receive your information concerning a disaster? Check all that apply.

Answered: 17 Skipped: 1





ANSWER CHOICES	RESPONSES	
County Website	29.41%	5
Municipal Websites	11.76%	2
Newspaper	23.53%	4
Municipal E-Mail	23.53%	4
Police, Fire, EMS, 9-1-1	58.82%	10
Telephone Book	0.00%	0
Informational Brochures	0.00%	0
Public Meetings, Workshops, Public Awareness Events	11.76%	2
Schools	5.88%	1
TV News	47.06%	8
TV Advertising	0.00%	0
Radio News	58.82%	10
Radio Advertisements	5.88%	1
Outdoor Advertisements	0.00%	0
Internet	88.24%	15
Social Media	70.59%	12
Chamber of Commerce	0.00%	0
Academic Institutions	0.00%	0
Books	0.00%	0
Public Library	0.00%	0
Mass Notification System	88.24%	15
Other (please specify)	11.76%	2
Total Respondents: 17		

#	OTHER (PLEASE SPECIFY)	DATE

1	Local information chain	8/25/2021 7:01 AM
2	Online newspapers and sources	8/24/2021 7:07 AM

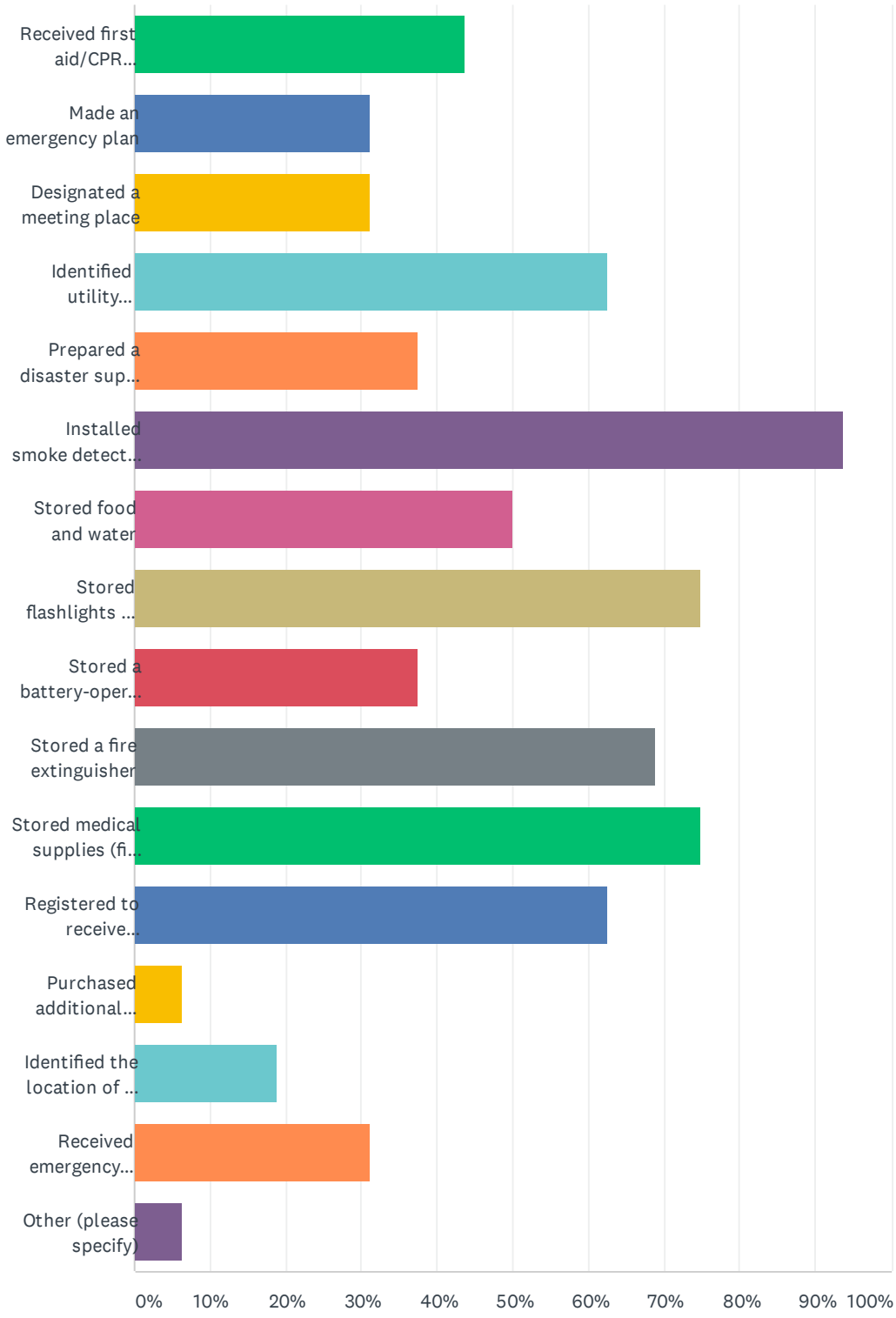
Q6 Of the answers you provided above, what are the top three methods you use?

Answered: 17 Skipped: 1

#	RESPONSES	DATE
1	Internet, mass notification, public meetings	9/3/2021 12:51 PM
2	Police scanner, mass communication (hyper reach), TV news	8/25/2021 9:15 PM
3	Social media, county website, mass notification system	8/25/2021 7:01 AM
4	Weather app for oncoming storms, radio broadcasting system for storms, maybe. Maybe a call from the sheriff?	8/24/2021 1:44 PM
5	Mass Notification, social media & Internet	8/24/2021 11:59 AM
6	Radio, Internet, Police-Fire-EMS 911	8/24/2021 11:51 AM
7	Internet news sites Radio news social media	8/24/2021 8:38 AM
8	Radio, Internet, Mass Notification	8/24/2021 7:07 AM
9	1. Internet/social media alerts from County Govt/Sherriff Dept. 2. Internet news (links to local papers/news media. 3) TV news broadcasts	8/20/2021 11:07 AM
10	The three selected above.	8/16/2021 7:35 PM
11	Social Media TV Newspaper	8/16/2021 6:03 PM
12	Social media TV Radio	8/16/2021 3:37 PM
13	Police, internet , social media	8/16/2021 12:08 PM
14	Social media	8/16/2021 10:53 AM
15	twitter	8/16/2021 10:05 AM
16	Social Media, Internet and Mass Notification	7/30/2021 4:19 PM
17	Fire EMS, Mass notification, news	6/24/2021 3:08 PM

Q7 Which of the following steps has your household taken to prepare for a local hazard event? Check all that apply.

Answered: 16 Skipped: 2

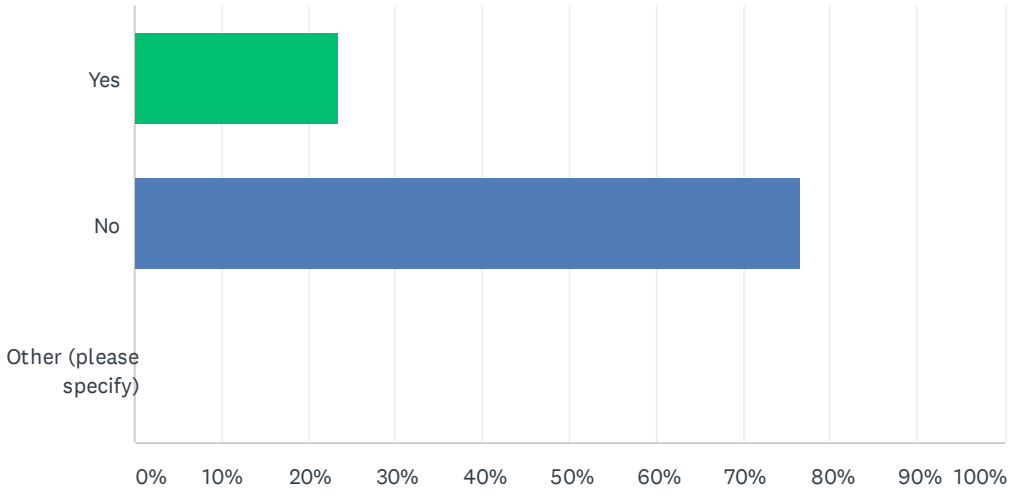


ANSWER CHOICES	RESPONSES	
Received first aid/CPR training	43.75%	7
Made an emergency plan	31.25%	5
Designated a meeting place	31.25%	5
Identified utility shutoffs	62.50%	10
Prepared a disaster supply kit	37.50%	6
Installed smoke detectors on each level of home	93.75%	15
Stored food and water	50.00%	8
Stored flashlights and batteries	75.00%	12
Stored a battery-operated radio	37.50%	6
Stored a fire extinguisher	68.75%	11
Stored medical supplies (first aid kit, medications)	75.00%	12
Registered to receive emergency alerts (i.e. Hyper-Reach, County Alert Center, etc.)	62.50%	10
Purchased additional insurance to cover losses (e.g., flood insurance)	6.25%	1
Identified the location of the nearest emergency shelter	18.75%	3
Received emergency preparedness information from a government source	31.25%	5
Other (please specify)	6.25%	1
Total Respondents: 16		

#	OTHER (PLEASE SPECIFY)	DATE
1	Extra gas, generator/supplies	8/25/2021 9:15 PM

Q8 In the past, has your home been damaged by a hazard event? For example, the basement of your home flooded and damaged the hot water heater.

Answered: 17 Skipped: 1

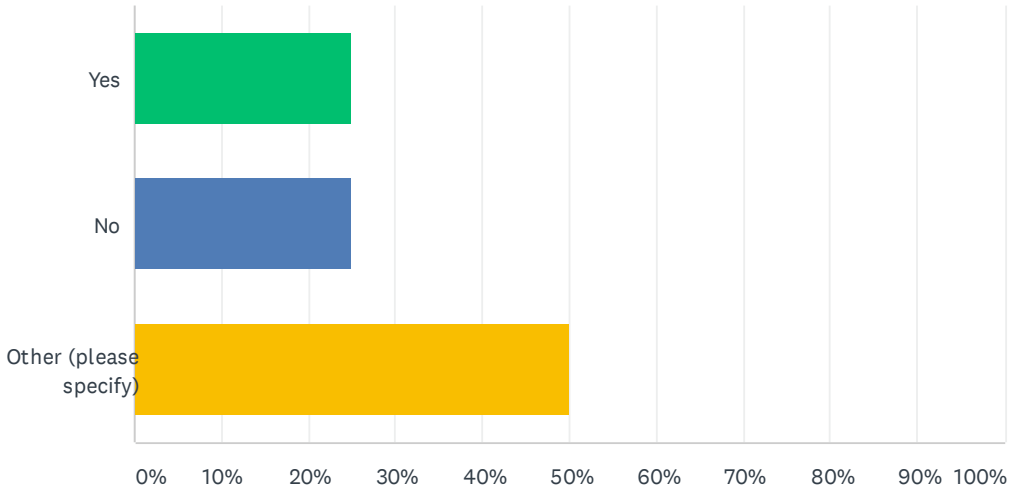


ANSWER CHOICES	RESPONSES	
Yes	23.53%	4
No	76.47%	13
Other (please specify)	0.00%	0
TOTAL		17

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q9 If you answered "yes" to question #8, did you report the damages to your insurance company or local officials?

Answered: 8 Skipped: 10



ANSWER CHOICES	RESPONSES	
Yes	25.00%	2
No	25.00%	2
Other (please specify)	50.00%	4
TOTAL		8

#	OTHER (PLEASE SPECIFY)	DATE
1	N/A	9/3/2021 12:51 PM
2	NA	8/25/2021 7:01 AM
3	N/a	8/24/2021 1:44 PM
4	Not sure was before I owned home	8/24/2021 11:51 AM

Q10 If you answered "no" to question #9, why did you not report the damages?

Answered: 6 Skipped: 12

#	RESPONSES	DATE
1	No damages occurred	9/3/2021 12:51 PM
2	I answered yes	8/25/2021 9:15 PM
3	NA	8/25/2021 7:01 AM
4	N/a	8/24/2021 1:44 PM
5	Damages from water leaking into basement did not damage the structure or utilities or appliances. Just damaged stored goods.	8/20/2021 11:07 AM
6	no damage	8/16/2021 10:05 AM

Q11 Please explain the damage your structure sustained and when it occurred.

Answered: 8 Skipped: 10

#	RESPONSES	DATE
1	None, never	9/3/2021 12:51 PM
2	Roof was damaged along with outside structures	8/25/2021 9:15 PM
3	NA	8/25/2021 7:01 AM
4	N/a	8/24/2021 1:44 PM
5	Flooding in basement and first level of home.	8/24/2021 11:51 AM
6	Some drywall damage.	8/20/2021 11:07 AM
7	Heavy rains in 1992(?) caused 1-2 inches of water in the basement, minimal damage.	8/16/2021 7:35 PM
8	na	8/16/2021 10:05 AM

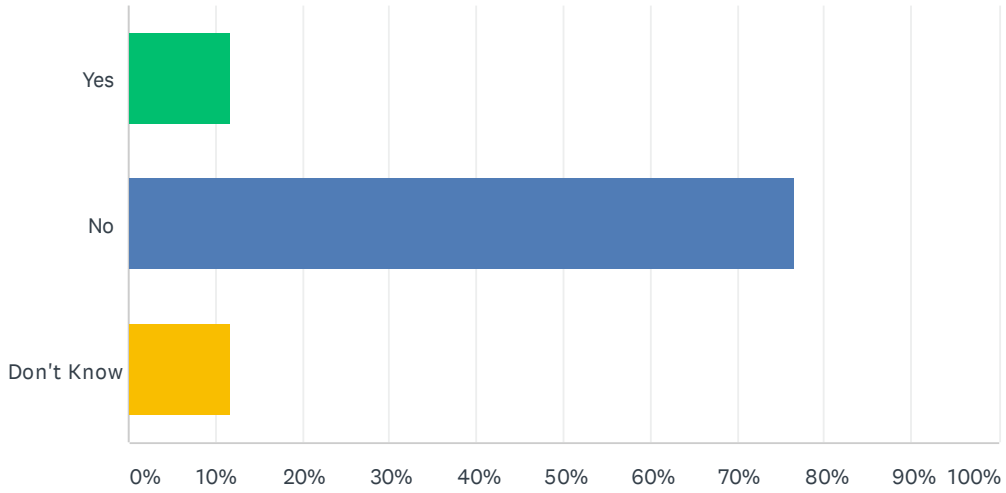
Q12 In the last 10 years, were you evacuated from your home as a result of a disaster (e.g. flooding)? If so, how long were you displaced? Did you go to a shelter?

Answered: 16 Skipped: 2

#	RESPONSES	DATE
1	No	9/3/2021 12:51 PM
2	No	8/25/2021 9:15 PM
3	No	8/25/2021 7:01 AM
4	No	8/24/2021 1:44 PM
5	No	8/24/2021 11:59 AM
6	No	8/24/2021 11:51 AM
7	No	8/24/2021 8:38 AM
8	No	8/24/2021 7:07 AM
9	No	8/20/2021 11:07 AM
10	No	8/16/2021 7:35 PM
11	No	8/16/2021 6:03 PM
12	No	8/16/2021 3:37 PM
13	No	8/16/2021 12:08 PM
14	no	8/16/2021 10:05 AM
15	No	7/30/2021 4:19 PM
16	No	6/24/2021 3:08 PM

Q13 To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

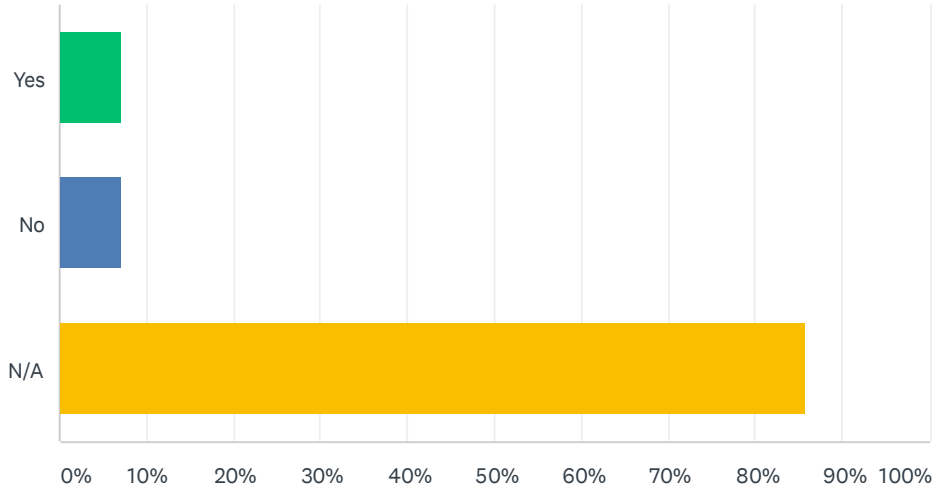
Answered: 17 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	11.76%	2
No	76.47%	13
Don't Know	11.76%	2
TOTAL		17

Q14 If your property is in the floodplain, do you have flood insurance?

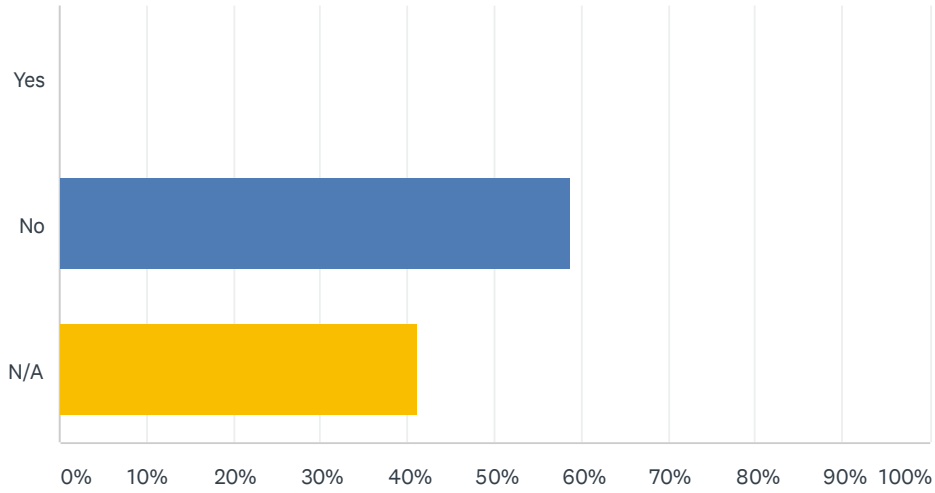
Answered: 14 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	7.14%	1
No	7.14%	1
N/A	85.71%	12
TOTAL		14

Q15 If your property is located outside of the floodplain, do you have flood insurance?

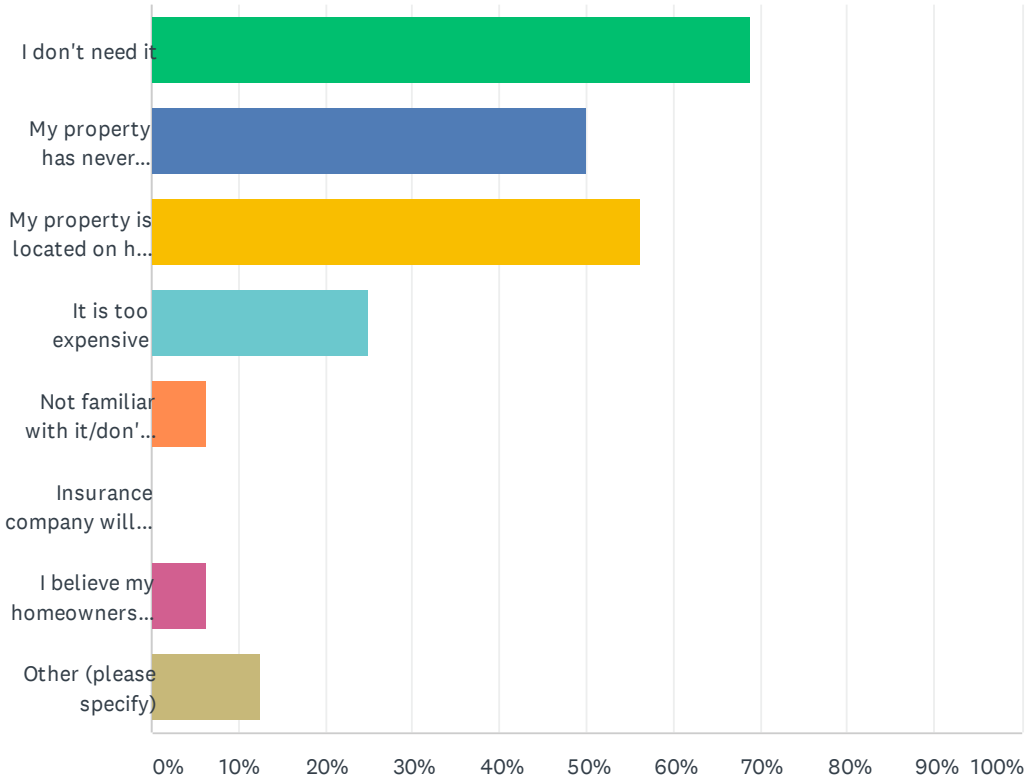
Answered: 17 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	58.82%	10
N/A	41.18%	7
TOTAL		17

Q16 If you do NOT have flood insurance, why not? Check all that apply.

Answered: 16 Skipped: 2

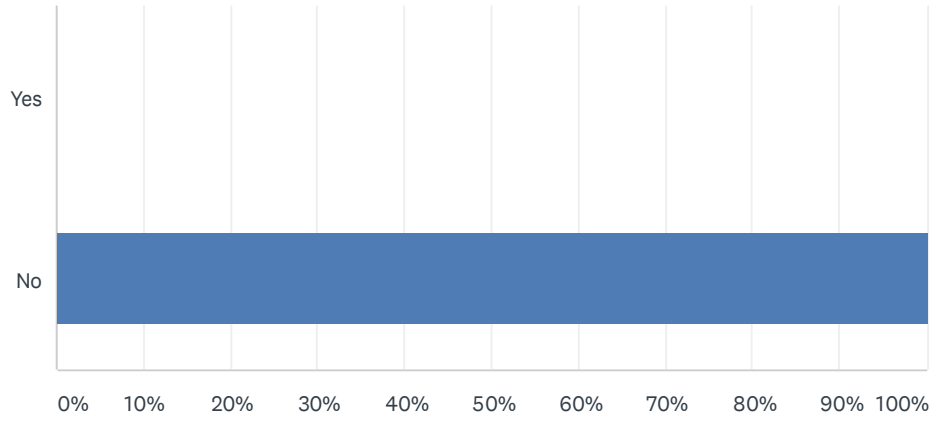


ANSWER CHOICES	RESPONSES	
I don't need it	68.75%	11
My property has never flooded	50.00%	8
My property is located on high ground	56.25%	9
It is too expensive	25.00%	4
Not familiar with it/don't know about it	6.25%	1
Insurance company will not provide	0.00%	0
I believe my homeowners insurance will cover me	6.25%	1
Other (please specify)	12.50%	2
Total Respondents: 16		

#	OTHER (PLEASE SPECIFY)	DATE
1	I have no idea whether or not we need flood insurance because the offical local flood plane map for FEMA hasn't been updated since 1982!!! Our local government needs to do better	8/25/2021 7:01 AM
2	Not at risk from river/creek/stream flooding	8/20/2021 11:07 AM

Q17 Do you or did you have problems getting homeowners/renters insurance due to risks from hazards?

Answered: 17 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	100.00%	17
TOTAL		17

Q18 If you answered "yes" to the previous question, please identify the hazard risk that caused you to have problems obtaining homeowners/renters insurance.

Answered: 5 Skipped: 13

#	RESPONSES	DATE
1	None	9/3/2021 12:51 PM
2	Answered no	8/25/2021 9:15 PM
3	NA	8/25/2021 7:01 AM
4	N/a	8/24/2021 1:44 PM
5	na	8/16/2021 10:05 AM

Q19 Please identify any specific vulnerabilities that you are aware of in Livingston County (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 10 Skipped: 8

#	RESPONSES	DATE
1	Industrial hazards & pollution, flooding, pandemic	9/3/2021 1:04 PM
2	Genesee river specially Main Street Avon. Flats RD Groveland known for flooding	8/25/2021 9:21 PM
3	Lack of ground structural integrity from American Rock Salt mine blasting has caused and is causing subsidence. Outdated water purification systems for our local water sources (Mt. Morris in particular). Livingston County 911 system works improperly all the time, dispatchers and first responders routinely deal with system failures. We routinely deal with power outages all over the region.	8/25/2021 7:24 AM
4	Village of Avon washouts; anything along the river.	8/24/2021 1:54 PM
5	Sewer issues in Cumminsville area.	8/24/2021 11:58 AM
6	Episodic flooding of farmland along Caneseraga and Keshequa Creeks in Sonyea area. Flats road is commonly inundated following heavy snowmelt or rains.	8/20/2021 11:33 AM
7	Roadway flooding, Route 15a Hemlock, Rt. 408, Pioneer road.	8/16/2021 7:55 PM
8	Power goes out often Cable goes out often Creeks flood	8/16/2021 10:55 AM
9	na	8/16/2021 10:08 AM
10	Genesee river flood plane, power at FDs	6/24/2021 3:14 PM

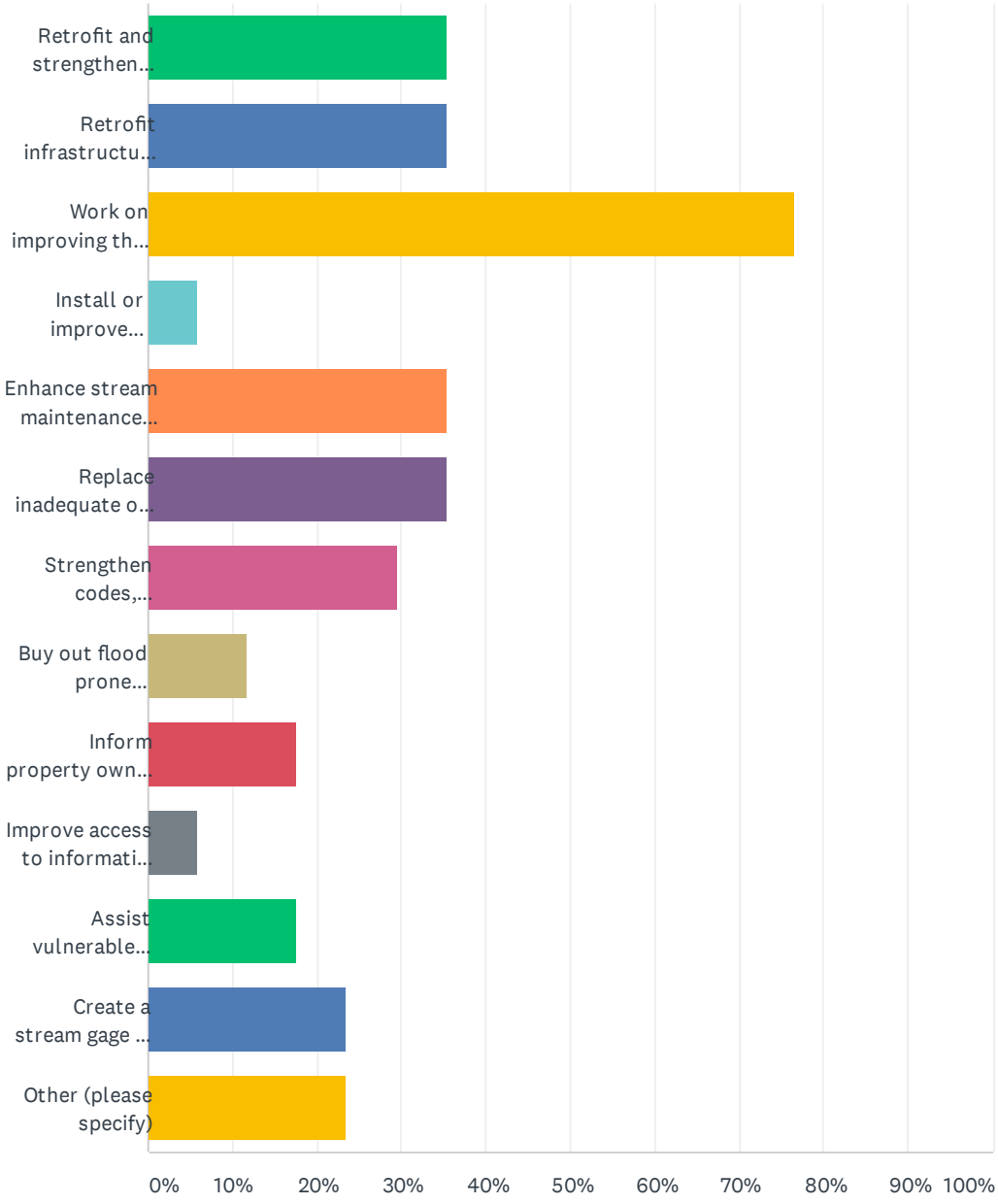
Q20 Please identify any specific vulnerabilities that you are aware of in the municipality you live in (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 9 Skipped: 9

#	RESPONSES	DATE
1	Flooding, lack of internet access	9/3/2021 1:04 PM
2	Power goes out often for unknown reasons North Rd Geneseo	8/25/2021 9:21 PM
3	Lack of fully functional and supported infrastructure. Period.	8/25/2021 7:24 AM
4	Village of Avon washouts	8/24/2021 1:54 PM
5	Canal Street, Cumminsville Road, Hartman Road all in Cumminsville NY area.	8/24/2021 11:58 AM
6	No municipal water supply on Groveland Road near Servis Road intersection in Geneseo. If power is lost, people also lose access to water. There is municiple water on either side of the hill, but there is a significant gap in between.	8/20/2021 11:33 AM
7	See above.	8/16/2021 7:55 PM
8	na	8/16/2021 10:08 AM
9	Rt63 flood plane	6/24/2021 3:14 PM

Q21 What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Livingston County? Select your top three choices.

Answered: 17 Skipped: 1

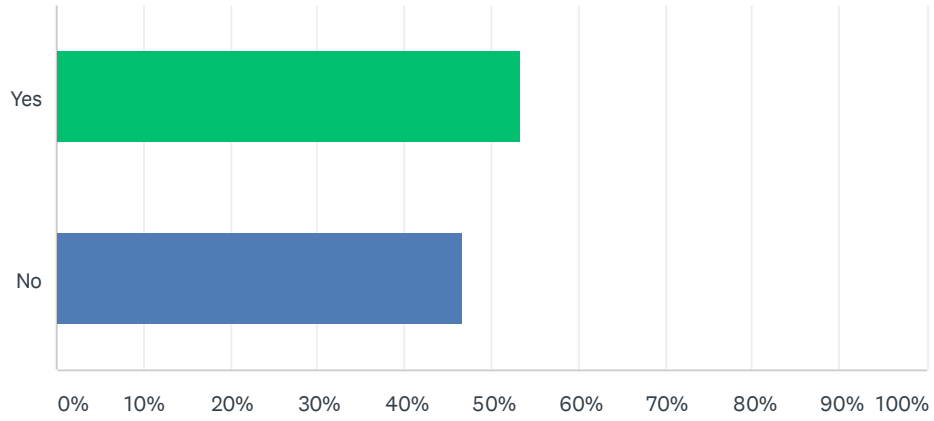


ANSWER CHOICES	RESPONSES	
Retrofit and strengthen essential facilities such as police, schools, and hospitals	35.29%	6
Retrofit infrastructure, such as elevating roadways and improving drainage systems	35.29%	6
Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)	76.47%	13
Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks	5.88%	1
Enhance stream maintenance programs/projects	35.29%	6
Replace inadequate or vulnerable bridges and causeways	35.29%	6
Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas	29.41%	5
Buy out flood prone properties and maintain as open space	11.76%	2
Inform property owners of ways they can mitigate damage to their properties	17.65%	3
Improve access to information about hazard risks and high-hazard areas	5.88%	1
Assist vulnerable property owners with securing funding to mitigate their properties	17.65%	3
Create a stream gage and weather monitoring program to provide more accurate data and warnings	23.53%	4
Other (please specify)	23.53%	4
Total Respondents: 17		

#	OTHER (PLEASE SPECIFY)	DATE
1	We need to include everything in our plan. The idea that we could pick a top 3 and ignore the rest is asinine	8/25/2021 7:24 AM
2	Of utmost importance: Inform farmers about cover crops and using no-till methods to improve soil resilience.	8/24/2021 1:54 PM
3	Enhance cyber security and backup systems	8/24/2021 8:41 AM
4	Expand municipal water supply to areas with degraded groundwater	8/20/2021 11:33 AM

Q22 Do you feel that your municipality is doing enough towards flood prevention and mitigation or prevention/mitigation from other hazards?

Answered: 15 Skipped: 3

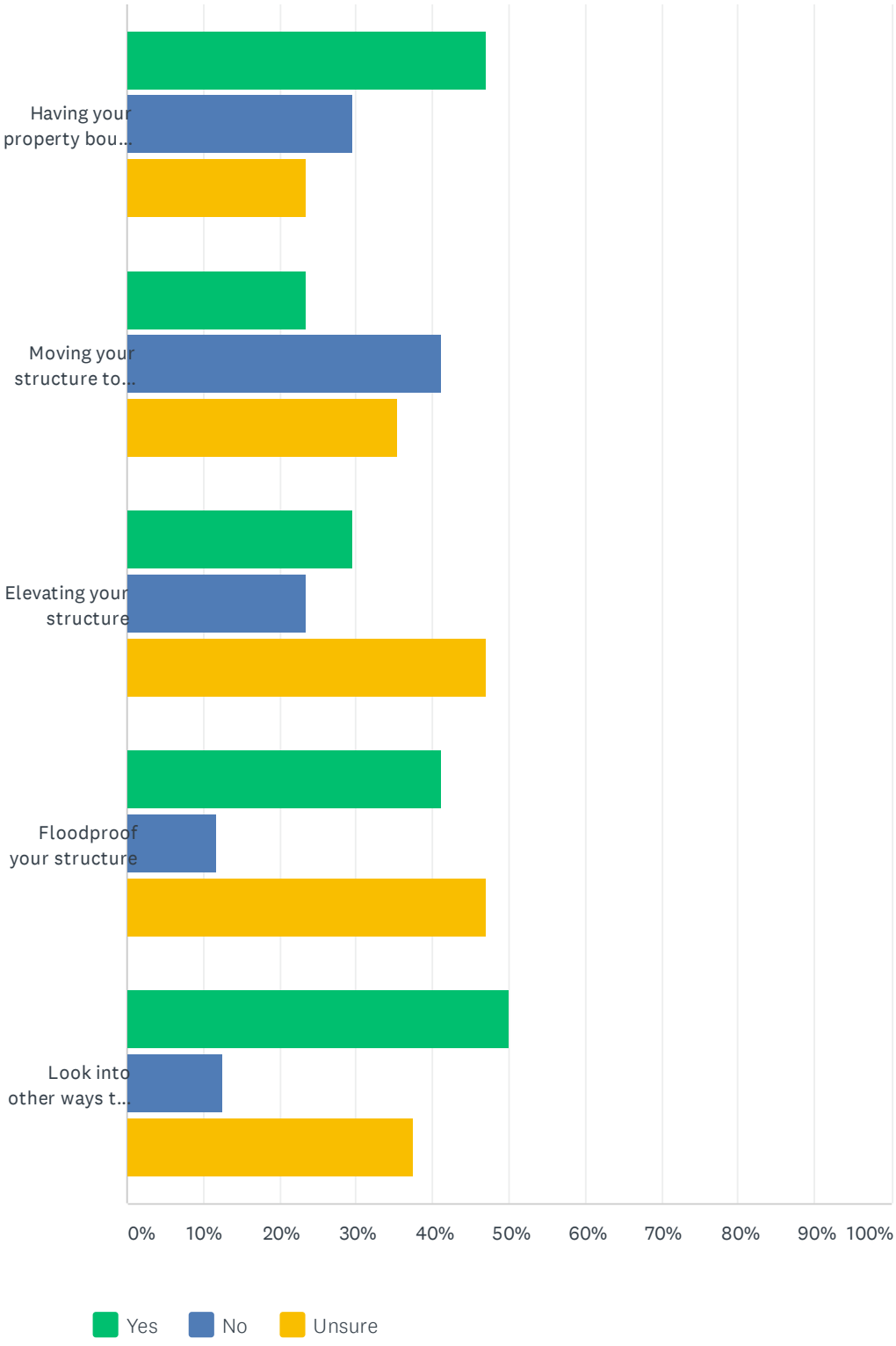


ANSWER CHOICES	RESPONSES	
Yes	53.33%	8
No	46.67%	7
TOTAL		15

#	PLEASE PROVIDE DETAILS FOR YOUR ANSWER.	DATE
1	Dangers due to climate change and infectious disease are not appreciated	9/3/2021 1:04 PM
2	I don't have the energy to get into all the ways our community is at risk for flooding, I'll just say this. Our offical local FEMA Flood Plane Map hasn't been updated since 1982. We can and must do better.	8/25/2021 7:24 AM
3	Not sure. The village of Avon has some serious water movements when the rains are severe.	8/24/2021 1:54 PM
4	Stream bank plantings, riparian areas, and wetland holding areas should be protected within communities to ensure we have the green infrastructure to handle increased water events as a result of climate change.	8/24/2021 8:41 AM
5	We have a massive concrete gravity dam in Mount Morris that has successfully reduced the risk of river flooding for decades. That's a huge investment paid for by federal (not local) tax dollars. Flooding from overwhelmed stormwater systems has been more problematic as climate change brings in more severe short duration precipitation events.	8/20/2021 11:33 AM
6	Electric grid needs improvement, though outages are less frequent than in the past in my local area.	8/16/2021 7:55 PM

Q23 If your property were located in a designated high-hazard area (for example, NFIP flood zone) or had received repeated damages from a disaster event, would you consider any of the following options?If your response is dependent on certain factors, such as the funding source, please indicate those factors in the following question.

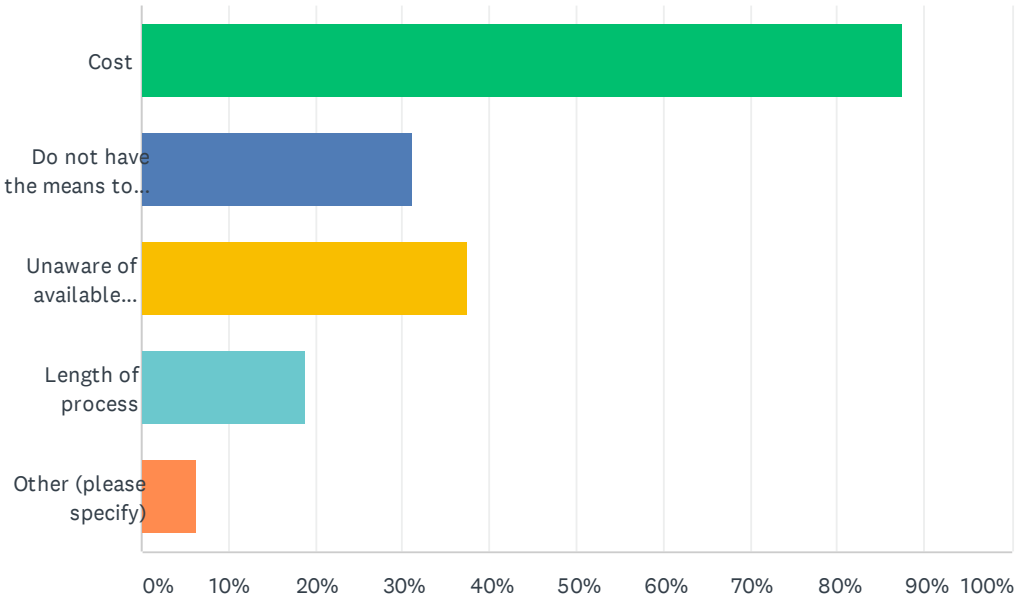
Answered: 17 Skipped: 1


Having your property bou...
Moving your structure to...
Elevating your structure
Floodproof your structure
Look into other ways t...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Yes
No
Unsure

	YES	NO	UNSURE	TOTAL
Having your property bought out	47.06% 8	29.41% 5	23.53% 4	17
Moving your structure to another property or a less risky part of your property	23.53% 4	41.18% 7	35.29% 6	17
Elevating your structure	29.41% 5	23.53% 4	47.06% 8	17
Floodproof your structure	41.18% 7	11.76% 2	47.06% 8	17
Look into other ways to mitigate	50.00% 8	12.50% 2	37.50% 6	16

Q24 Please select the factor(s) that would influence your decision on the mitigation options listed above (buyout/acquisition, relocation, or elevation).

Answered: 16 Skipped: 2



ANSWER CHOICES	RESPONSES	
Cost	87.50%	14
Do not have the means to move/relocate	31.25%	5
Unaware of available programs	37.50%	6
Length of process	18.75%	3
Other (please specify)	6.25%	1
Total Respondents: 16		

#	OTHER (PLEASE SPECIFY)	DATE
1	Location	8/25/2021 7:24 AM

Q25 If you have already had to spend money to mitigate your property, how much have you spent and on what measures?

Answered: 5 Skipped: 13

#	RESPONSES	DATE
1	None	9/3/2021 1:04 PM
2	NA	8/25/2021 7:24 AM
3	Installed geothermal and solar	8/24/2021 7:12 AM
4	NA	8/20/2021 11:33 AM
5	na	8/16/2021 10:08 AM

Q26 Which (if any) incentives would motivate you to spend money on protecting your home from the possible impacts of a disaster? Such as lower interest rates, grant funding, waivers, etc.

Answered: 10 Skipped: 8

#	RESPONSES	DATE
1	Risk assessment, cost, available financial and informational aid	9/3/2021 1:04 PM
2	Grants, lower interest rates, insurance reduction	8/25/2021 9:21 PM
3	All of the above	8/25/2021 7:24 AM
4	Incentives to have backup batteries or generators to power necessities.	8/24/2021 1:54 PM
5	Grant funding	8/24/2021 11:58 AM
6	Grant funding, discounts	8/24/2021 7:12 AM
7	NA	8/20/2021 11:33 AM
8	Lower insurance premiums, cost sharing programs.	8/16/2021 7:55 PM
9	Grant funding	8/16/2021 12:16 PM
10	na	8/16/2021 10:08 AM

Q27 Please list any additional types of projects you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption in Livingston County.

Answered: 9 Skipped: 9

#	RESPONSES	DATE
1	It's hard to identify mitigation projects that do not have unintended consequences. I do not believe that we appreciate the extent to which our lifestyles need to change to avoid catastrophic consequences nor have we readjusted our priorities to emphasize the need for: 1. Water, 2. Food, 3. Shelter, 4. Safety, and 5. Medical Care in that order. We do not realize that electricity, internet access, fuel will not be useful if we starve.	9/3/2021 1:04 PM
2	Mitigate the rampant sexism, racism, and xenophobia within our local government and officials.	8/25/2021 7:24 AM
3	Micro grids for electricity. Require local solar to support local community.	8/24/2021 1:54 PM
4	Community solar and wind power	8/24/2021 7:12 AM
5	Expand access to municipal water supply to areas with degraded groundwater for wells	8/20/2021 11:33 AM
6	Improved electric grid resilience, road culvert resizing and maintenance.	8/16/2021 7:55 PM
7	Betteri ternet	8/16/2021 3:41 PM
8	stop all mandates associated with covid	8/16/2021 10:08 AM
9	make sure first response has tools to mitigate responses	6/24/2021 3:14 PM

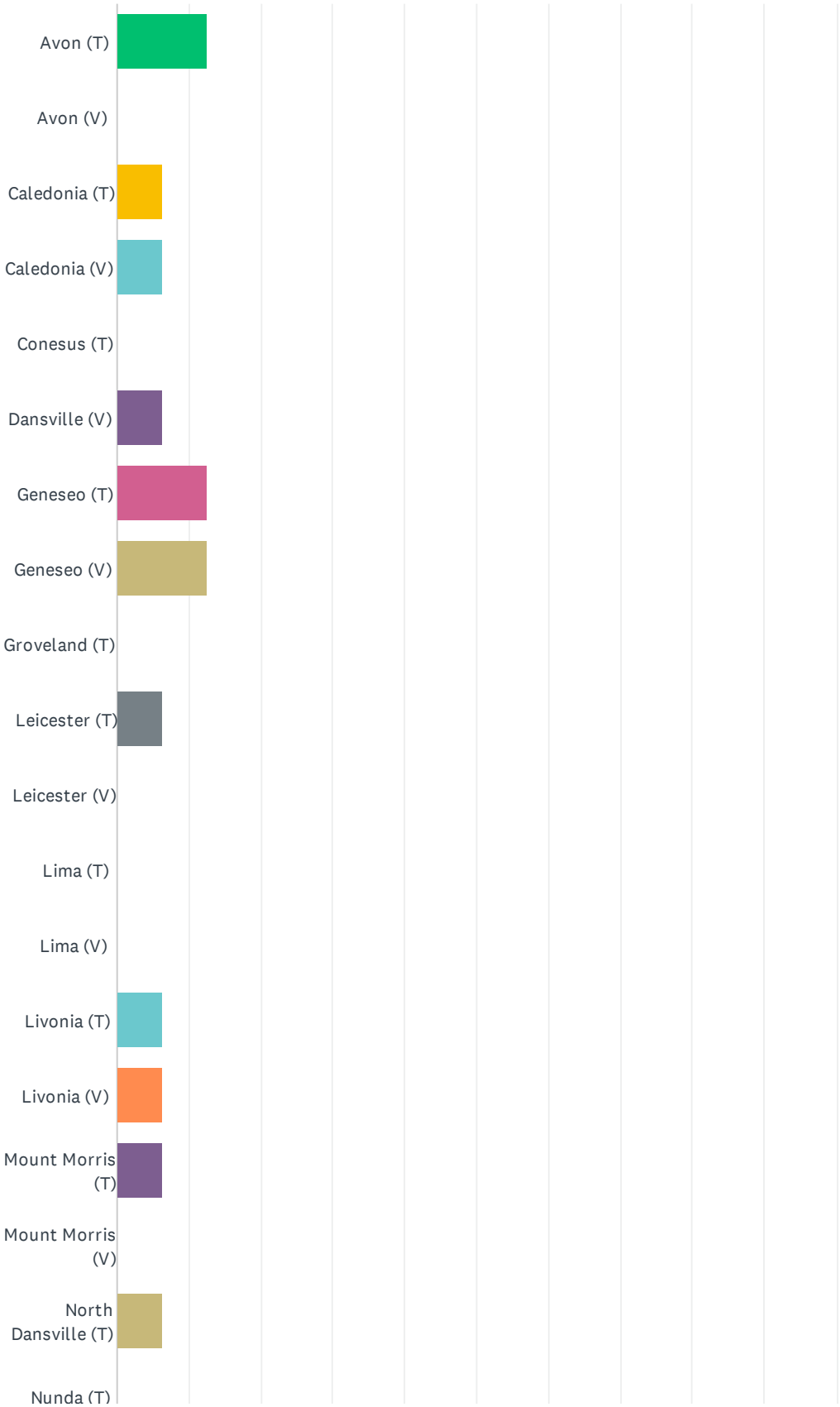
Q28 Do you have any other comments, questions, or concerns regarding hazard mitigation in Livingston County?

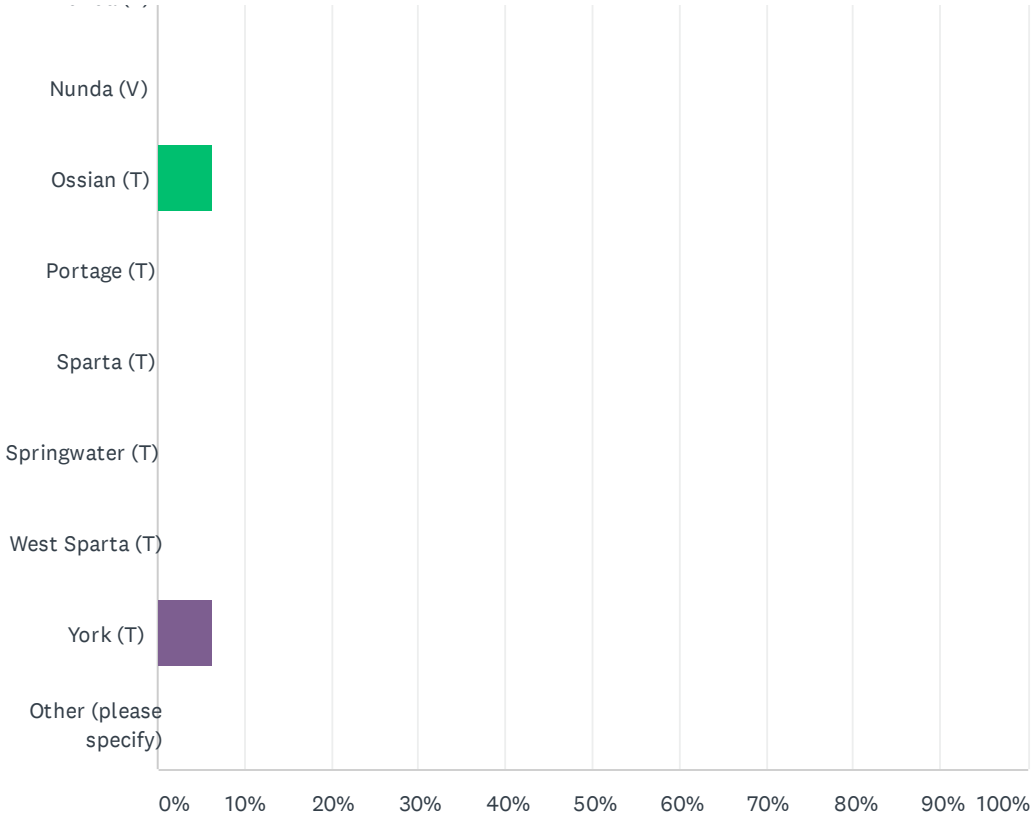
Answered: 6 Skipped: 12

#	RESPONSES	DATE
1	No	9/3/2021 1:04 PM
2	I would hope that we are taking a hard look at local large businesses and their practices, and asses whether or not everything is being done to the correct standards.	8/25/2021 7:24 AM
3	NA	8/20/2021 11:33 AM
4	Where do emergency shelters exist? Are more needed?	8/16/2021 7:55 PM
5	No	8/16/2021 3:41 PM
6	Yes, manure storage concrete above ground pool and grain drying facility within 40 ft of my property	8/16/2021 12:16 PM

Q29 Please indicate the municipality in which you live:

Answered: 16 Skipped: 2



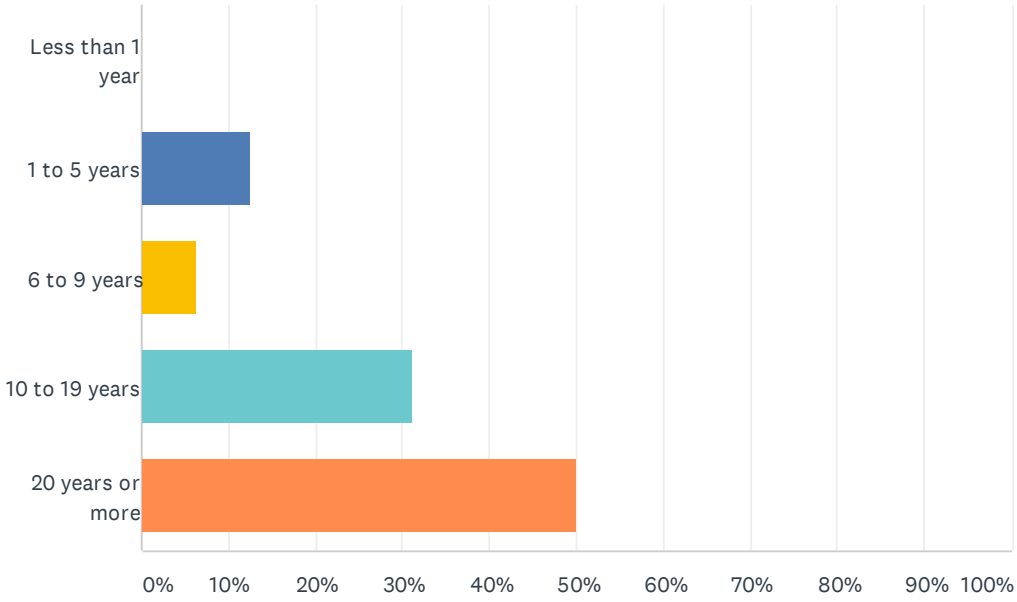

Nunda (V)
Ossian (T)
Portage (T)
Sparta (T)
Springwater (T)
West Sparta (T)
York (T)
Other (please specify)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
Avon (T)	12.50%	2
Avon (V)	0.00%	0
Caledonia (T)	6.25%	1
Caledonia (V)	6.25%	1
Conesus (T)	0.00%	0
Dansville (V)	6.25%	1
Geneseo (T)	12.50%	2
Geneseo (V)	12.50%	2
Groveland (T)	0.00%	0
Leicester (T)	6.25%	1
Leicester (V)	0.00%	0
Lima (T)	0.00%	0
Lima (V)	0.00%	0
Livonia (T)	6.25%	1
Livonia (V)	6.25%	1
Mount Morris (T)	6.25%	1
Mount Morris (V)	0.00%	0
North Dansville (T)	6.25%	1
Nunda (T)	0.00%	0
Nunda (V)	0.00%	0
Ossian (T)	6.25%	1
Portage (T)	0.00%	0
Sparta (T)	0.00%	0
Springwater (T)	0.00%	0
West Sparta (T)	0.00%	0
York (T)	6.25%	1
Other (please specify)	0.00%	0
TOTAL		16

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q30 How long have you lived here?

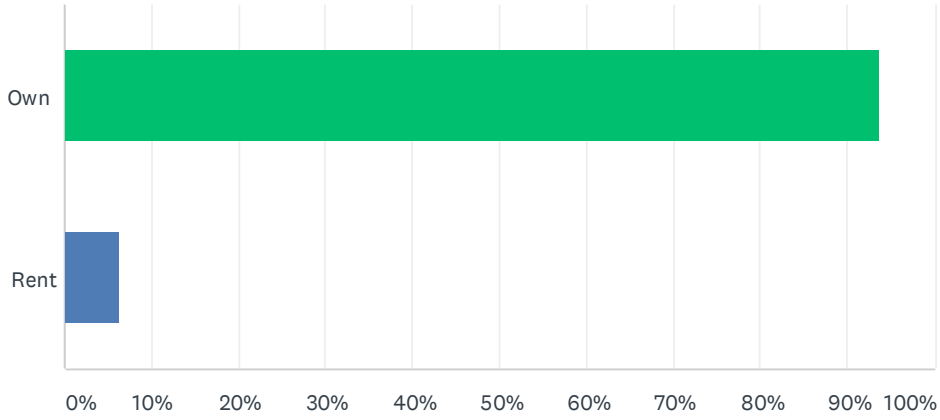
Answered: 16 Skipped: 2



ANSWER CHOICES	RESPONSES	
Less than 1 year	0.00%	0
1 to 5 years	12.50%	2
6 to 9 years	6.25%	1
10 to 19 years	31.25%	5
20 years or more	50.00%	8
TOTAL		16

Q31 Do you own or rent your place of residence?

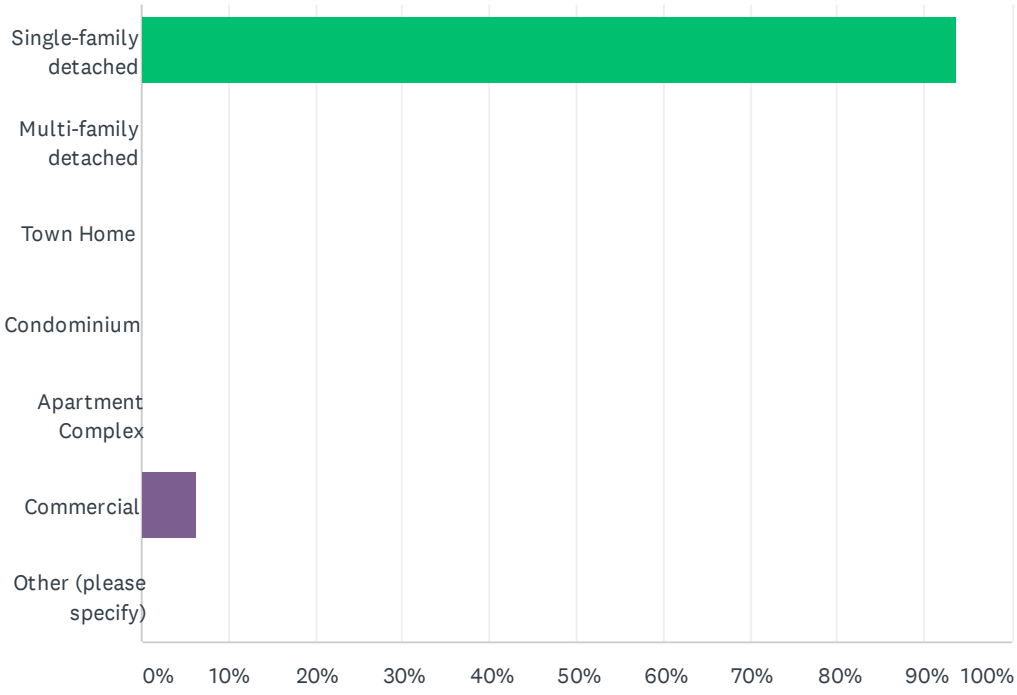
Answered: 16 Skipped: 2



ANSWER CHOICES	RESPONSES	
Own	93.75%	15
Rent	6.25%	1
TOTAL		16

Q32 What type of residence do you live in?

Answered: 16 Skipped: 2

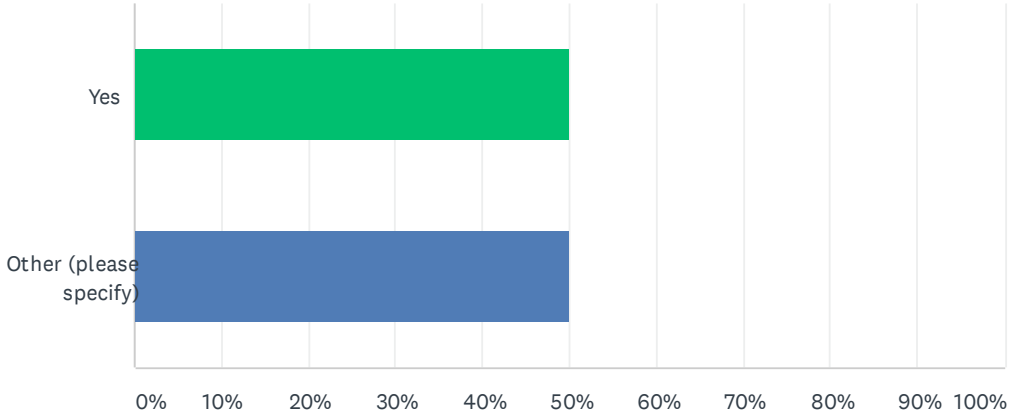


ANSWER CHOICES	RESPONSES	
Single-family detached	93.75%	15
Multi-family detached	0.00%	0
Town Home	0.00%	0
Condominium	0.00%	0
Apartment Complex	0.00%	0
Commercial	6.25%	1
Other (please specify)	0.00%	0
TOTAL		16

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q33 If you received real estate disclosure information when you moved into your current residence, did your real estate agent or landlord explain the implications of living in a hazard risk zone and did you understand the information they presented?

Answered: 10 Skipped: 8

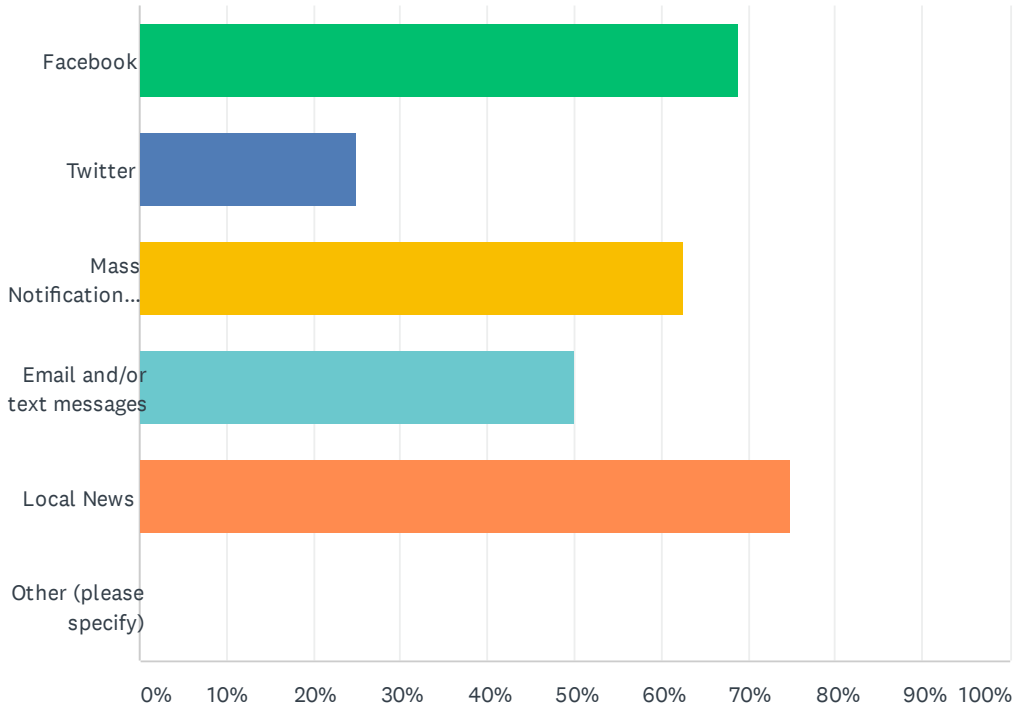


ANSWER CHOICES	RESPONSES	
Yes	50.00%	5
Other (please specify)	50.00%	5
TOTAL		10

#	OTHER (PLEASE SPECIFY)	DATE
1	Took over home from family member	9/2/2021 2:03 PM
2	The offical FEMA information for this location hasn't been updated since 1982	8/25/2021 7:25 AM
3	N/a	8/24/2021 1:55 PM
4	N/A	8/16/2021 7:57 PM
5	Bought from family member	8/16/2021 6:07 PM

Q34 Which of the following digital media outlets do you use and/or subscribe to receive general news and information about Livingston County?

Answered: 16 Skipped: 2

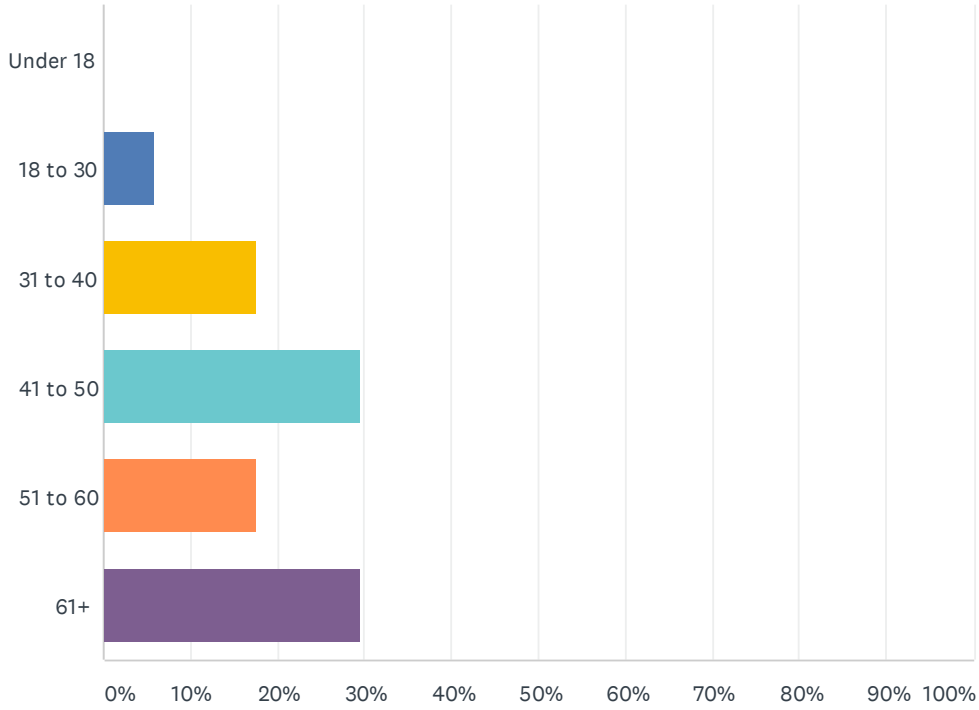


ANSWER CHOICES	RESPONSES	
Facebook	68.75%	11
Twitter	25.00%	4
Mass Notification System	62.50%	10
Email and/or text messages	50.00%	8
Local News	75.00%	12
Other (please specify)	0.00%	0
Total Respondents: 16		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q35 Please indicate your age range:

Answered: 17 Skipped: 1



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 to 30	5.88%	1
31 to 40	17.65%	3
41 to 50	29.41%	5
51 to 60	17.65%	3
61+	29.41%	5
TOTAL		17

Livingston County, along with its towns, and villages, are in the process of updating the Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which participating jurisdictions can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Livingston County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few minutes to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Livingston County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

For more information about hazard mitigation or the planning process, please visit https://www.livingstoncountynyhmp.com/. If you have any questions, please contact Heather Ferrero at the Livingston County Planning Department at HFerrero@co.livingston.ny.us or (585) 243-7550

Thank you for supporting the update of this planning process!

General Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan. Please note that individual answers will not be published in the plan.

1. Name of your department/office/institution

2. Name and Title of Respondent

3. What is your position/title/role with your department/office/institution?

4. Please provide your contact information.

Email Address

Phone Number

What is your/your organization's role in your community?

5. What category does your facility operation/service fall under?

Other (please specify)

6. Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

7. Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or “LIVINGSTON COUNTY (entire area)” if your service area is county-wide:

- [ ] Livingston County (entire area)
- [ ] Avon (T)
- [ ] Avon (V)
- [ ] Caledonia (T)
- [ ] Caledonia (V)
- [ ] Conesus (T)
- [ ] Dansville (V)
- [ ] Geneseo (T)
- [ ] Geneseo (V)
- [ ] Groveland (T)
- [ ] Leicester (T)
- [ ] Leicester (V)
- [ ] Lima (T)
- [ ] Lima (V)
- [ ] Livonia (T)
- [ ] Livonia (V)
- [ ] Mount Morris (T)
- [ ] Mount Morris (V)
- [ ] North Dansville (T)
- [ ] Nunda (T)
- [ ] Nunda (V)
- [ ] Ossian (T)
- [ ] Portage (T)
- [ ] Sparta (T)
- [ ] Springwater (T)
- [ ] West Sparta (T)
- [ ] York (T)
- [ ] Other (please specify)

8. Does your organization maintain or manage any of the following within your designated service area? If not, answer “No” at the bottom, otherwise check all that apply.

- [ ] Buildings
- [ ] Roads
- [ ] Bridges
- [ ] Other (please specify)
- [ ] Water/Sewer
- [ ] Stormwater
- [ ] No

Hazard/Damage Identification

9. Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a hazard (ex. damage/closures/etc.)?

- ○ Yes
- ○ No
- ○ Don't Know

10. If you answered “Yes” to the above question, in your own words describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, provide that as well (number of damaged structures, monetary loss, etc.) and explain.

11. What areas (in which you work) do you believe to be the most vulnerable to hazards? What are these hazards? (please explain).

12. Is/ are the facility(ies) that you work in or are responsible for adequately prepared to withstand disasters? If your work involves working at multiple facilities, please provide a brief description in the “other” category, describing which facilities are most vulnerable.

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

13. Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to hazards, and are able to provide long-term support for your community's needs? If not, please indicate why not.

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

14. Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)? If not, please indicate why not.

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

15. Are you aware of the number and location of vulnerable populations in your community/operating area?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

Community Preparedness

16. Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to disasters?

- Yes
- No
- Don't Know
- Other (please specify)

17. Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other (please specify)

18. To your knowledge, are development and land use decisions made with consideration to exposure and or increased of hazard risks?

- Yes
- No
- Don't Know
- Other (please specify)

19. Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know
- Other (please specify)

20. Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other (please specify)

21. Does your organization have/ or is part of an emergency response plan?

- Yes
- No
- Don't Know
- Other (please specify)

22. If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

- Yes
- No, we do not need one
- No, but we will need guidance on how to develop
- Don't Know
- Other (please specify)

23. If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

24. Is your organization covered by any of the following plans? Check all that apply

- ☐ Continuity of Operations Plan
- ☐ Business Continuity Plan
- ☐ Continuity of Government Plan
- ☐ None
- ☐ Emergency Operations Plan
- ☐ Don't Know
- ☐ Other (please specify)

25. Do you believe your organization is equipped and resilient enough to handle a disaster?

- ○ Yes
- ○ No
- ○ Maybe
- ○ Don't Know
- ○ Other (please specify)

Project Identification

26. Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

27. Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID-19

COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following questions.

28. How has your organization been involved in response to this pandemic? (please explain)

29. How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

30. What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

31. Please share any challenges and obstacles you are facing (you can select more than one)

- [ ] Availability of cleaning supplies
- [ ] Availability of personal protective equipment
- [ ] Clear messaging
- [ ] Finding medical professionals
- [ ] Waste disposal
- [ ] Other (please specify)
- [ ] Contingency/back-up plan for staffing
- [ ] Tracking information
- [ ] Access to community officials
- [ ] Receiving accurate information regarding current situation/resources available

32. Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ Other (please specify)

Final Thoughts

33. Do you have any questions or comments for Livingston County?

Q1 Name of your department/office/institution

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	Livingston County Probation Department	8/26/2021 2:42 PM
2	Board of Supervisors	8/26/2021 11:06 AM
3	Social Services	8/23/2021 3:55 PM
4	Livingston County	8/23/2021 11:01 AM
5	Highway	8/23/2021 10:45 AM
6	Treasurer	8/20/2021 2:49 PM
7	Public Defender	8/20/2021 2:07 PM
8	Livingston County Center for Nursing and Rehabilitation	8/20/2021 12:45 PM
9	ITS	8/20/2021 10:44 AM
10	Grants and Public Information	8/20/2021 10:42 AM

Q2 Name and Title of Respondent

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	Lynne Mignemi, Probation Director	8/26/2021 2:42 PM
2	Michele Rees, Clerk of the Board	8/26/2021 11:06 AM
3	Diane Deane, Commissioner	8/23/2021 3:55 PM
4	William Mann, Deputy County Administrator	8/23/2021 11:01 AM
5	Jason Wolfanger Livingston County Highway Superintendent	8/23/2021 10:45 AM
6	Amy Davies - Treasurer	8/20/2021 2:49 PM
7	Lindsay Quintilone	8/20/2021 2:07 PM
8	Stephen Woodruff, Director of Long Term Care	8/20/2021 12:45 PM
9	ELAINE VANSON DEP DIR ITS	8/20/2021 10:44 AM
10	Julie Barry, Grants and Public Information Coordinator	8/20/2021 10:42 AM

Q3 What is your position/title/role with your department/office/institution?

Answered: 10 Skipped: 0

#	RESPONSES	DATE
1	Probation Director (Administrator)	8/26/2021 2:42 PM
2	Manage all actions as directed by Legislature (Publications, contracts, resolutions)	8/26/2021 11:06 AM
3	Commissioner of Social Services	8/23/2021 3:55 PM
4	Deputy County Administrator	8/23/2021 11:01 AM
5	Head of the Highway Dept. and oversee all operations in regards to roads and bridges in the county.	8/23/2021 10:45 AM
6	County Treasurer	8/20/2021 2:49 PM
7	Department Head	8/20/2021 2:07 PM
8	Director of Long Term Care / Administrator / Livingston County Center for Nursing and Rehabilitation	8/20/2021 12:45 PM
9	DEP DIR	8/20/2021 10:44 AM
10	Grants and Public Information Coordinator	8/20/2021 10:42 AM

Q4 Please provide your contact information.

Answered: 10 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	10
Phone Number	100.00%	10

#	NAME	DATE
	There are no responses.	

#	COMPANY	DATE
	There are no responses.	

#	ADDRESS	DATE
	There are no responses.	

#	ADDRESS 2	DATE
	There are no responses.	

#	CITY/TOWN	DATE
	There are no responses.	

#	STATE/PROVINCE	DATE
	There are no responses.	

#	ZIP/POSTAL CODE	DATE
	There are no responses.	

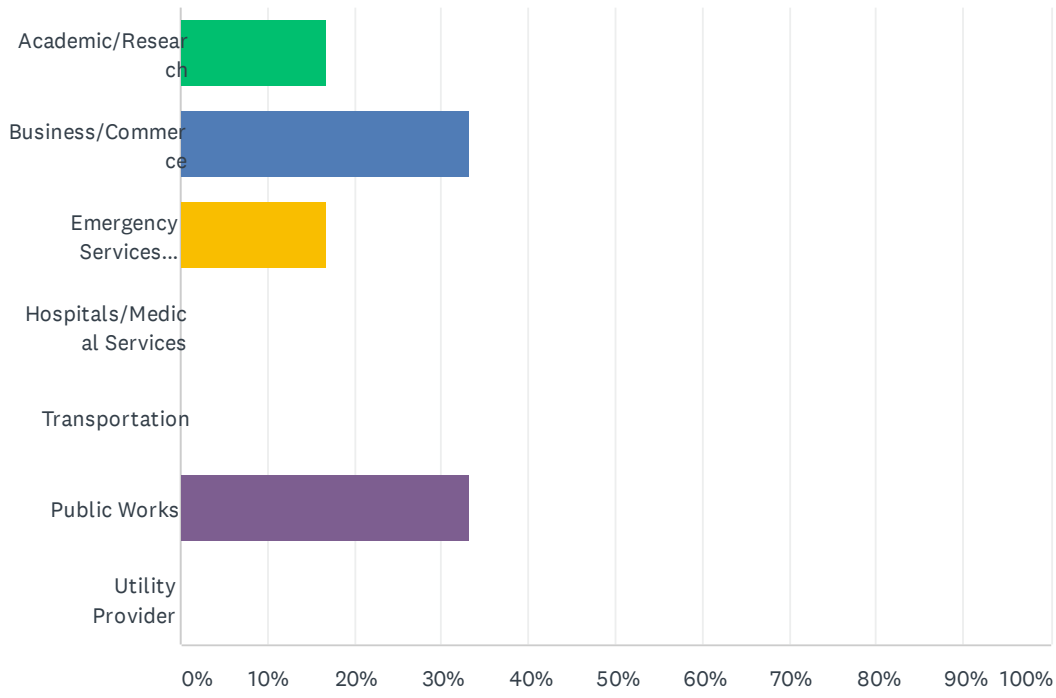
#	COUNTRY	DATE
	There are no responses.	

#	EMAIL ADDRESS	DATE
1	lmignemi@co.livingston.ny.us	8/26/2021 2:42 PM
2	mrees@co.livingston.ny.us	8/26/2021 11:06 AM
3	ddeane@co.livingston.ny.us	8/23/2021 3:55 PM
4	wmann@co.livingston.ny.us	8/23/2021 11:01 AM
5	jwolfanger@co.livingston.ny.us	8/23/2021 10:45 AM

6	adavies@co.livington.ny.us	8/20/2021 2:49 PM
7	lquintilone@co.livingston.ny.us	8/20/2021 2:07 PM
8	swoodruff@co.livingston.ny.us	8/20/2021 12:45 PM
9	evanson@co.livingston.ny.us	8/20/2021 10:44 AM
10	jbarry@co.livingston.ny.us	8/20/2021 10:42 AM
#	**PHONE NUMBER**	**DATE**
1	5852437190	8/26/2021 2:42 PM
2	5852437030	8/26/2021 11:06 AM
3	585-243-7300	8/23/2021 3:55 PM
4	5852437505	8/23/2021 11:01 AM
5	585-243-6701	8/23/2021 10:45 AM
6	15852437050	8/20/2021 2:49 PM
7	585-243-6910	8/20/2021 2:07 PM
8	585-243-7217	8/20/2021 12:45 PM
9	15852437146	8/20/2021 10:44 AM
10	585-243-7051	8/20/2021 10:42 AM

Q5 What category does your facility operation/service fall under?

Answered: 6 Skipped: 4



ANSWER CHOICES	RESPONSES	
Academic/Research	16.67%	1
Business/Commerce	33.33%	2
Emergency Services (police, fire, EMS)	16.67%	1
Hospitals/Medical Services	0.00%	0
Transportation	0.00%	0
Public Works	33.33%	2
Utility Provider	0.00%	0
TOTAL		6

#	OTHER (PLEASE SPECIFY)	DATE
1	Probation Department Law Enforcement	8/26/2021 2:50 PM
2	Possibly as research	8/26/2021 11:09 AM
3	Government benefits	8/23/2021 3:57 PM
4	County Government	8/23/2021 11:03 AM
5	Legal Services	8/20/2021 2:09 PM

Q6 Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

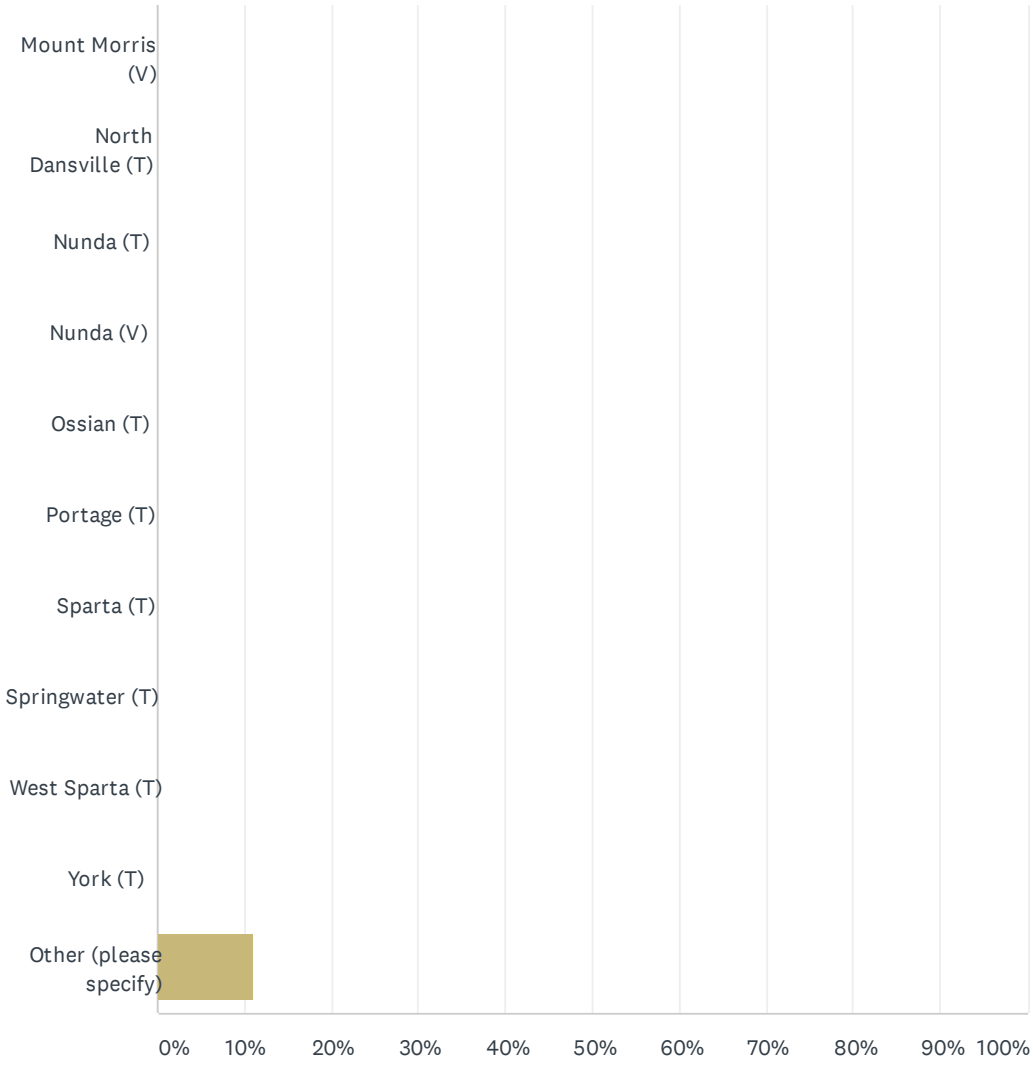
Answered: 9 Skipped: 1

#	RESPONSES	DATE
1	The probation department provides investigation, supervision, monitoring, to individuals placed under court ordered supervision with the goal of behavioral change and rehabilitation. The probation works with the victims of crime and provides these services to keep the community safe.	8/26/2021 2:50 PM
2	Possibly to offer assistance for emergency services & transportation,	8/26/2021 11:09 AM
3	Financial Assistance to eligible low income citizens, child protective services, family services\foster care, adult protective services	8/23/2021 3:57 PM
4	County Government Operations	8/23/2021 11:03 AM
5	We maintain and reconstruct all county owned roads and bridges within the county	8/23/2021 10:47 AM
6	Tax collection and finance	8/20/2021 2:55 PM
7	Provide legal services to indigent individuals in criminal and family courts	8/20/2021 2:09 PM
8	ITS services to county	8/20/2021 10:45 AM
9	Emergency Management Services	8/20/2021 10:43 AM

Q7 Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or “LIVINGSTON COUNTY (entire area)” if your service area is county-wide:

Answered: 9 Skipped: 1



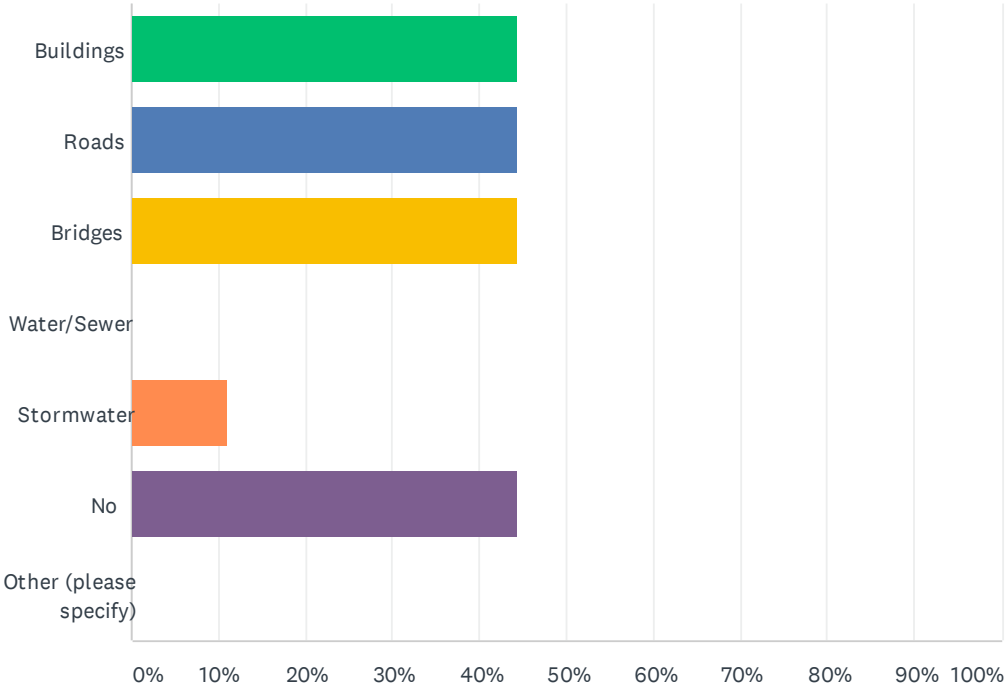

Mount Morris (V)
North Dansville (T)
Nunda (T)
Nunda (V)
Ossian (T)
Portage (T)
Sparta (T)
Springwater (T)
West Sparta (T)
York (T)
Other (please specify)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
Livingston County (entire area)	77.78%	7
Avon (T)	0.00%	0
Avon (V)	0.00%	0
Caledonia (T)	0.00%	0
Caledonia (V)	0.00%	0
Conesus (T)	0.00%	0
Dansville (V)	0.00%	0
Geneseo (T)	0.00%	0
Geneseo (V)	22.22%	2
Groveland (T)	0.00%	0
Leicester (T)	0.00%	0
Leicester (V)	0.00%	0
Lima (T)	0.00%	0
Lima (V)	0.00%	0
Livonia (T)	0.00%	0
Livonia (V)	0.00%	0
Mount Morris (T)	0.00%	0
Mount Morris (V)	0.00%	0
North Dansville (T)	0.00%	0
Nunda (T)	0.00%	0
Nunda (V)	0.00%	0
Ossian (T)	0.00%	0
Portage (T)	0.00%	0
Sparta (T)	0.00%	0
Springwater (T)	0.00%	0
West Sparta (T)	0.00%	0
York (T)	0.00%	0
Other (please specify)	11.11%	1
Total Respondents: 9		

#	OTHER (PLEASE SPECIFY)	DATE
1	Our offices are located in Geneseo but we have probations out in the field in all seventeen towns and villages.	8/26/2021 2:50 PM

Q8 Does your organization maintain or manage any of the following within your designated service area? If not, answer “No” at the bottom, otherwise check all that apply.

Answered: 9 Skipped: 1

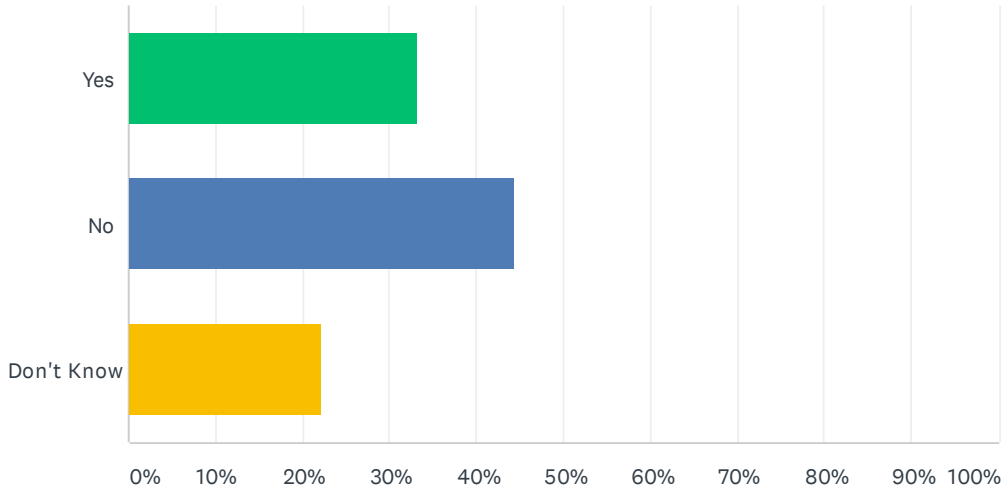


ANSWER CHOICES	RESPONSES	
Buildings	44.44%	4
Roads	44.44%	4
Bridges	44.44%	4
Water/Sewer	0.00%	0
Stormwater	11.11%	1
No	44.44%	4
Other (please specify)	0.00%	0
Total Respondents: 9		

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q9 Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a hazard (ex. damage/closures/etc.)?

Answered: 9 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	33.33%	3
No	44.44%	4
Don't Know	22.22%	2
TOTAL		9

Q10 If you answered “Yes” to the above question, in your own words describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, provide that as well (number of damaged structures, monetary loss, etc.) and explain.

Answered: 5 Skipped: 5

#	RESPONSES	DATE
1	Physical water damage from broken water pipes, interrupted service due to the pandemic	8/26/2021 2:54 PM
2	Pandemic caused closure/remote work, loss of some services provided at this site	8/26/2021 11:14 AM
3	n/a	8/23/2021 10:51 AM
4	N/A	8/20/2021 3:02 PM
5	water damage power loss	8/20/2021 10:46 AM

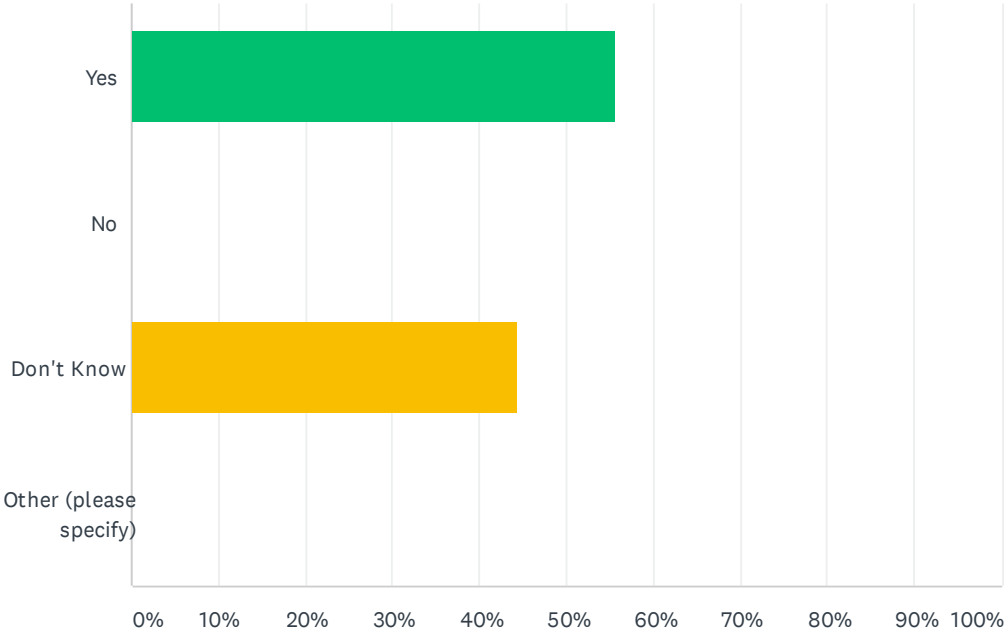
Q11 What areas (in which you work) do you believe to be the most vulnerable to hazards? What are these hazards? (please explain).

Answered: 6 Skipped: 4

#	RESPONSES	DATE
1	Safety hazards related the population we serve. 110% of the people we serve are convicted individuals or have charges pending. The waiting room, interview rooms, and drug testing room.	8/26/2021 2:54 PM
2	The employees. In a health hazard the majority are of retirement+ age and more vulnerable	8/26/2021 11:14 AM
3	southern portions of the county. flooding. these areas have had severe floods in the past.	8/23/2021 10:51 AM
4	N/a	8/20/2021 3:02 PM
5	IT Department - Cyberterrorism Entire Campus - Pandemics, Civil Disturbance, Winter Storms, Floods	8/20/2021 10:53 AM
6	water damage power loss	8/20/2021 10:46 AM

Q12 Is/ are the facility(ies) that you work in or are responsible for adequately prepared to withstand disasters? If your work involves working at multiple facilities, please provide a brief description in the “other” category, describing which facilities are most vulnerable.

Answered: 9 Skipped: 1

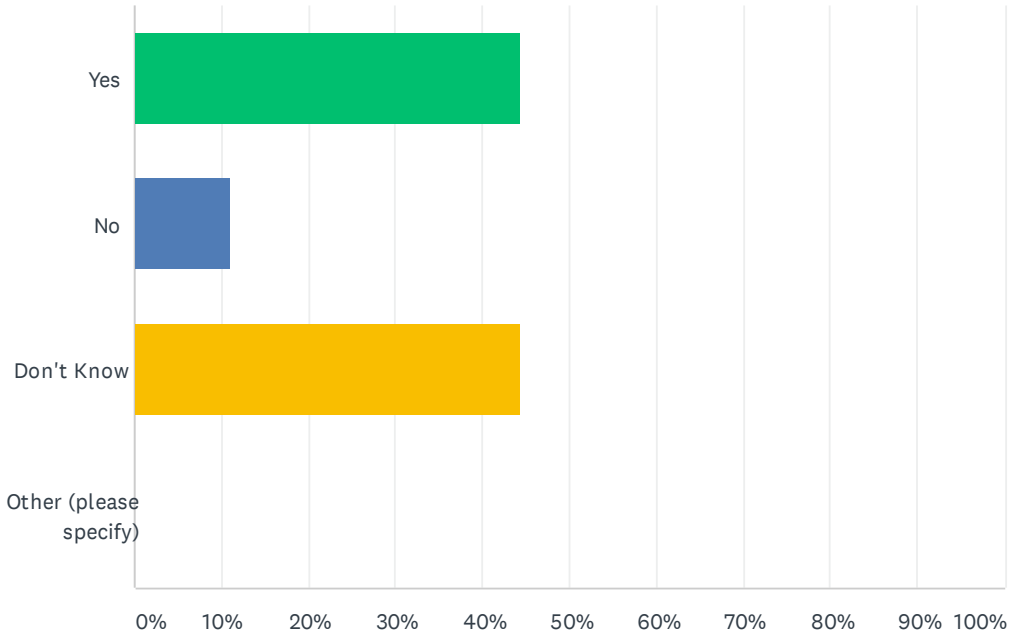


ANSWER CHOICES	RESPONSES	
Yes	55.56%	5
No	0.00%	0
Don't Know	44.44%	4
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q13 Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to hazards, and are able to provide long-term support for your community's needs? If not, please indicate why not.

Answered: 9 Skipped: 1

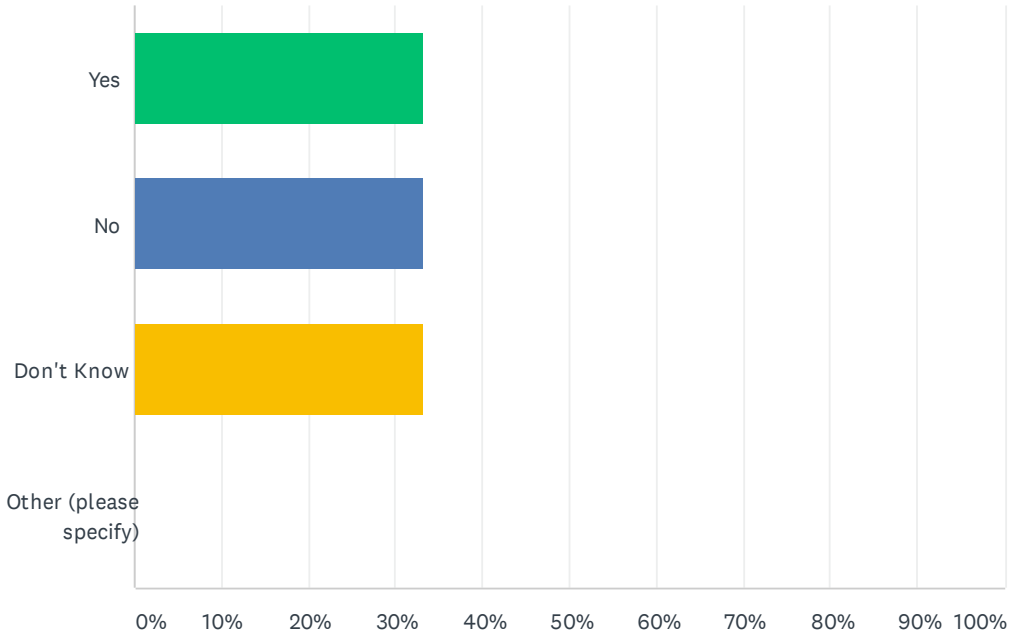


ANSWER CHOICES	RESPONSES	
Yes	44.44%	4
No	11.11%	1
Don't Know	44.44%	4
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q14 Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)? If not, please indicate why not.

Answered: 9 Skipped: 1

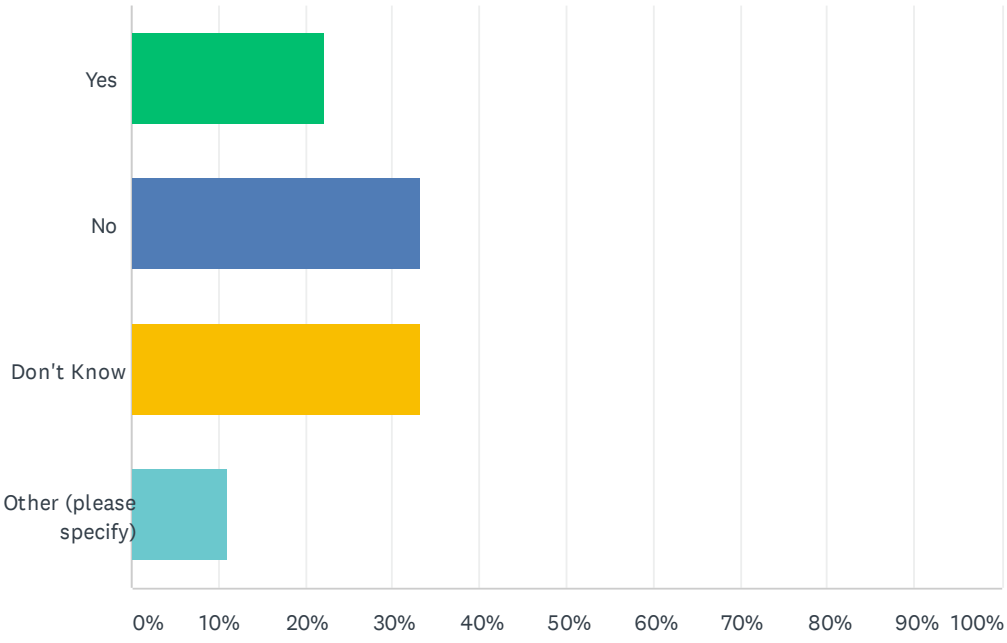


ANSWER CHOICES	RESPONSES	
Yes	33.33%	3
No	33.33%	3
Don't Know	33.33%	3
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q15 Are you aware of the number and location of vulnerable populations in your community/operating area?

Answered: 9 Skipped: 1

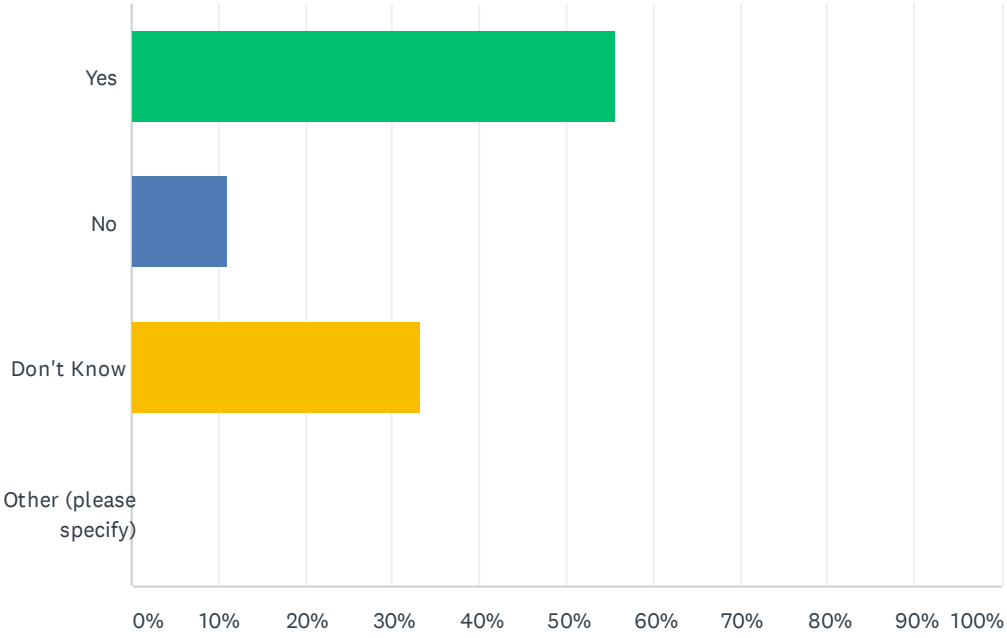


ANSWER CHOICES	RESPONSES	
Yes	22.22%	2
No	33.33%	3
Don't Know	33.33%	3
Other (please specify)	11.11%	1
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
1	somewhat	8/23/2021 10:51 AM

Q16 Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to disasters?

Answered: 9 Skipped: 1

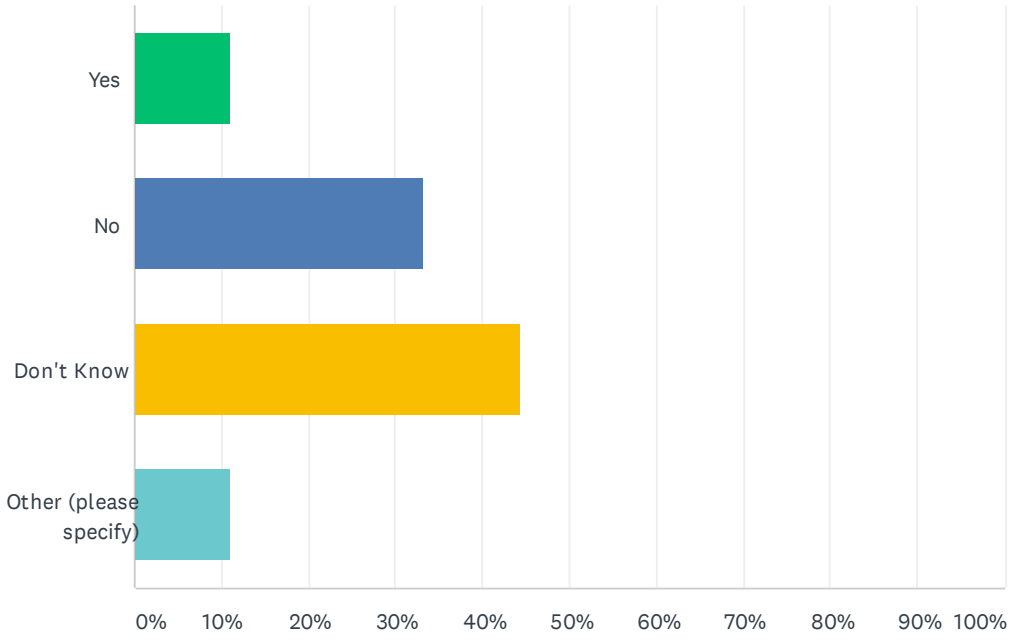


ANSWER CHOICES	RESPONSES	
Yes	55.56%	5
No	11.11%	1
Don't Know	33.33%	3
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q17 Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

Answered: 9 Skipped: 1

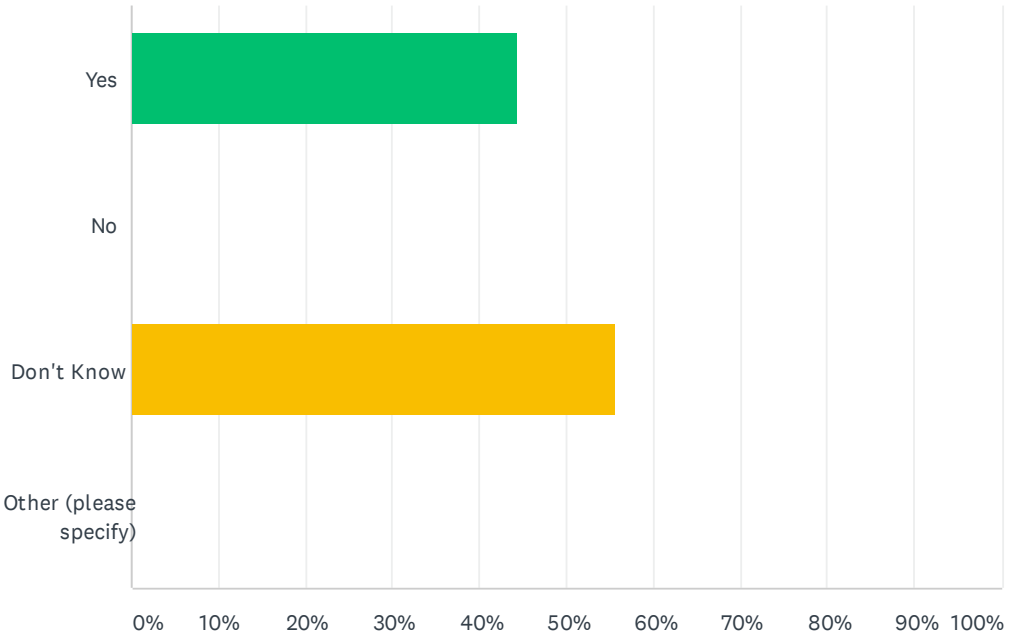


ANSWER CHOICES	RESPONSES	
Yes	11.11%	1
No	33.33%	3
Don't Know	44.44%	4
Other (please specify)	11.11%	1
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
1	Vulnerable populations often rely on caseworkers and case managers to assist in this area	8/23/2021 4:01 PM

Q18 To your knowledge, are development and land use decisions made with consideration to exposure and or increased of hazard risks?

Answered: 9 Skipped: 1

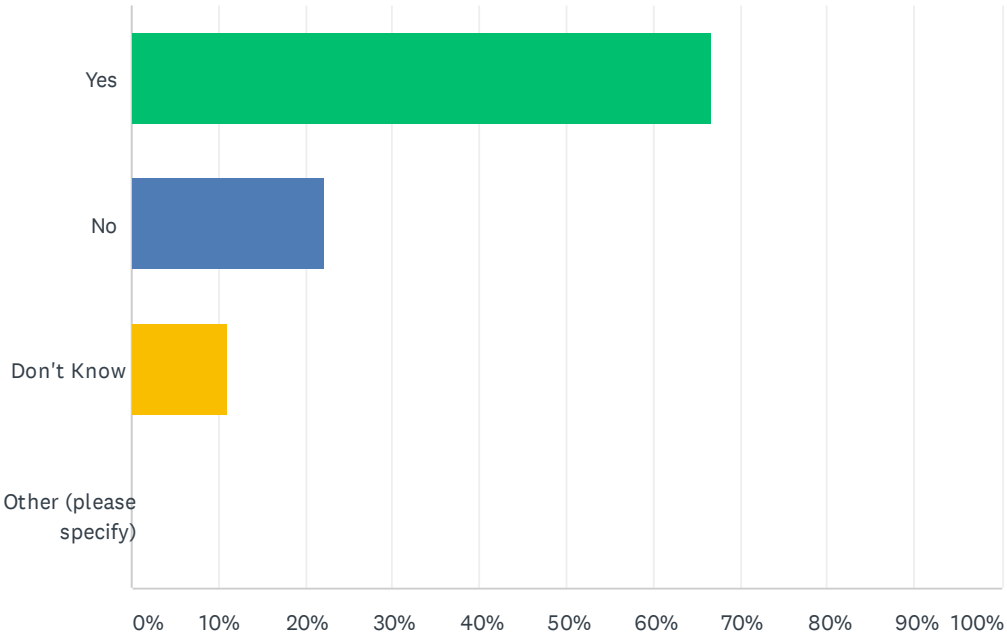


ANSWER CHOICES	RESPONSES	
Yes	44.44%	4
No	0.00%	0
Don't Know	55.56%	5
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q19 Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Answered: 9 Skipped: 1

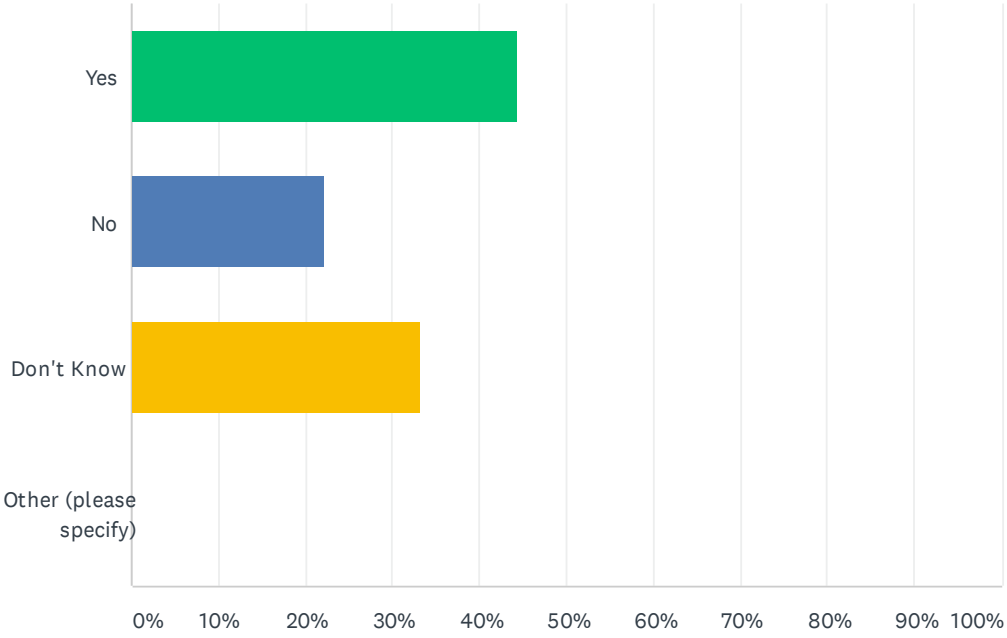


ANSWER CHOICES	RESPONSES	
Yes	66.67%	6
No	22.22%	2
Don't Know	11.11%	1
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q20 Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Answered: 9 Skipped: 1

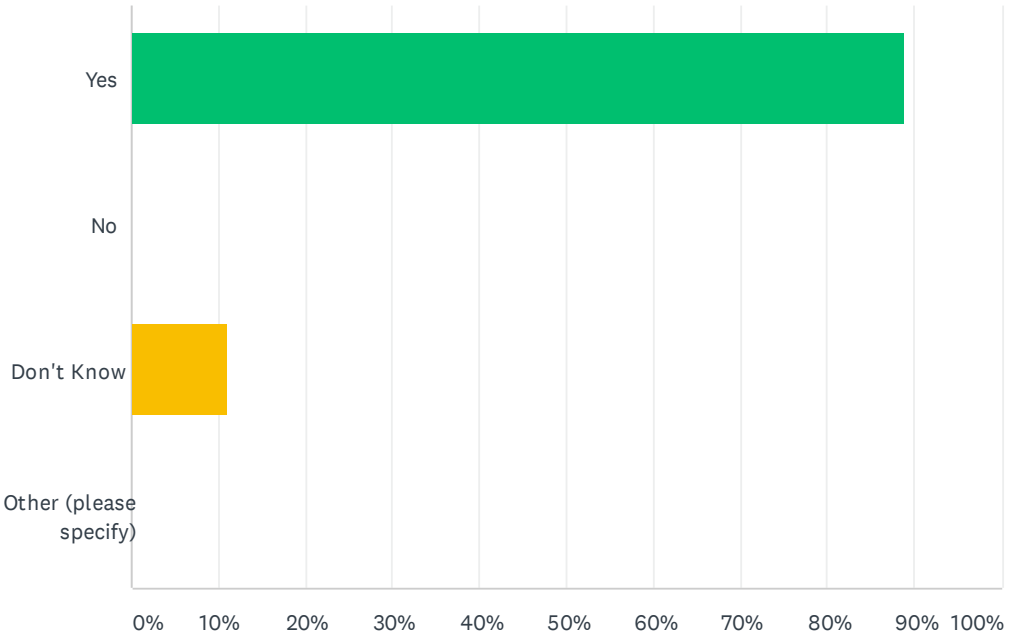


ANSWER CHOICES	RESPONSES	
Yes	44.44%	4
No	22.22%	2
Don't Know	33.33%	3
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q21 Does your organization have/ or is part of an emergency response plan?

Answered: 9 Skipped: 1

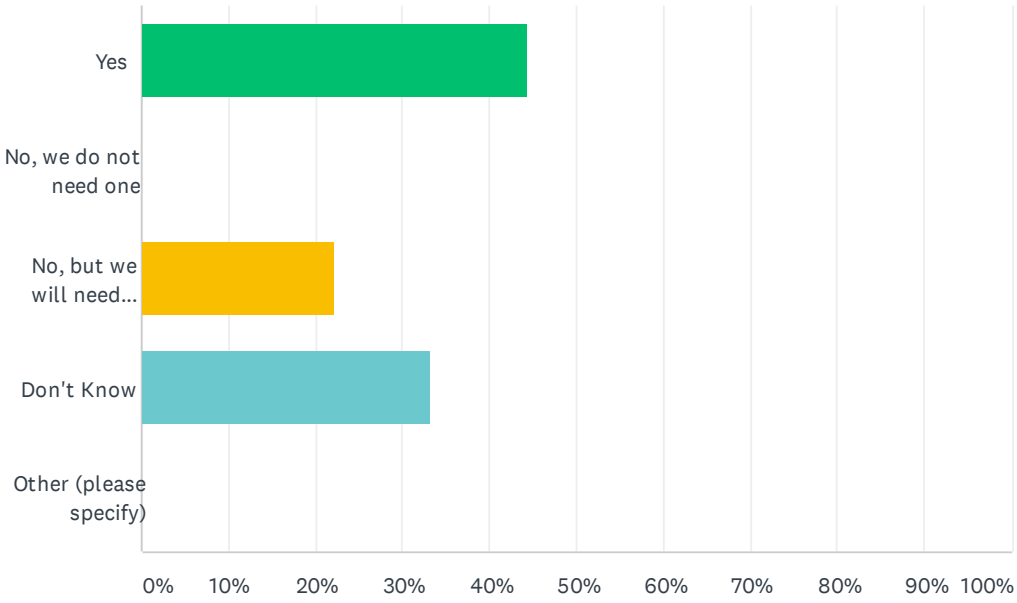


ANSWER CHOICES	RESPONSES	
Yes	88.89%	8
No	0.00%	0
Don't Know	11.11%	1
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q22 If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Answered: 9 Skipped: 1

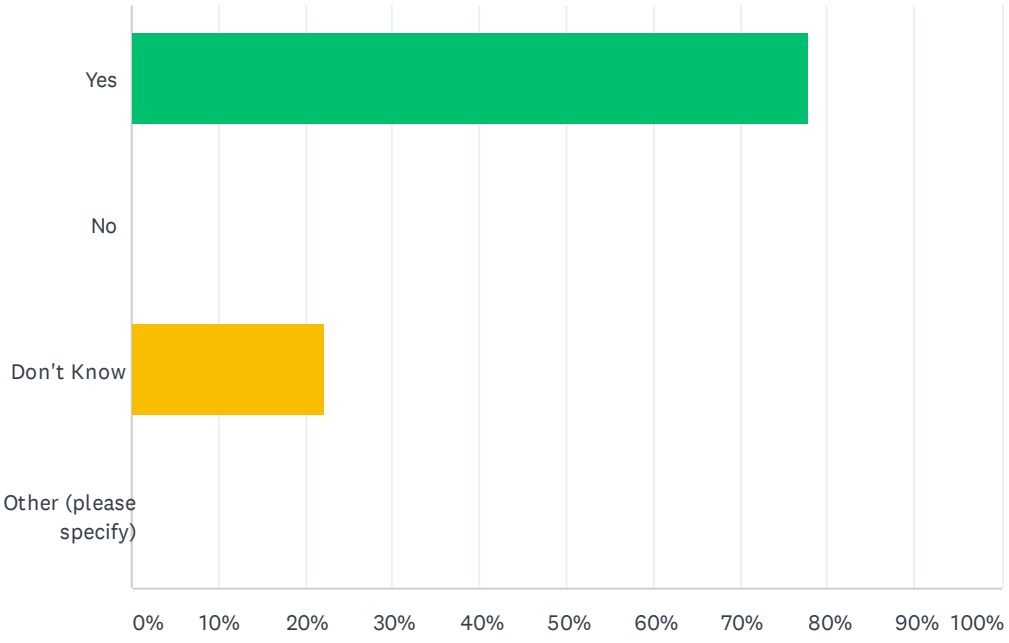


ANSWER CHOICES	RESPONSES	
Yes	44.44%	4
No, we do not need one	0.00%	0
No, but we will need guidance on how to develop	22.22%	2
Don't Know	33.33%	3
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q23 If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Answered: 9 Skipped: 1

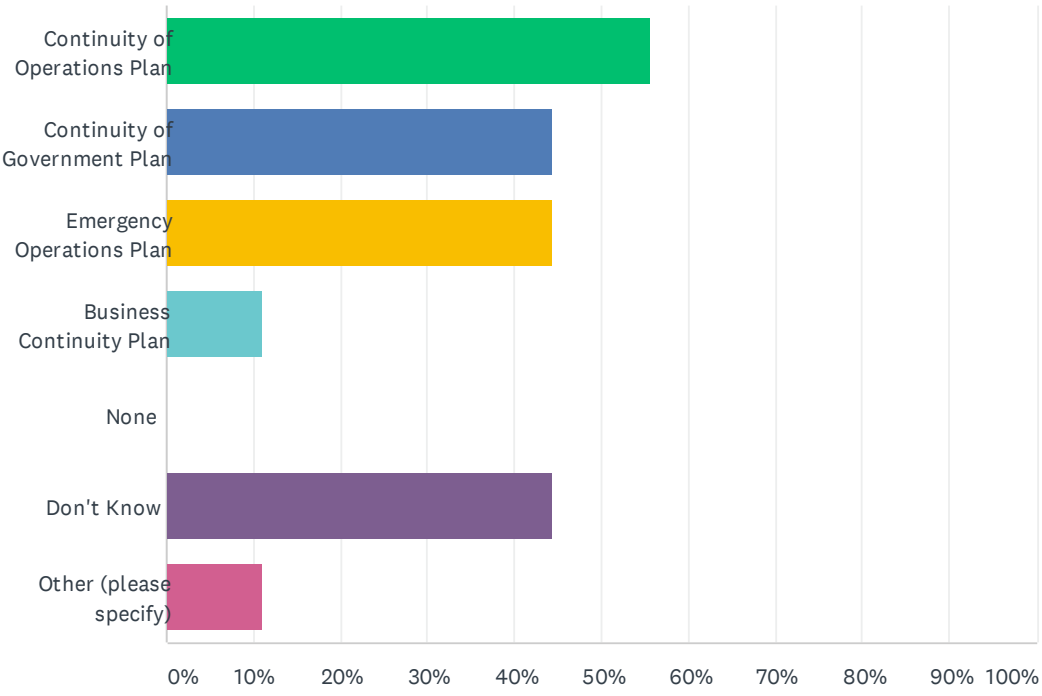


ANSWER CHOICES	RESPONSES	
Yes	77.78%	7
No	0.00%	0
Don't Know	22.22%	2
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q24 Is your organization covered by any of the following plans? Check all that apply

Answered: 9 Skipped: 1

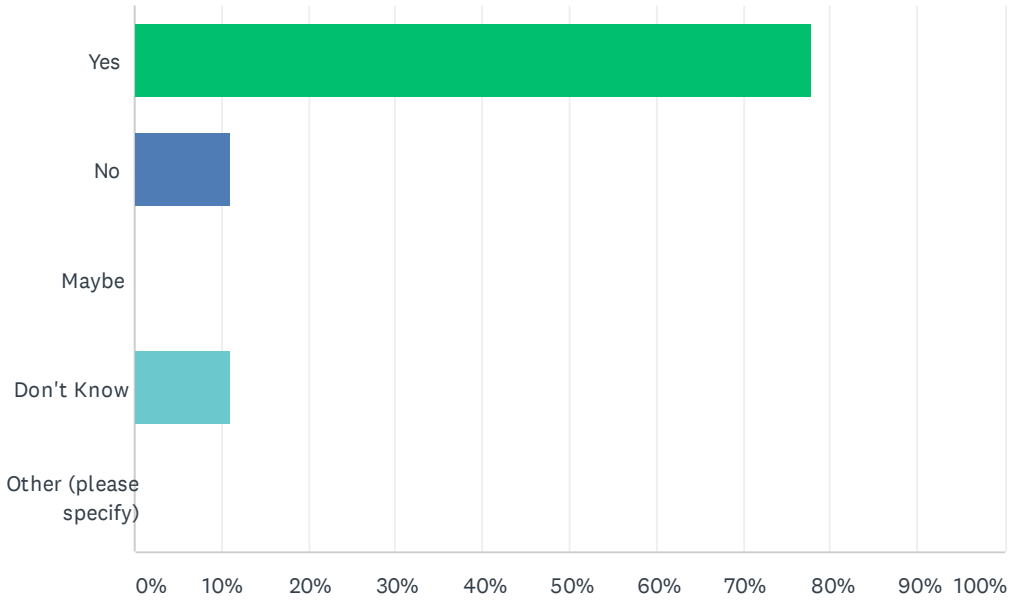


ANSWER CHOICES	RESPONSES	
Continuity of Operations Plan	55.56%	5
Continuity of Government Plan	44.44%	4
Emergency Operations Plan	44.44%	4
Business Continuity Plan	11.11%	1
None	0.00%	0
Don't Know	44.44%	4
Other (please specify)	11.11%	1
Total Respondents: 9		

#	OTHER (PLEASE SPECIFY)	DATE
1	maybe others	8/23/2021 4:01 PM

Q25 Do you believe your organization is equipped and resilient enough to handle a disaster?

Answered: 9 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	77.78%	7
No	11.11%	1
Maybe	0.00%	0
Don't Know	11.11%	1
Other (please specify)	0.00%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q26 Can you identify projects or programs that will reduce your facility/organization’s vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Answered: 7 Skipped: 3

#	RESPONSES	DATE
1	I would like confirmation our building is structurally sound.	8/26/2021 3:00 PM
2	Ongoing educational and training/drill efforts	8/26/2021 11:18 AM
3	advanced technology usage	8/23/2021 4:02 PM
4	Alternative Energy Options to increase resiliency	8/23/2021 11:09 AM
5	having a good maintainance plan.	8/23/2021 10:57 AM
6	N/A	8/20/2021 3:04 PM
7	Education, improving structures and infrastructure, protecting natural environment, preparing local plans and regulations to address built environment	8/20/2021 11:01 AM

Q27 Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Answered: 6 Skipped: 4

#	RESPONSES	DATE
1	Active shooter. Ability to work remotely due to pandemic response. Security measures at the front entrance.	8/26/2021 3:00 PM
2	advanced technology usage	8/23/2021 4:02 PM
3	Alternative Energy Options to increase resiliency	8/23/2021 11:09 AM
4	Stormwater grant projects. yearly road projects, ditch cleaning, culvert upgrades	8/23/2021 10:57 AM
5	N/A	8/20/2021 3:04 PM
6	No	8/20/2021 11:01 AM

Q28 How has your organization been involved in response to this pandemic? (please explain)

Answered: 9 Skipped: 1

#	RESPONSES	DATE
1	Since March of 2020	8/26/2021 3:02 PM
2	decision making & operations overall	8/26/2021 11:23 AM
3	Involved with County service delivery	8/23/2021 4:03 PM
4	Public Safety Response Continuation of Governmental services	8/23/2021 11:13 AM
5	just fill in wherever the county needs people to help	8/23/2021 11:01 AM
6	N/A	8/20/2021 3:05 PM
7	Adjusting how we deliver services	8/20/2021 2:20 PM
8	Since March 2020	8/20/2021 11:04 AM
9	deploying equipment for remote work	8/20/2021 10:49 AM

Q29 How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Answered: 9 Skipped: 1

#	RESPONSES	DATE
1	All of the above examples. I do think we need a defined remote work protocols.	8/26/2021 3:02 PM
2	Having the equipment in place to transition to remote if necessary. Improve availability for masks and sanitizers	8/26/2021 11:23 AM
3	all of the above - awareness on the part of staff and community about what we can each do to protect and serve each other	8/23/2021 4:03 PM
4	flexibility within the framework of the way business is conducted or needed to be conducted due to the pandemic	8/23/2021 11:13 AM
5	definetly improved sanitation practices	8/23/2021 11:01 AM
6	All the Above	8/20/2021 3:05 PM
7	Equip us to work remotely when necessary, encourage mask wearing during times of illness	8/20/2021 2:20 PM
8	More mindful of masking, sanitation, social distancing.	8/20/2021 11:04 AM
9	improve sanitation work remotely	8/20/2021 10:49 AM

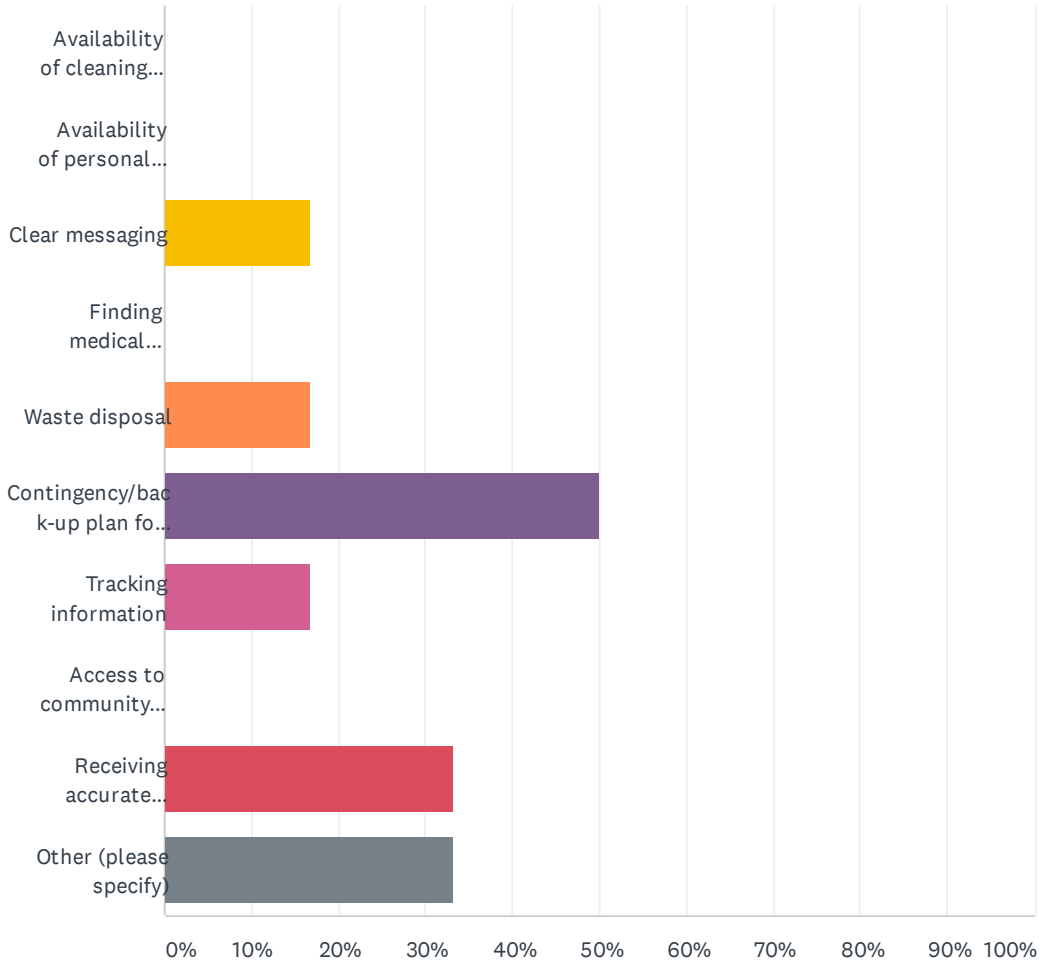
Q30 What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Answered: 7 Skipped: 3

#	RESPONSES	DATE
1	Written policy or guidelines for remote work.	8/26/2021 3:02 PM
2	Create something that will sway naysayers to mask &/or get vaccinated to protect all	8/26/2021 11:23 AM
3	County response has been robust and effective	8/23/2021 4:03 PM
4	Expanded Training opportunities, infrastructure for logistical issues and technology based platforms	8/23/2021 11:13 AM
5	n/a	8/23/2021 11:01 AM
6	Mental health services	8/20/2021 2:20 PM
7	More space to spread out in gathering spaces, more technological options for remote work and meetings.	8/20/2021 11:04 AM

Q31 Please share any challenges and obstacles you are facing (you can select more than one)

Answered: 6 Skipped: 4

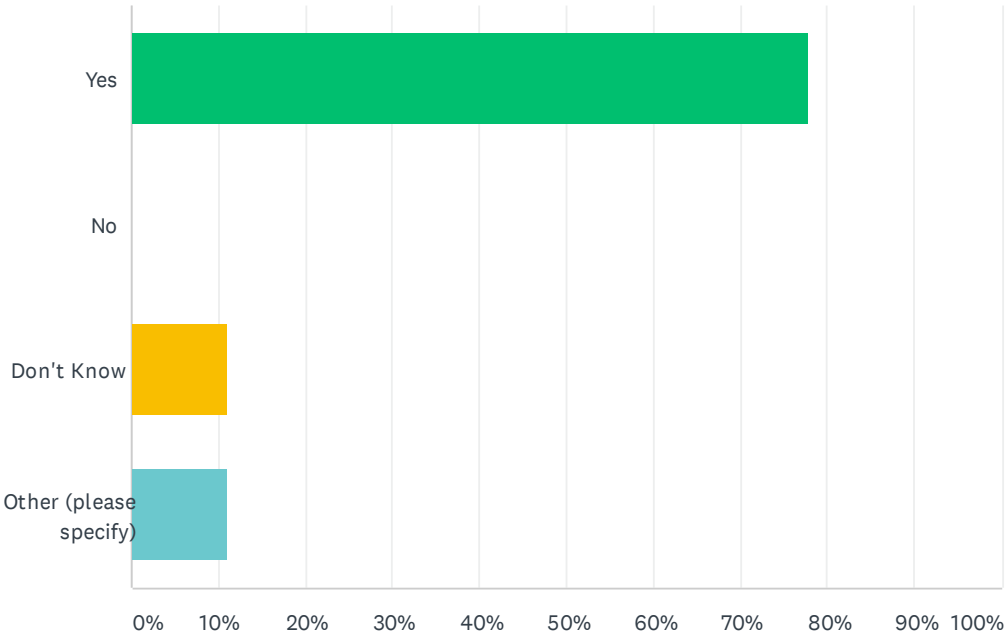


ANSWER CHOICES	RESPONSES	
Availability of cleaning supplies	0.00%	0
Availability of personal protective equipment	0.00%	0
Clear messaging	16.67%	1
Finding medical professionals	0.00%	0
Waste disposal	16.67%	1
Contingency/back-up plan for staffing	50.00%	3
Tracking information	16.67%	1
Access to community officials	0.00%	0
Receiving accurate information regarding current situation/resources available	33.33%	2
Other (please specify)	33.33%	2
Total Respondents: 6		

#	OTHER (PLEASE SPECIFY)	DATE
1	none	8/23/2021 4:03 PM
2	none of the above as far as the county goes	8/23/2021 11:01 AM

Q32 Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

Answered: 9 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	77.78%	7
No	0.00%	0
Don't Know	11.11%	1
Other (please specify)	11.11%	1
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
1	nver really changed our operating proceedures	8/23/2021 11:01 AM

Q33 Do you have any questions or comments for Livingston County?

Answered: 2 Skipped: 8

#	RESPONSES	DATE
1	no	8/23/2021 11:01 AM
2	No	8/20/2021 3:06 PM

Livingston County Hazard Mitigation Plan - Neighboring County Survey

Livingston County, along with its municipalities, are in the process of updating the Hazard Mitigation Plan (HMP). Hazard mitigation is any action taken to reduce the loss of life and property by lessening the impact of disasters (natural, technological, and man-made). These include flooding, severe storms, severe winter storms, etc. The HMP provides a "blueprint" by which participating jurisdictions can make coordinated efforts towards reducing losses from natural hazards. It is required by the Federal Emergency Management Agency (FEMA) in order to be eligible for federal grant funding for public and private mitigation projects.

Due to your proximity to Livingston County, the effects of many of these disasters would be similar in your county, and your involvement in this process could reap mutual benefits to both counties. By participating in the review of this plan, you will be engaging in the regional coordination of disaster mitigation planning, which is one of the intents of the Mitigation Planning Regulations (44 CFR 201).

The following survey is designed to help Livingston County gain a better understanding of how their neighboring counties operate day-to-day and during an emergency and helps our neighboring counties be included in the planning process. This survey consists of 27 questions and will take approximately 15 minutes to complete.

For more information about hazard mitigation or the planning process, please visit https://www.livingstoncountynyhmp.com/. If you have any questions, please contact Heather Ferrero at the Livingston County Planning Department at HFerrero@co.livingston.ny.us or (585) 243-7550

General Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan. Please note that individual answers will not be published in the plan.

1. Please indicate the county in which you represent

2. Name and Title of Respondent

3. What department do you represent?

4. Please provide your contact information.

Email Address

Phone Number

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

5. Do you have any shared service agreements or mutual aid agreements in place with Livingston County at the county level for the following?

- [ ] Equipment and staff for debris cleanup and snow removal
- [ ] Emergency staff for evacuations/disaster response
- [ ] Damage assessments
- [ ] Sheltering
- [ ] Other

If you checked any of the above, please explain.

6. Is Livingston County involved in your county's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

- ( ) Yes
- ( ) No
- ( ) Don't Know
- ( ) N/A

If yes, please explain.

7. Is your county involved in Livingston County's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

- ( ) Yes
- ( ) No
- ( ) Don't Know
- ( ) N/A

If yes, please explain.

8. Is Livingston County involved in your county's Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of your county's essential functions for a period of time?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain.

9. Is your county involved in Livingston County's Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of Livingston County's essential functions for a period of time?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain.

10. Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

11. Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Livingston County?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain

12. Describe any situations or hazards that are of a concern to both your and Livingston County. For example, would flooding along a particular waterway impact both counties, or are there any facilities or infrastructure that would affect both counties if it/they failed?

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

13. Do you collaborate with Livingston County on establishing evacuation routes and alternate evacuation routes?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain.

14. Do you and Livingston County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain

15. Are evacuation routes maintained to the same level of protection across county lines?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A
- ○ Other (please specify)

16. Do you collaborate with Livingston County on establishing shelters?

- Yes
- No
- Don't Know
- N/A

If yes, please explain.

17. Do you and Livingston County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

- Yes
- No
- Don't Know
- N/A

If yes, please explain.

18. Do you and Livingston County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

- Yes
- No
- Don't Know
- N/A

If yes, please explain.

Information Sharing

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

19. Does your county have access to contact information for Livingston County's emergency operation centers at the county and local level?

- Yes
- No
- Don't Know
- N/A

If yes, please explain.

20. Please explain how information is shared between counties regarding mitigation projects.

21. Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No
- Don't Know
- N/A

If yes, please explain.

Projects, Grants, Education, and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

22. Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- [ ] Stormwater projects
- [ ] Watershed projects or planning
- [ ] Floodplain projects or planning
- [ ] Connected roadway improvements
- [ ] Natural infrastructure restoration
- [ ] Outreach (education and outreach campaigns, programs for public information, etc.)
- [ ] Other (please specify)

23. If you selected anything above, please explain.

24. Have your county and Livingston County collaborated on grant applications?

- ( ) Yes
- ( ) No
- ( ) Don't Know
- ( ) N/A

If yes, please explain.

25. Are you aware of any organizations that carry out education and outreach regarding hazards in both counties?

- ○ Yes
- ○ No
- ○ Don't Know
- ○ N/A

If yes, please explain.

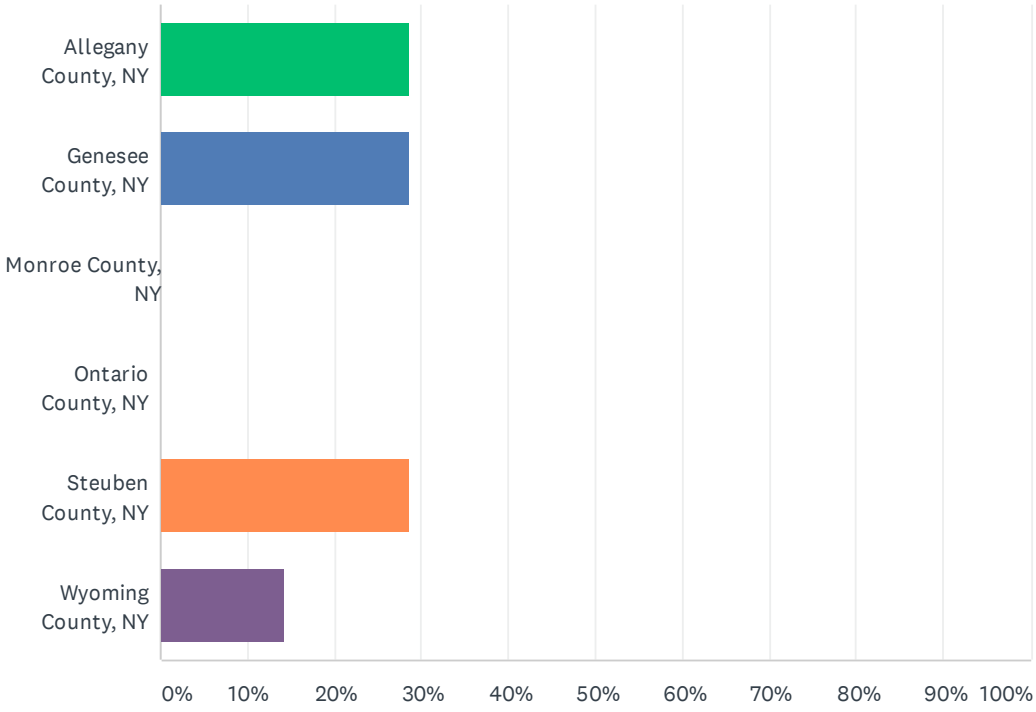
26. What are opportunities or ideas to optimize cooperation with Livingston County on emergency management operations and hazard mitigation projects?

Final Thoughts

27. Do you have any relevant questions or comments for Livingston County?

Q1 Please indicate the county in which you represent

Answered: 7 Skipped: 0



ANSWER CHOICES	RESPONSES	
Allegany County, NY	28.57%	2
Genesee County, NY	28.57%	2
Monroe County, NY	0.00%	0
Ontario County, NY	0.00%	0
Steuben County, NY	28.57%	2
Wyoming County, NY	14.29%	1
TOTAL		7

Q2 Name and Title of Respondent

Answered: 7 Skipped: 0

#	RESPONSES	DATE
1	Matthew Sousa, Planning Director	9/7/2021 1:28 PM
2	Brian Meyers Director of Fire and Emergency Management	9/1/2021 9:10 AM
3	Timothy D. Marshall, Director of Public Safety	8/28/2021 3:42 PM
4	Jeff Luckey Director of Emergency Management and Fire	8/26/2021 3:23 PM
5	Felipe Oltramari	8/26/2021 2:36 PM
6	Timothy Yaeger Director Emergency Mgt.	8/26/2021 10:34 AM
7	Nick Arquette, Planning and Development Specialist	8/26/2021 10:16 AM

Q3 What department do you represent?

Answered: 7 Skipped: 0

#	RESPONSES	DATE
1	Planning	9/7/2021 1:28 PM
2	Wyoming County Office of Emergency Services	9/1/2021 9:10 AM
3	911/Emergency Services	8/28/2021 3:42 PM
4	OES	8/26/2021 3:23 PM
5	Planning	8/26/2021 2:36 PM
6	Genesee County Emergency Mgt. Services	8/26/2021 10:34 AM
7	Department of Planning	8/26/2021 10:16 AM

Q4 Please provide your contact information.

Answered: 7 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	7
Phone Number	100.00%	7

#	NAME	DATE
	There are no responses.	

#	COMPANY	DATE
	There are no responses.	

#	ADDRESS	DATE
	There are no responses.	

#	ADDRESS 2	DATE
	There are no responses.	

#	CITY/TOWN	DATE
	There are no responses.	

#	STATE/PROVINCE	DATE
	There are no responses.	

#	ZIP/POSTAL CODE	DATE
	There are no responses.	

#	COUNTRY	DATE
	There are no responses.	

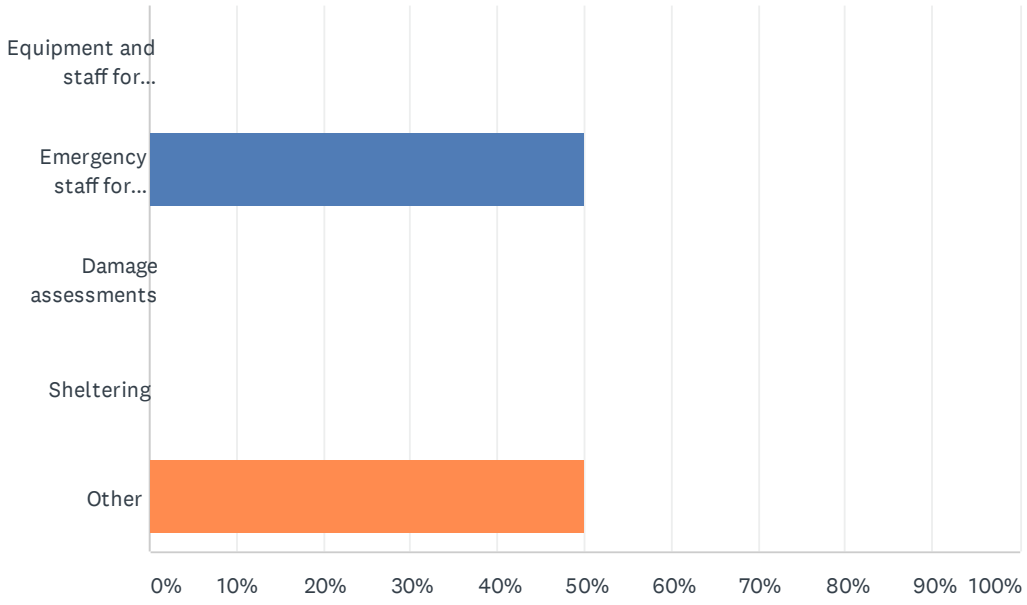
#	EMAIL ADDRESS	DATE
1	msousa@steubencountyny.gov	9/7/2021 1:28 PM
2	bmeyers@wyomingco.net	9/1/2021 9:10 AM
3	tmarshall@steubencountyny.gov	8/28/2021 3:42 PM
4	luckeyj@alleganyco.com	8/26/2021 3:23 PM
5	felipe.oltramari@co.genesee.ny.us	8/26/2021 2:36 PM

6	tim.yaeger@co.genesee.ny.us	8/26/2021 10:34 AM
7	nick.arquette@alleganyco.com	8/26/2021 10:16 AM

#	PHONE NUMBER	DATE
1	607-664-2268	9/7/2021 1:28 PM
2	585-786-8867	9/1/2021 9:10 AM
3	6076642910	8/28/2021 3:42 PM
4	585 268 7650	8/26/2021 3:23 PM
5	5858157901	8/26/2021 2:36 PM
6	15853440078	8/26/2021 10:34 AM
7	585-268-7449	8/26/2021 10:16 AM

Q5 Do you have any shared service agreements or mutual aid agreements in place with Livingston County at the county level for the following?

Answered: 2 Skipped: 5

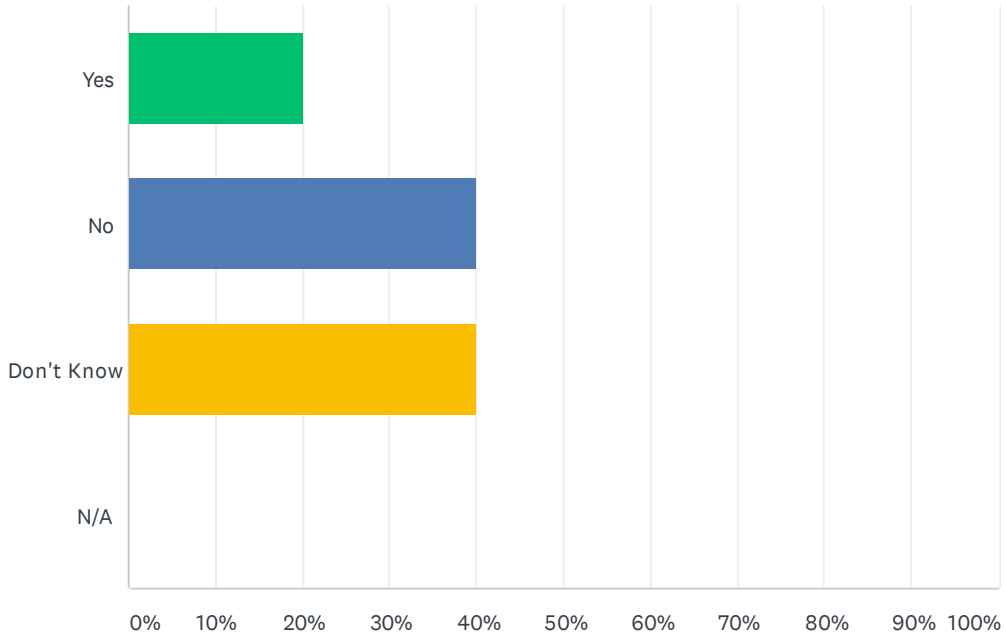


ANSWER CHOICES	RESPONSES	
Equipment and staff for debris cleanup and snow removal	0.00%	0
Emergency staff for evacuations/disaster response	50.00%	1
Damage assessments	0.00%	0
Sheltering	0.00%	0
Other	50.00%	1
Total Respondents: 2		

#	IF YOU CHECKED ANY OF THE ABOVE, PLEASE EXPLAIN.	DATE
1	Emergency Managers mutual aid agreement	9/1/2021 9:47 AM
2	NYS Fire Mutual Aid , EMS Mutual Aid	8/26/2021 3:28 PM

Q6 Is Livingston County involved in your county's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 5 Skipped: 2

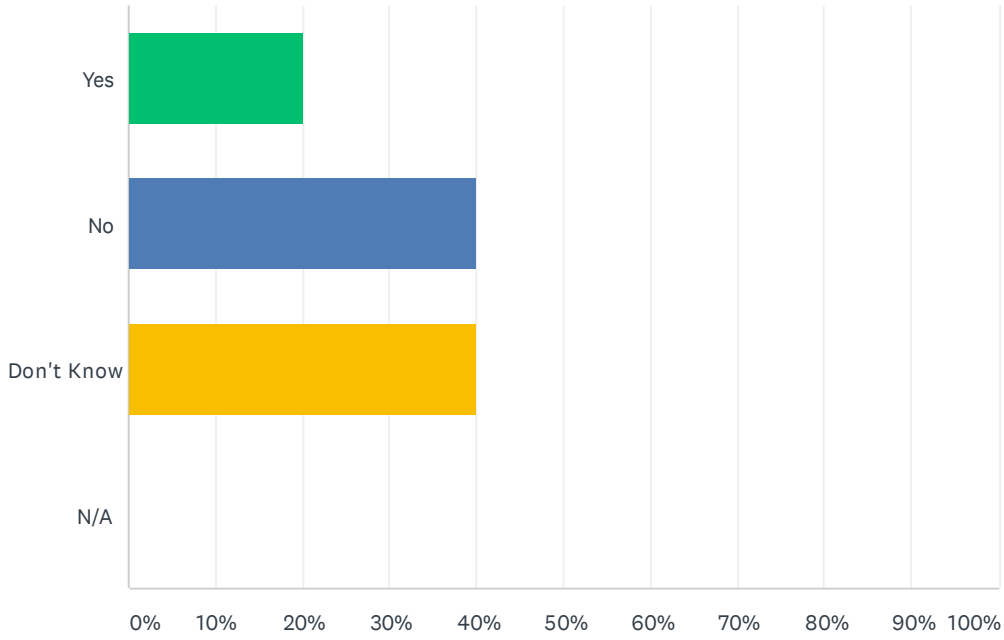


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	40.00%	2
Don't Know	40.00%	2
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	mutual aid agreement and Board of Supervisors work toegther between two counties	9/1/2021 9:47 AM
2	Western NY Incident Management Team is listed as well as Fire/EMS	8/26/2021 3:28 PM

Q7 Is your county involved in Livingston County's comprehensive emergency operations planning, such as by participating on a planning team, or providing resources during an emergency?

Answered: 5 Skipped: 2

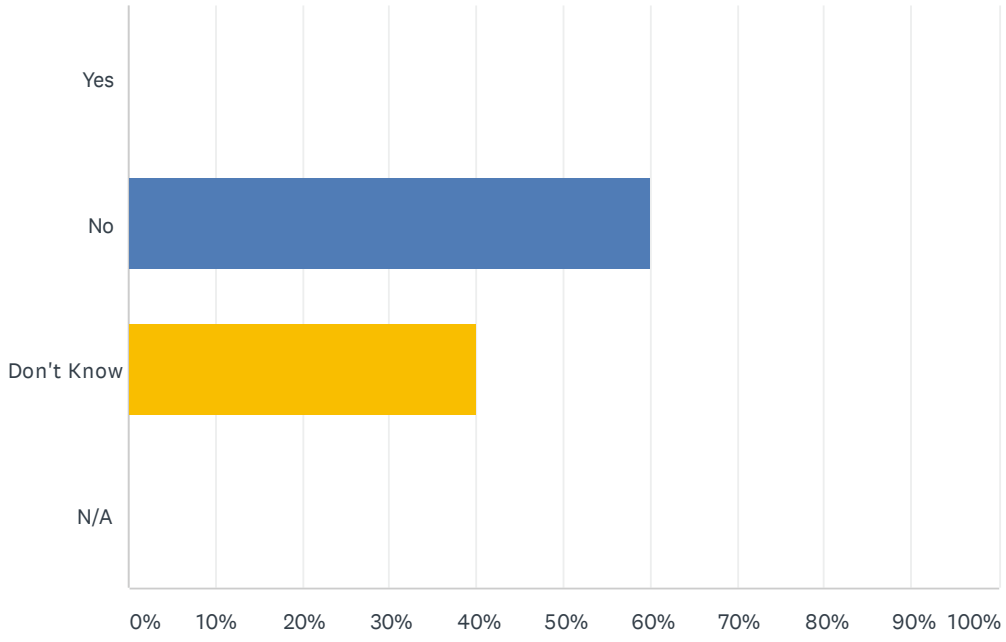


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	40.00%	2
Don't Know	40.00%	2
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	mutual aid agreement and Board of Supervisors work toegther between two counties	9/1/2021 9:47 AM

Q8 Is Livingston County involved in your county’s Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of your county's essential functions for a period of time?

Answered: 5 Skipped: 2

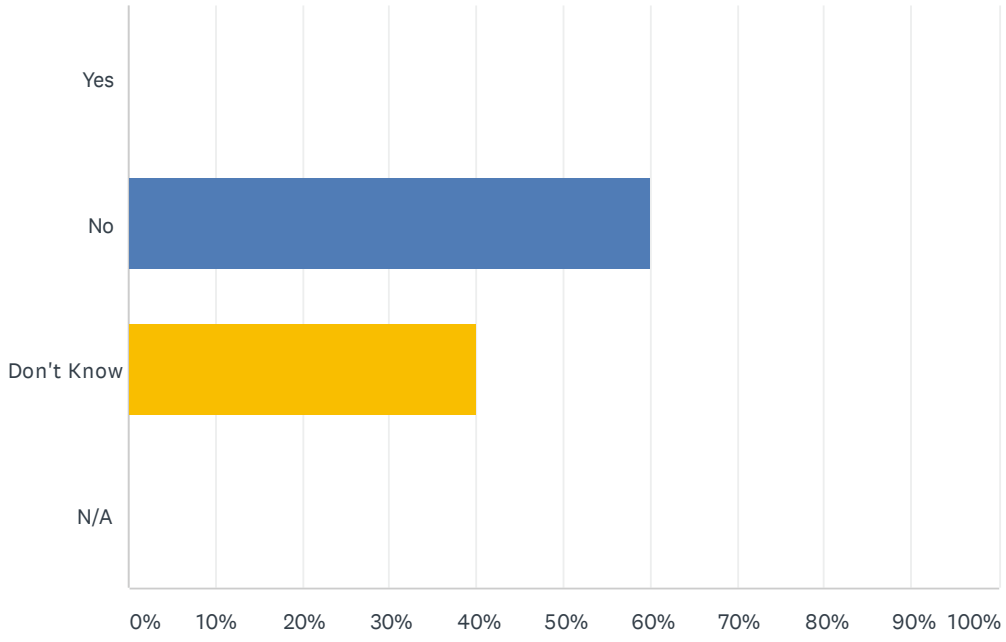


ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	60.00%	3
Don't Know	40.00%	2
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q9 Is your county involved in Livingston County's Continuity of Operations planning, such as by participating on a planning team, providing resources during an emergency, or carrying out some of Livingston County's essential functions for a period of time?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	60.00%	3
Don't Know	40.00%	2
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

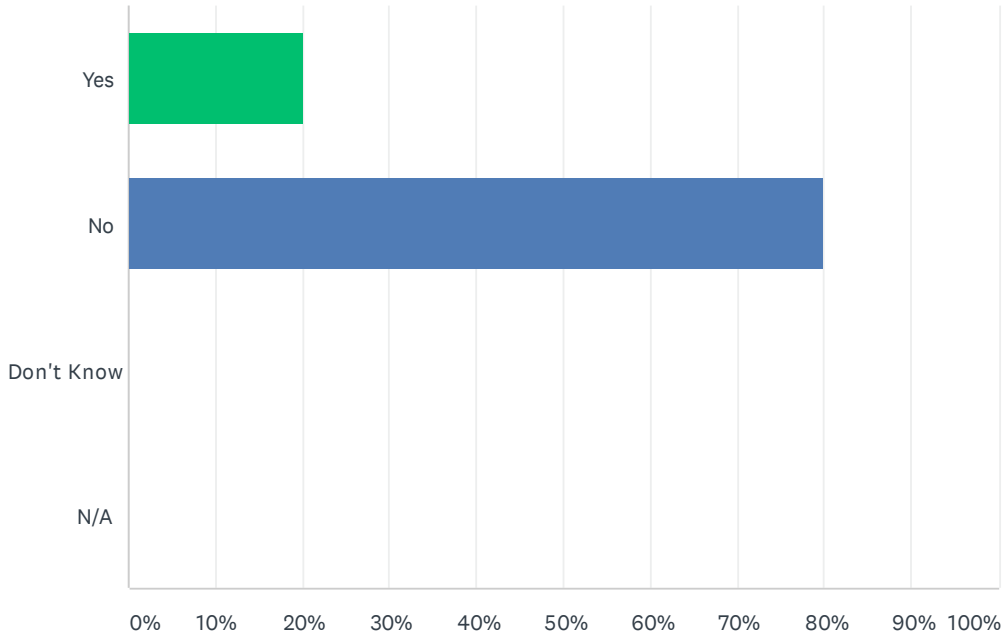
Q10 Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

Answered: 4 Skipped: 3

#	RESPONSES	DATE
1	through our emergency management office	9/7/2021 1:29 PM
2	Outside of emergency management and fire coordinator mutual aid agreements little planning/coordination between two offices. Board of Supervisors within both counties have been working closer together which may lead to county departments working more closely together	9/1/2021 9:47 AM
3	Usually between 911 communications centers	8/28/2021 3:44 PM
4	911 center , Fire/EMS radios and phone	8/26/2021 3:28 PM

Q11 Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Livingston County?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	80.00%	4
Don't Know	0.00%	0
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN	DATE
1	Flood mapping	8/26/2021 3:30 PM

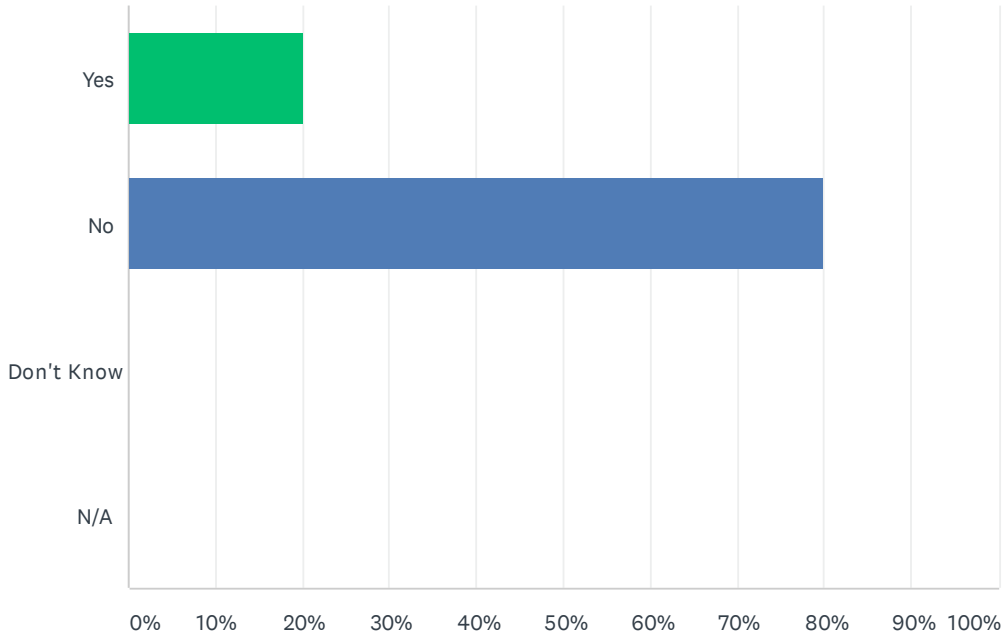
Q12 Describe any situations or hazards that are of a concern to both your and Livingston County. For example, would flooding along a particular waterway impact both counties, or are there any facilities or infrastructure that would affect both counties if it/they failed?

Answered: 5 Skipped: 2

#	RESPONSES	DATE
1	flooding and hazards that close I86 or route 63 and 36	9/7/2021 1:32 PM
2	Flooding along Genesee River, incident within Letchworth State Park	9/1/2021 9:55 AM
3	Dansville Reservoir Dam Failure Plan	8/28/2021 3:45 PM
4	Genesee River, Rushford lake Dam,	8/26/2021 3:30 PM
5	Not aware of any	8/26/2021 10:36 AM

Q13 Do you collaborate with Livingston County on establishing evacuation routes and alternate evacuation routes?

Answered: 5 Skipped: 2

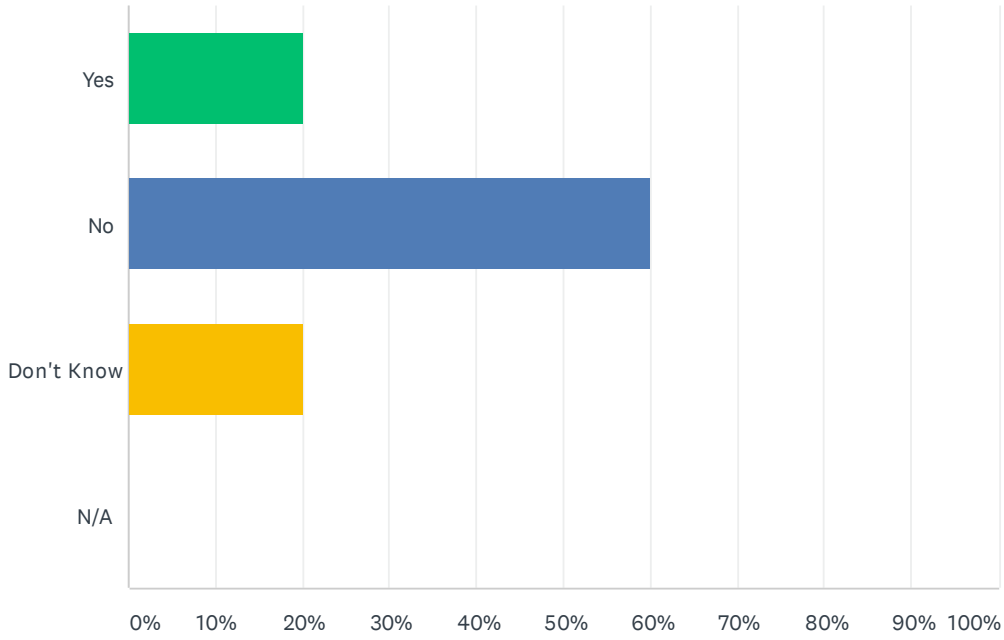


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	80.00%	4
Don't Know	0.00%	0
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	Kevin and i have talked when 90 or 390 are shut down	8/26/2021 3:34 PM

Q14 Do you and Livingston County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

Answered: 5 Skipped: 2

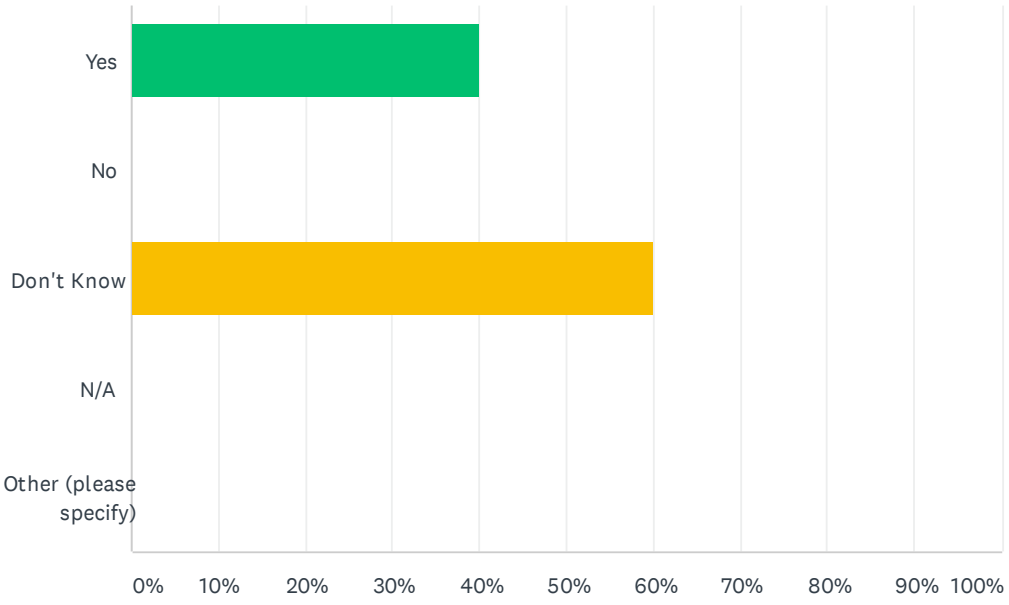


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	60.00%	3
Don't Know	20.00%	1
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN	DATE
	There are no responses.	

Q15 Are evacuation routes maintained to the same level of protection across county lines?

Answered: 5 Skipped: 2

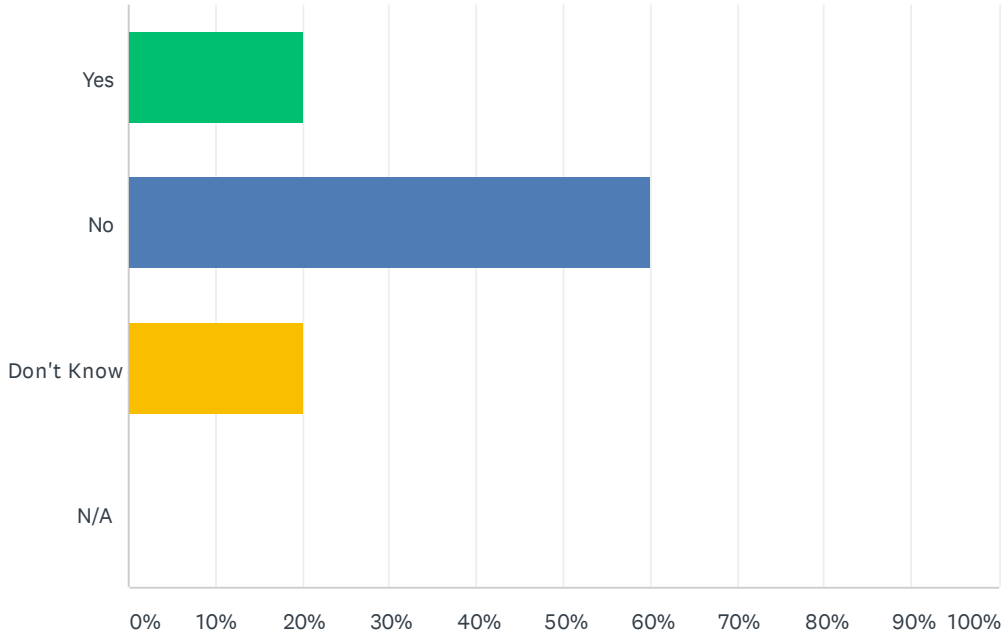


ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	0.00%	0
Don't Know	60.00%	3
N/A	0.00%	0
Other (please specify)	0.00%	0
TOTAL		5

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q16 Do you collaborate with Livingston County on establishing shelters?

Answered: 5 Skipped: 2

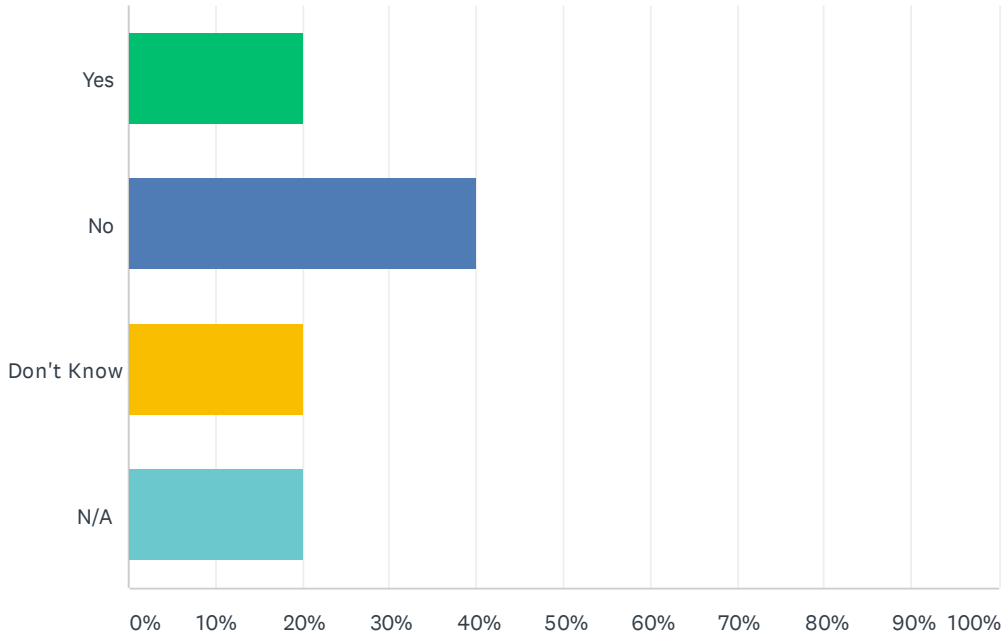


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	60.00%	3
Don't Know	20.00%	1
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	In a large scale disaster I would coordinate with Livingston for the Northwest section of our county.	8/28/2021 3:48 PM
2	Nunda and Canaseraga Schools might help residence	8/26/2021 3:34 PM

Q17 Do you and Livingston County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

Answered: 5 Skipped: 2

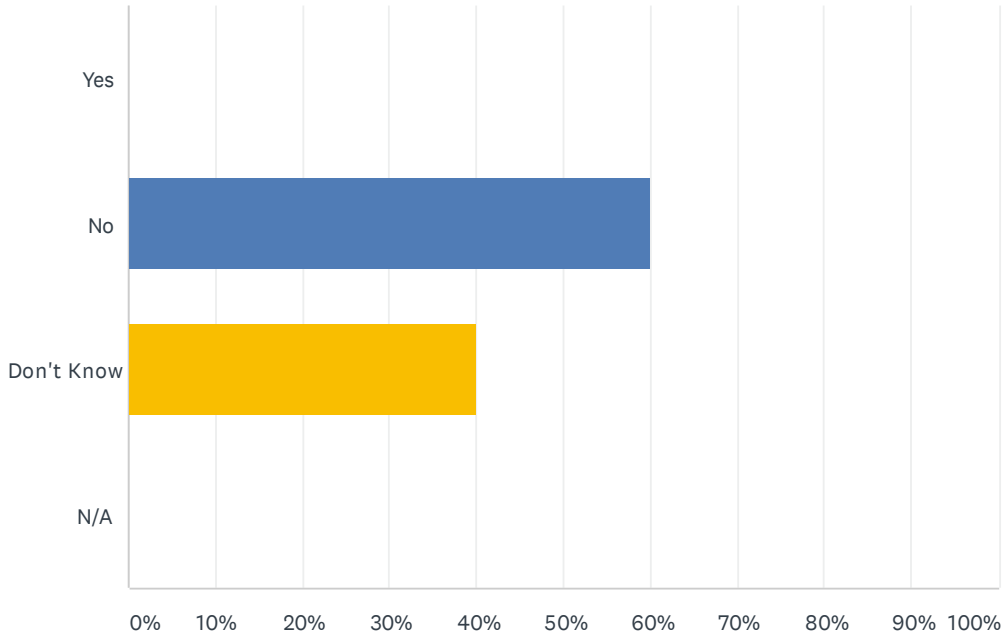


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	40.00%	2
Don't Know	20.00%	1
N/A	20.00%	1
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	Yes we have in the past	8/28/2021 3:48 PM
2	The situation has never come up.	8/26/2021 3:34 PM

Q18 Do you and Livingston County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

Answered: 5 Skipped: 2

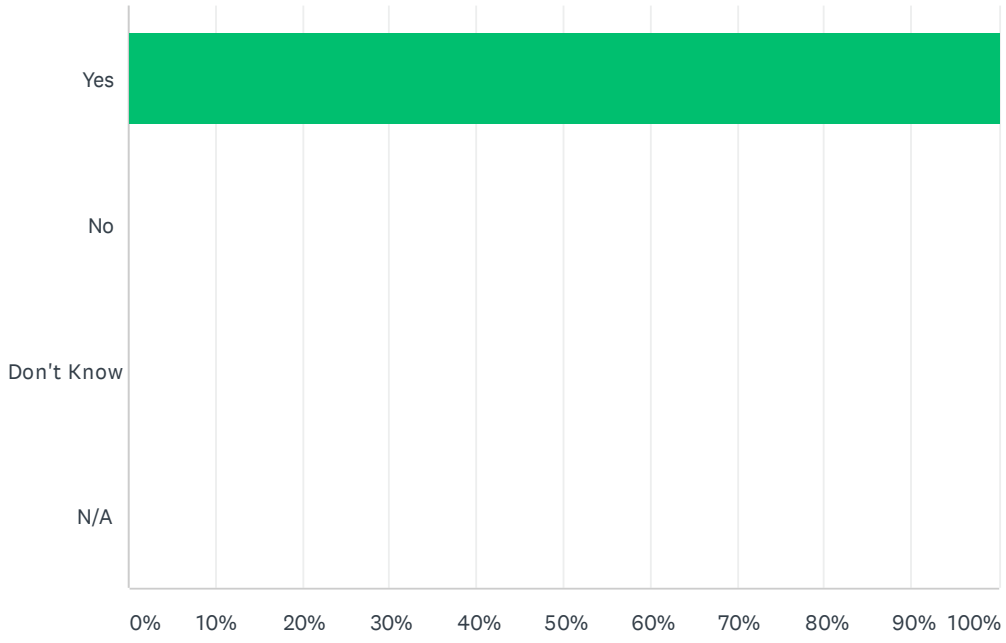


ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	60.00%	3
Don't Know	40.00%	2
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q19 Does your county have access to contact information for Livingston County's emergency operation centers at the county and local level?

Answered: 5 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	100.00%	5
No	0.00%	0
Don't Know	0.00%	0
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
1	911 center. Fire/EMS radios,	8/26/2021 3:36 PM

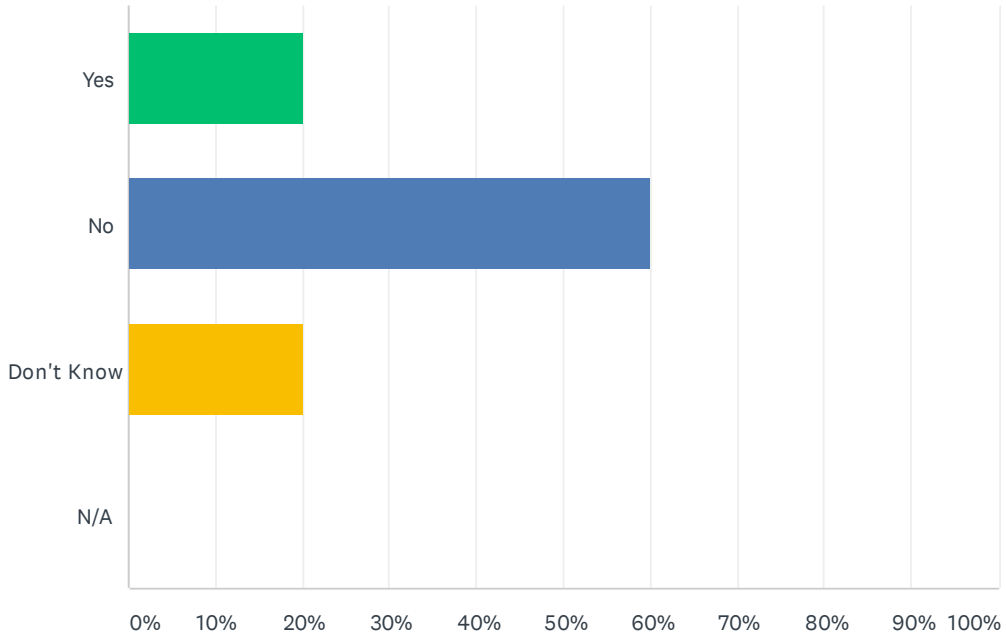
Q20 Please explain how information is shared between counties regarding mitigation projects.

Answered: 3 Skipped: 4

#	RESPONSES	DATE
1	Isnt that I know of	9/1/2021 9:56 AM
2	Between communications centers or direct through OEM.	8/28/2021 3:49 PM
3	During our monthly WNY EM meeting	8/26/2021 3:36 PM

Q21 Is information regarding mitigation shared during the planning and implementation phases of the projects?

Answered: 5 Skipped: 2

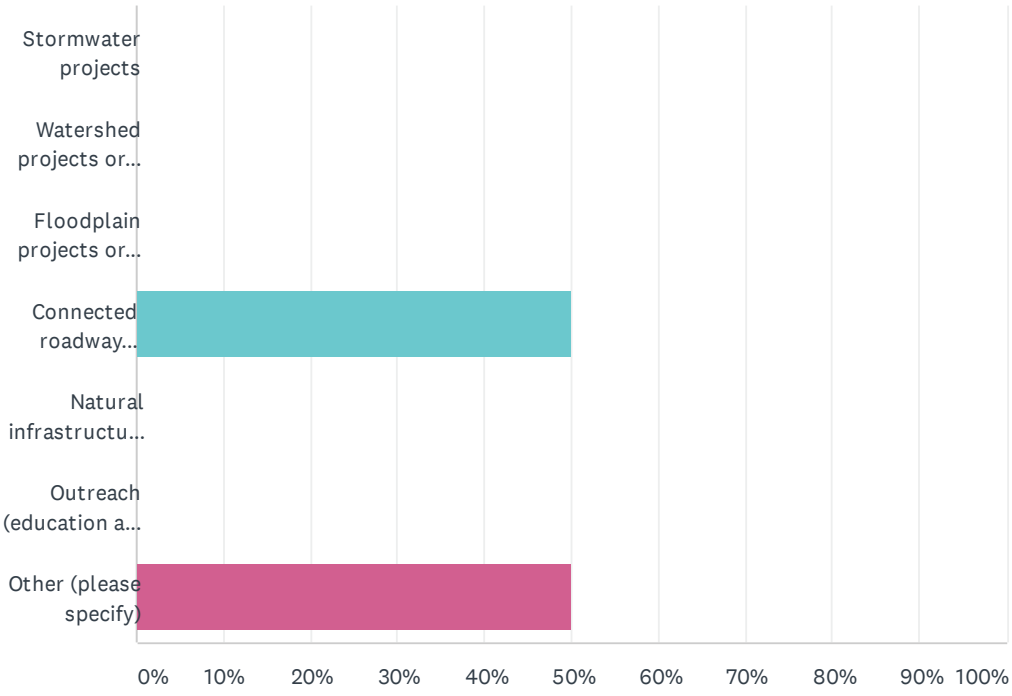


ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	60.00%	3
Don't Know	20.00%	1
N/A	0.00%	0
TOTAL		5

#	IF YES, PLEASE EXPLAIN.	DATE
	There are no responses.	

Q22 Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

Answered: 2 Skipped: 5



ANSWER CHOICES	RESPONSES	
Stormwater projects	0.00%	0
Watershed projects or planning	0.00%	0
Floodplain projects or planning	0.00%	0
Connected roadway improvements	50.00%	1
Natural infrastructure restoration	0.00%	0
Outreach (education and outreach campaigns, programs for public information, etc.)	0.00%	0
Other (please specify)	50.00%	1
Total Respondents: 2		

#	OTHER (PLEASE SPECIFY)	DATE
1	NA	8/26/2021 3:38 PM

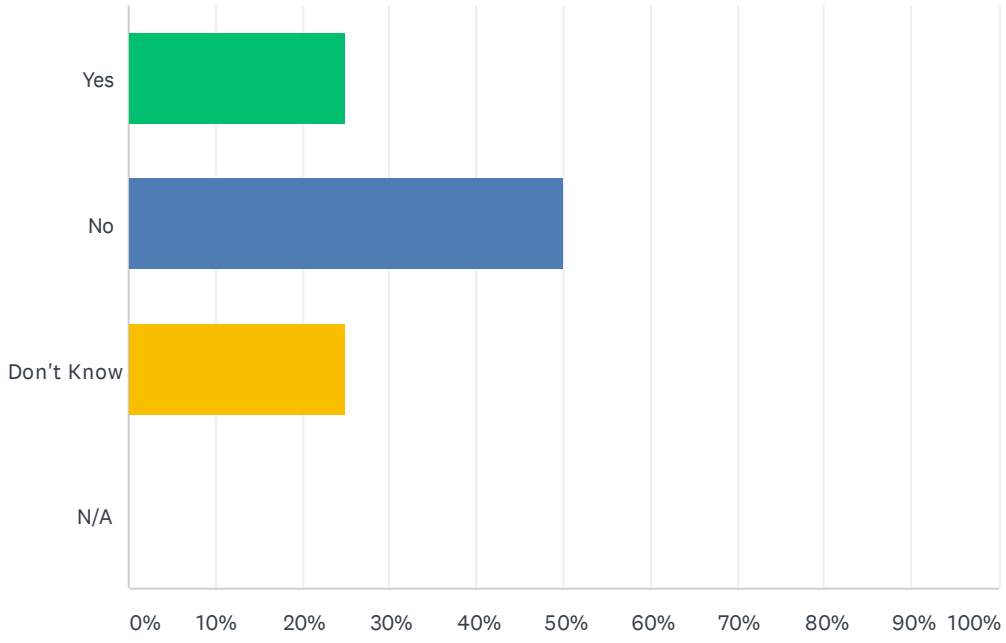
Q23 If you selected anything above, please explain.

Answered: 2 Skipped: 5

#	RESPONSES	DATE
1	Coordination on the I-390	8/28/2021 3:52 PM
2	NA	8/26/2021 3:38 PM

Q24 Have your county and Livingston County collaborated on grant applications?

Answered: 4 Skipped: 3

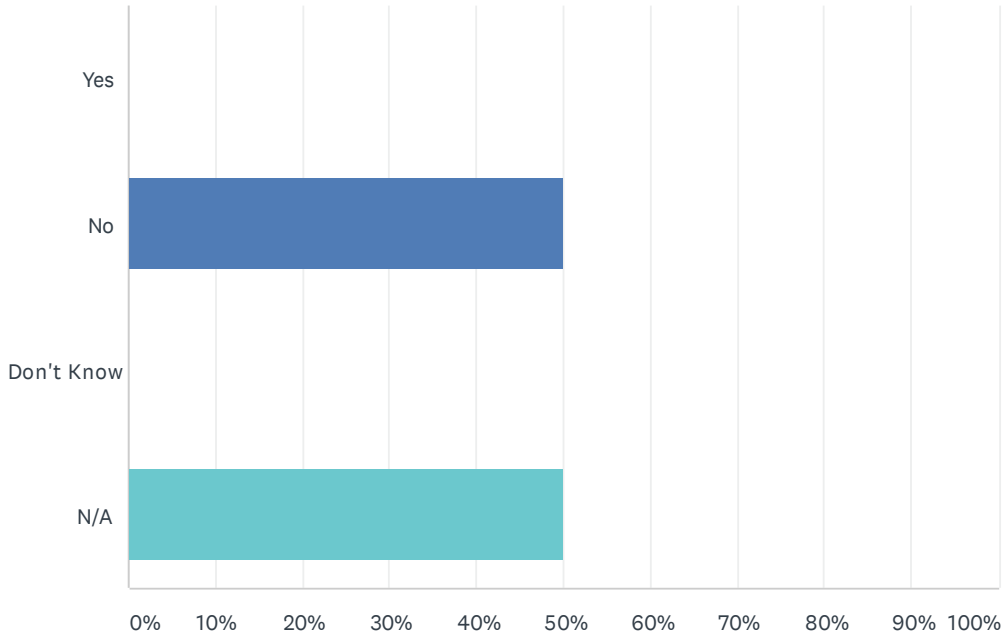


ANSWER CHOICES	RESPONSES	
Yes	25.00%	1
No	50.00%	2
Don't Know	25.00%	1
N/A	0.00%	0
TOTAL		4

#	IF YES, PLEASE EXPLAIN.	DATE
1	Hazardous Material grant funds which include: Genesee , Monroe , Wyoming , Livingston and Orleans	8/26/2021 10:40 AM

Q25 Are you aware of any organizations that carry out education and outreach regarding hazards in both counties?

Answered: 4 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes	0.00%	0
No	50.00%	2
Don't Know	0.00%	0
N/A	50.00%	2
TOTAL		4

#	IF YES, PLEASE EXPLAIN.	DATE
1	I'm sure we have some, but can't think of any	8/28/2021 3:52 PM

Q26 What are opportunities or ideas to optimize cooperation with Livingston County on emergency management operations and hazard mitigation projects?

Answered: 2 Skipped: 5

#	RESPONSES	DATE
1	More joint planning	9/1/2021 9:57 AM
2	Regular scheduled meetings to discuss ongoing projects.	8/28/2021 3:52 PM

Q27 Do you have any relevant questions or comments for Livingston County?

Answered: 0 Skipped: 7

#	RESPONSES	DATE
	There are no responses.	

APPENDIX E RISK ASSESSMENT SUPPLEMENTARY DATA

This appendix contains supporting information for the Risk Assessment (Section 5) as available. It contains excerpts of the previous events and losses as presented in the 2015 Hazard Mitigation Plan (HMP), organized by hazard of concern. This information has been compiled into one appendix for ease of reference; however, it has not been updated and is reproduced as documented in the 2015 plan.

In order to create a more streamlined plan, the 2021 HMP was reorganized and condensed into a practical and more readable document for the public with the goal of providing a plan easier to implement for the county and all municipalities to support future risk reduction. The information in this appendix supplements the information provided in Section 5.4 of this plan.

E.1 Critical Facilities and Lifelines

The identification of community lifelines across Livingston County provides an enhancement to the 2022 HMP. The Federal Emergency Management Agency (FEMA) defines a lifeline as: *"providing indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security."* Identifying community lifelines will help government officials and stakeholders to prioritize, sequence, and focus response efforts towards maintaining or restoring the most critical services and infrastructure within their respective jurisdiction(s). Identifying potential impacts to lifelines can help to inform the planning process and determining priorities in the event an emergency occurs. Figure E-1 is FEMA's fact sheet that describes lifelines further.

Figure E-1. FEMA Community Lifelines

Homeland Security

Fact Sheet

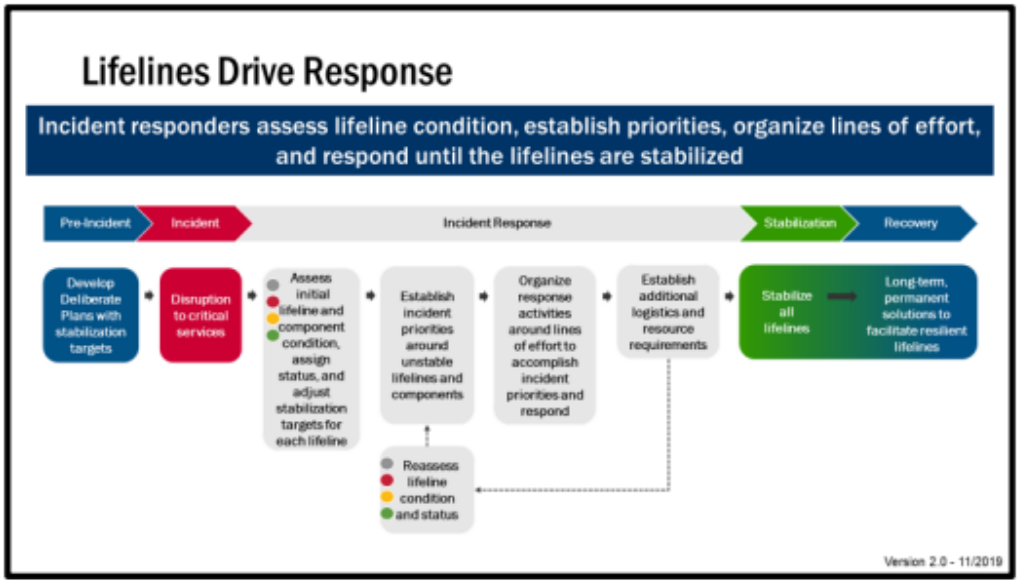
COMMUNITY LIFELINES

Why lifelines?

- FEMA developed the community lifelines construct to increase effectiveness in disaster operations and better position the Agency to respond to catastrophic incidents
- Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society
- When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required
- During initial response, priority efforts focus on *stabilizing community lifelines*.
- Lifelines provide an outcome-based, survivor-centric frame of reference that assists responders with:
  - Root Cause Analysis
  - Interdependencies
  - Prioritization
  - Ease of Communication

How were lifelines developed?

- FEMA released initial guidance *(Lifelines Toolkit)* introducing the lifelines construct in February 2019, followed by significant stakeholder outreach and feedback including:
  - State and Local Emergency Managers
  - Interagency Partners
  - Private and Non-Profit Stakeholders
- Construct was validated during responses to Hurricanes Michael, Florence, and Dorian, Super Typhoon Yutu, Alaska Earthquake, and during Shaken Fury full-scale exercise.
- Lessons learned from exercises, operations, and stakeholder feedback resulted in refinement and improvement to the construct.
- *National Response Framework (NRF) 4th Edition* formalized lifelines in national response policy
- Enhanced Lifelines guidance *(Lifelines Toolkit 2.0)* released to support NRF Publication.



See the Lifelines Toolkit at:
https://www.fema.gov/media-library/assets/documents/177222

If you have any questions or feedback, please email them to: Lifelines@fema.dhs.gov

E.2 Drought

E.2.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
June 2012	Drought / Excessive Heat	N/A	N/A	This event resulted in a USDA Disaster Declaration (S3427), and Livingston County was included in this declaration. The County was considered to be abnormally dry for this time of year.
June 2012	Drought	N/A	N/A	This event resulted in a USDA Disaster Declaration (S3441), and Livingston County was included in this declaration. The County was considered to be abnormally dry for this time of year.

E.2.2 Risk Assessment Tables

N/A

E.3 Earthquake

E.3.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
May 12, 2008	Earthquake 2.3	Attica, NY	N/A	N/A	No reference and/or no damage reported.
December 23, 2008	Earthquake 2.1	Caldonia, NY	N/A	N/A	No reference and/or no damage reported.
May 10, 2009	Earthquake 2.1	Pavilion, NY	N/A	N/A	No reference and/or no damage reported.
June 5, 2009	Earthquake 2.9	Attica, NY	N/A	N/A	No reference and/or no damage reported.
August 11, 2009	Earthquake 2.0	Le Roy, NY	N/A	N/A	No reference and/or no damage reported.
September 23, 2009	Earthquake 2.4	Attica, NY	N/A	N/A	No reference and/or no damage reported.
March 3, 2010	Earthquake 2.1	Gaines, NY	N/A	N/A	No reference and/or no damage reported.
August 22, 2010	Earthquake 2.3	West Falls, NY	N/A	N/A	No reference and/or no damage reported.
March 23, 2012	Earthquake 2.5	Mt. Morris, NY	N/A	N/A	No reference and/or no damage reported.

E.3.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located in the NEHRP Soil Class D or Class E Hazard Area																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	0	11	1	1	0	0	0	0	5	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
Avon (V)	1	0	1	1	1	4	0	0	0	0	1	0	1	1	0	1	1	4	1	1	3	1	0	0	0	0	2	1	2	0	5	1	1	0	1
Caledonia (T)	0	0	1	0	5	0	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Caledonia (V)	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	1	1	2	3	1	0	0	0	0	0	0	0	0	1	1	1	0	0
Conesus (T)	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Dansville (V)	0	0	4	0	0	7	0	0	0	0	0	1	1	2	2	1	0	1	3	1	9	1	1	0	0	0	2	1	1	0	3	1	1	0	1
Geneseo (T)	0	1	3	0	1	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Geneseo (V)	0	0	0	0	2	0	1	2	2	0	0	0	0	1	0	1	0	2	0	3	2	0	1	0	0	0	1	0	1	1	1	0	0	0	1
Groveland (T)	0	0	15	0	1	0	0	3	0	1	1	0	1	0	0	0	1	1	0	1	0	2	0	2	1	0	0	0	0	0	0	0	0	0	1
Leicester (T)	0	0	9	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0
Leicester (V)	0	0	3	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	0	1	1	1	0	0
Lima (T)	0	0	3	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Lima (V)	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1
Livonia (T)	0	0	7	1	0	2	1	0	0	4	0	0	2	0	0	0	1	2	1	2	3	3	0	1	0	1	0	0	1	0	1	0	0	6	1
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (T)	0	1	6	1	1	0	0	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	1	0	0	1	0	0	0	0	0	1	1	1	0	1	0	1	1	1	4	0	0	0	0	0	1	1	2	0	2	1	1	0	1

Jurisdiction	Number of Critical Facilities Located in the NEHRP Soil Class D or Class E Hazard Area																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
North Dansville (T)	0	1	13	1	0	1	1	0	0	0	1	0	0	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
Nunda (T)	0	0	4	1	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0
Nunda (V)	0	0	4	0	0	1	0	0	0	1	1	1	1	1	0	1	0	1	1	1	3	1	0	0	0	0	0	1	1	0	0	1	1	0	1
Ossian (T)	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Portage (T)	0	0	8	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Springwater (T)	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
West Sparta (T)	0	0	13	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	0	10	1	0	0	0	0	0	3	2	0	1	0	0	0	2	1	0	0	0	2	0	0	0	0	1	0	1	0	2	0	0	0	1
Livingston County (Total)	**1**	**3**	**127**	**7**	**13**	**19**	**3**	**5**	**10**	**25**	**13**	**5**	**12**	**12**	**2**	**6**	**8**	**21**	**8**	**13**	**34**	**13**	**3**	**4**	**6**	**3**	**10**	**5**	**11**	**1**	**23**	**7**	**6**	**10**	**10**

Source: NYS GIS n.d.; Livingston County Planning Partners - 2021; HIFLD – 2020

Notes: T – Town; V – Village

E.4 Flood

E.4.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 24, 2008	Heavy Rain and Flash Flood	N/A	N/A	Thunderstorms crossed the area and produced hail up to 1 inch in diameter and strong winds estimated at 60 mph. The storms brought heavy rain, as much as 5 inches in a few hours. In Livingston County, the Town of Springwater was hit hard. Roads and culverts washed away, exposing underground water pipes. The County sustained approximately $200,000 in property damage.
August 12, 2009	Heavy Rain and Flash Flood	N/A	N/A	Isolated storms developed during the afternoon across the western Southern Tier and Finger Lakes of New York State. The storms brought heavy rainfall, with estimates of 2 to 3 inches falling in an hour. In Livingston County, the Village of Dansville had numerous roadways flooded and closed. The county sustained approximately $25,000 in property damage.
July 13, 2010	Heavy Rain and Flash Flooding	N/A	N/A	Heavy rains produced localized flash floods that flooded homes and roadways. In Livingston County, a small creek overflowed its banks in the Town of Mount Morris and flooded a home on Damonsville Street. The water filled the basement and reached levels above the electrical outlets on the first floor. The county sustained approximately $45,000 in property damage.
December 1-2, 2010	Heavy Rain and Flood	N/A	N/A	Rainfall totals of 3 to 4 inches fell as a result of this storm event. This caused flooding of major rivers and roadway flooding. In Livingston County, the Genesee River at Portageville crested at 21.67 feet.
April 26 – May 8, 2011	Severe Storms, Flooding, Tornadoes, and Straight-Line Winds	DR-1993	Yes	Showers and thunderstorms accompanied the passage of a cold front across the region. The thunderstorms winds downed trees and power lines. Several hundred customers were without power. In Dansville, the thunderstorm winds blew off a portion of the roof of Dansville High School.
May 13, 2011	Flash Flood	N/A		On May 13th, a low pressure system moved across the Great Lakes, and caused showers and thunderstorms to develop. Localized rainfall amounts of up to 3 inches fell in just a few hours, resulting in flash floods in the area. Numerous roads were closed and/or damaged by flooding. States of Emergency were declared in some municipalities. Several farms underwent crop damage. Livingston County sustained approximately $35,000 in property damage from this event.
May 15-16, 2014	Severe Storms and Flooding	DR-4180	Yes	The storms brought heavy rains and flooding to much of the area. In Livingston County, a barn was blown down on Dutch Street in Mount Morris. Utility poles were down in Leicester, and the grandstands at Edinburgh Community High School were bent in two and dragged. In Geneseo, trees were down. Heavy rains left some rural roads covered in mud and washouts on others. Bridges were threatened by rising water and debris. Docks were underwater at Conesus Lake. Overall, the storms caused over $28 million in damage within the impacted counties of New York State.

E.4.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located in the 1-Percent Annual Chance Flood Event													
	Airport	Bridge	Child Care Facility	Dam	Electric Substation	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Post Office	Tier II HazMat	Town Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Conesus (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Dansville (V)	0	3	1	0	0	0	0	0	0	0	0	0	0	0
Geneseo (T)	1	1	0	0	0	0	0	0	1	0	0	0	3	0
Geneseo (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groveland (T)	0	9	0	1	0	0	0	0	0	0	0	0	1	0
Leicester (T)	0	6	0	0	0	0	0	0	0	0	0	0	0	0
Leicester (V)	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Livonia (T)	0	6	0	3	0	0	0	0	0	1	0	0	2	0
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Mount Morris (T)	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	1	0	1	0	0	1	1	0	0	2	0	0	1
North Dansville (T)	0	7	1	0	0	0	0	0	0	0	3	0	0	0
Nunda (T)	0	5	0	1	0	0	0	0	0	0	0	0	0	0
Nunda (V)	0	4	0	1	1	0	0	0	0	0	0	0	0	1
Ossian (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	0	0	0	0	0	0	0	0	0	0	1	0	0
West Sparta (T)	0	2	0	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	4	0	0	0	1	1	0	0	0	1	0	0	0
Livingston County (Total)	**1**	**59**	**2**	**8**	**1**	**1**	**2**	**1**	**1**	**1**	**6**	**2**	**6**	**2**

Source: HAZUS-MH 4.2; Livingston County Q3 Data from FEMA - 1970/1980; NY OIT 2013

% = Percent; T = Town; V = Village

Jurisdiction	Number of Critical Facilities Located in the 0.2-Percent Annual Chance Flood Event																	
	Airport	Bridge	Child Care Facility	Dam	Electric Substation	Library	Major Chemical	Major Employer	Pharmacy	Police Station	Post Office	Primary Education	Secondary Education	Shelter	Tier II HazMat	Town Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conesus (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Dansville (V)	0	3	3	0	0	1	0	0	0	0	0	2	1	1	1	0	0	0
Geneseo (T)	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0
Geneseo (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groveland (T)	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Leicester (T)	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leicester (V)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Livonia (T)	0	6	0	3	0	0	0	0	0	0	1	0	0	0	0	0	4	0
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Mount Morris (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	1	1	1	0	0	0	1	1	0	0	0	1	1	3	0	0	1
North Dansville (T)	0	9	1	0	0	0	3	3	0	0	0	0	0	0	3	0	0	0
Nunda (T)	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nunda (V)	0	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Ossian (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
West Sparta (T)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	5	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0
Livingston County (Total)	**1**	**66**	**5**	**9**	**1**	**1**	**4**	**5**	**1**	**1**	**1**	**2**	**2**	**2**	**8**	**2**	**9**	**2**

Source: HAZUS-MH 4.2; Livingston County Q3 Data from FEMA - 1970/1980; NY OIT 2013

% = Percent; T = Town; V = Village

E.5 Hazardous Materials

E.5.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 5, 2007	Fuel spill	N/A	N/A	Motor vehicle accident involving a concrete truck and a farm truck, diesel fuel, oil, and anti-freeze were the chemicals involved. Haz mat team called to stop run off into road ditches, stop leaks in fuel tanks, and stop run off into farm fields.
May 2, 2011	Fluid spill	N/A	N/A	A tractor-trailer took the turn too fast entering the southbound on-ramp of I390. The load shifted and the truck ended up on its side. A level one incident was called and two team members responded to assist Groveland FD with mitigation efforts. Motor oil and hydraulic fluid were released.
September 11, 2011	Chemical Spill	N/A	N/A	A tractor-trailer took the turn too fast on the southbound entrance ramp to I390 in Groveland. The truck was a tanker carrying Sodium Bisulfide, an inhalation hazard, and was leaking. A level 3 Haz Mat was declared with a full team response. Team members, in full Level A encapsulated suits, successfully entered the scene and were able to secure the leaking lids and stop the flow of materials. A cleanup contractor was retained and the product was off loaded prior to righting the truck. The Haz Mat Team provided suited backup to the cleanup contractor as well as providing decontamination, scene lighting and radio communications at the scene well into the night.
November 10, 2011	Fluid spill	N/A	N/A	A tractor-trailer driver attempted to make a U-turn onto River Rd from Route 408 in the Town of Mt. Morris. He ended up backing over a delineator post and punctured the driver's sidesaddle tank. A level 1 incident was declared and 2 team members went to the scene to assist the Mt. Morris Fire Department with mitigation. Team members plugged the leak and the Fire Department transferred the fuel.
November 12, 2011	Fluid spill	N/A	N/A	The West Sparta Fire Department responded to a request from the State Police to respond to mile marker 26, Northbound I390 for a large quantity of motor oil on the shoulder of the road. A level 1 response brought 3 team members to the scene to assist the Fire Department with cleanup.
February 14, 2012	Ammonia Leak	N/A	N/A	On the night shift, a flange on an ammonia pipeline broke and released ammonia into the engine room. Alarms were sounded and plant personnel responded appropriately. The Livingston County Team was activated and responded. Plant personnel were able to stop the leak by isolating the flange. Approximately 70 pounds escaped. Livingston County personnel assisted Kraft personnel in monitoring for gas pockets within the building and assuring that the shelter in place personnel were in safe areas.
April 19, 2012	Fluid spill	N/A	N/A	A tractor trailer with an empty cargo box was traveling west on Rt. 436. As the driver approached the underpass just West of the Park Parade Grounds, a gust of wind hit the truck and the driver lost control, rolling the trailer under the bridge. The driver suffered minor injuries and Nunda Fire Personnel mitigated the leak. The County Haz Mat Team provided guidance.
June 4, 2012	Fluid spill	N/A	N/A	A traffic accident involving a car and two tractor trailers resulted in the release of a small amount of motor oil and diesel fuel from one of the trucks. Minimal cleanup was required.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
July 5, 2012	Decontamination support	N/A	N/A	A fire broke out on the roof of the Livonia Elementary School. A roofing contractor crew was on the roof when an electric generator caught fire and spread to the supplies being used on the roof. Firefighters inside the building were soaked in water coming from the roof and had the potential of being contaminated with one or more of the hazardous materials used in the roofing process. The Haz Mat Team responded and set up a full decontamination line to scrub firefighters as they left the building. No injuries occurred and a cleanup contractor retained by the contractor disposed of the water from the decontamination operation.
February 8, 2013	Gas odor	N/A	N/A	Responded to Dansville to assist the Dansville Fire Department with multiple calls for the smell of natural gas in several areas of the village. It was determined that there was a problem with intermittent releases from a NYSEG control station.
June 14, 2013	Explosion	N/A	N/A	The team was requested to the scene of an explosion the night before at a multiple residence dwelling in Springwater. The Springwater FD was requested to the scene for an explosion and injury. The cause of the explosion was an individual drying bomb making chemicals in his oven. When several pipe bombs were discovered, the County Sheriff's Office and New York State Police became involved. U.S. Drug Enforcement Agency (DEA) and Bureau of Alcohol, Tobacco, and Firearms (BATF) personnel were called and the pipe bombs and explosives were removed. The Haz Mat Team was requested to remove the precursor chemicals to a safe location for disposal by a licensed contractor.
September 5, 2013	Fuel spill	N/A	N/A	The team was dispatched to a leaking fuel tank at 30 Pine St. in the Village of Dansville. Sorbent materials were placed on the floor and the remaining contents of the tank were transferred to secure tanks. The NYSDEC was called in for final mitigation.
October 4, 2013	Fuel spill	N/A	N/A	The Haz Mat Team was dispatched for a leaking fuel tank in a basement on the Mt. Morris-Nunda Rd., Mt. Morris. The basement and house were ventilated, sorbent pads laid down and the remaining oil in the tank was removed. NYSDEC oversaw final mitigation.

E.5.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Roadway Routes																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Dialysis Center	Electric Substation	EMS	EOC	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	0	13	2	2	1	0	0	0	2	0	0	1	0	1	1	0	0	0	3	0	1	2	0	0	0	1	1	0	0	0	1	2	0	0	2	0
Avon (V)	1	0	1	1	1	4	0	0	0	0	0	1	0	0	1	1	0	1	0	0	1	1	3	1	0	0	0	0	2	1	2	0	2	1	1	0	1
Caledonia (T)	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
Caledonia (V)	0	0	0	1	3	1	0	0	0	1	0	0	0	0	1	1	0	1	0	1	1	2	7	1	0	0	1	0	1	0	2	0	1	1	1	0	0
Conesus (T)	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	1	0	3	0
Dansville (V)	0	0	4	0	0	7	0	0	0	0	0	0	1	0	1	2	2	1	0	1	3	1	9	1	1	0	0	0	2	1	1	0	3	1	1	0	1
Geneseo (T)	1	0	7	0	5	1	0	0	0	4	0	3	0	0	0	2	0	0	0	2	1	0	4	0	0	0	1	1	1	0	1	0	0	0	0	0	0
Geneseo (V)	0	0	0	1	2	2	1	0	1	0	1	0	1	0	1	1	1	2	0	2	2	2	4	1	1	0	0	0	0	0	1	0	2	1	1	0	1
Groveland (T)	0	1	17	0	2	1	0	3	2	1	0	1	2	2	1	0	0	0	1	3	0	2	0	2	0	0	1	0	0	0	0	0	0	0	0	0	1
Leicester (T)	0	0	9	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0
Leicester (V)	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	0	1	1	1	0	0
Lima (T)	0	0	2	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Lima (V)	0	0	1	0	1	1	0	0	0	0	0	1	0	0	1	2	0	1	0	0	1	1	3	1	1	0	0	1	1	0	1	0	0	1	1	0	1
Livonia (T)	1	0	6	1	1	2	1	0	0	4	0	0	1	0	3	0	0	0	0	1	1	2	3	3	0	1	1	2	0	1	2	0	1	0	0	7	1
Livonia (V)	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	2	0	1	0	0	0	0	3	1	0	0	0	0	2	0	0	0	1	1	1	0	0
Mount Morris (T)	1	0	1	1	1	0	0	0	1 2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	2	0	0	2	0	0	0	1	0	0	1	0	1	1	0	1	0	1	1	1	4	1	0	0	0	0	1	1	2	0	4	1	1	0	1
North Dansville (T)	0	1	14	1	0	1	1	0	0	0	0	1	0	0	0	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
Nunda (T)	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nunda (V)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ossian (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Springwater (T)	0	0	3	0	1	1	0	0	0	2	0	1	0	0	1	1	0	0	0	0	0	0	1	2	0	0	1	0	0	0	0	0	0	1	0	0	1
West Sparta (T)	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Roadway Routes																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Dialysis Center	Electric Substation	EMS	EOC	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
York (T)	0	0	7	1	1	1	0	0	0	0	0	1	1	0	2	1	0	0	2	1	0	1	2	4	0	0	3	0	1	0	1	0	4	1	0	0	0
Livingston County (Total)	**4**	**2**	**113**	**9**	**22**	**28**	**3**	**3**	**15**	**20**	**1**	**13**	**10**	**2**	**17**	**18**	**3**	**8**	**6**	**20**	**11**	**16**	**49**	**20**	**4**	**2**	**10**	**8**	**12**	**5**	**14**	**1**	**28**	**11**	**8**	**13**	**9**

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Railway Routes																												
	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Potable Water Facility	Potable Water Tank	Primary Education	Secondary Education	Shelter	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	11	1	1	0	0	0	3	0	0	1	1	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Avon (V)	0	1	0	0	3	0	0	0	0	0	1	0	1	1	4	0	1	3	1	0	0	2	0	1	5	1	1	0	1
Caledonia (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	1	3	1	0	0	1	0	0	1	1	1	0	1	1	2	7	1	0	1	1	0	2	1	1	1	0	0
Conesus (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dansville (V)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geneseo (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geneseo (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groveland (T)	0	12	0	0	0	0	0	0	1	1	1	0	0	1	1	0	1	0	1	0	1	0	0	0	0	0	0	0	1
Leicester (T)	0	5	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
Leicester (V)	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	1	1	1	1	1	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Railway Routes																												
	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Chemical Storage	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Potable Water Facility	Potable Water Tank	Primary Education	Secondary Education	Shelter	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Livonia (T)	0	1	1	0	1	1	0	2	0	0	1	0	0	1	2	1	1	2	1	1	0	0	0	1	1	0	0	1	1
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (T)	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	1	0	0	2	0	0	1	0	1	1	0	1	0	1	1	1	0	1	0	0	0	1	1	3	1	1	0	1
North Dansville (T)	1	2	1	0	0	0	0	0	0	0	0	1	0	3	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Nunda (T)	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0
Nunda (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ossian (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0
Sparta (T)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Springwater (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Sparta (T)	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	6	1	2	0	0	0	0	2	0	1	1	0	1	0	0	0	0	1	0	0	1	0	1	3	0	0	0	1
Livingston County (Total)	**1**	**52**	**5**	**6**	**7**	**1**	**6**	**9**	**5**	**2**	**8**	**6**	**3**	**9**	**15**	**3**	**8**	**15**	**9**	**2**	**3**	**5**	**2**	**7**	**16**	**5**	**4**	**3**	**5**

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Pipelines																															
	Adult Care	Bridge	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Chemical Storage	Major Employer	Military Installation	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Caledonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conesus (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0
Dansville (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geneseo (T)	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	2	0
Geneseo (V)	0	0	2	1	1	2	2	0	0	0	0	0	1	0	2	1	0	3	4	0	1	0	0	0	0	0	2	1	1	0	0	0	0
Groveland (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leicester (T)	0	2	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Leicester (V)	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	0	1	1	1	0	0
Lima (T)	1	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	1	1	0	0	0	0	0	1	0	1	2	1	0	0	0	1	1	3	1	1	0	0	1	1	0	1	0	0	1	1	0	0
Livonia (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Dansville (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nunda (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nunda (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ossian (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Jurisdiction	Number of Critical Facilities Located Within Half Mile of Hazardous Materials Pipelines																															
	Adult Care	Bridge	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Chemical Storage	Major Employer	Military Installation	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary Education	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Portage (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Sparta (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Livingston County (Total)	**1**	**12**	**9**	**1**	**2**	**2**	**2**	**2**	**5**	**3**	**3**	**5**	**2**	**1**	**6**	**1**	**1**	**5**	**12**	**4**	**2**	**1**	**3**	**3**	**1**	**1**	**4**	**2**	**3**	**2**	**2**	**8**	**1**

Jurisdiction	Number of Critical Facilities Located Within Selected Buffer of Hazardous Materials Tier II Facilities																																
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Dialysis Center	Electric Substation	EMS	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Military Installation	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage
Avon (T)	0	1	16	2	4	1	1	0	0	6	0	0	1	2	1	0	0	1	4	0	0	1	2	0	0	0	2	1	0	0	0	1	2	0	0	2	0
Avon (V)	1	0	1	1	1	4	0	0	0	0	0	1	0	1	1	0	1	1	4	0	1	1	3	1	0	0	0	0	2	1	2	0	5	1	1	0	1

Jurisdiction	Number of Critical Facilities Located Within Selected Buffer of Hazardous Materials Tier II Facilities																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Dialysis Center	Electric Substation	EMS	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Military Installation	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage
Caledonia (T)	0	0	1	0	8	0	0	0	0	0	0	0	1	0	1	0	0	1	3	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0
Caledonia (V)	0	0	0	1	3	1	0	0	0	1	0	0	0	1	1	0	1	0	1	0	1	2	7	1	0	0	1	0	1	0	2	0	1	1	1	0	0
Conesus (T)	0	0	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Dansville (V)	0	0	4	0	0	7	0	0	0	0	0	0	1	1	2	2	1	0	1	0	3	1	9	1	1	0	2	0	2	1	1	0	3	1	1	0	1
Geneseo (T)	1	1	8	0	6	1	0	0	0	5	0	4	0	0	2	0	0	0	2	0	1	1	4	0	0	0	2	1	1	0	1	0	0	0	0	6	0
Geneseo (V)	0	0	0	1	3	2	1	2	3	0	1	0	1	1	1	1	2	0	3	1	2	4	4	1	1	0	0	0	1	0	3	1	3	1	1	0	1
Groveland (T)	0	1	1 2	0	2	0	0	3	0	1	0	1	0	2	1	0	0	0	1	0	0	1	2	2	0	2	3	0	0	0	0	1	0	1	0	1	1
Leicester (T)	0	0	1 0	0	0	0	0	0	0	2	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0
Leicester (V)	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0
Lima (T)	1	0	3	0	4	1	0	0	0	3	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Lima (V)	0	0	1	0	1	1	0	0	0	0	0	1	0	1	2	0	1	0	0	0	1	1	3	1	1	0	0	1	1	0	1	0	0	1	1	0	1
Livonia (T)	1	1	8	1	2	3	1	0	0	7	0	0	1	3	0	0	0	1	2	0	1	2	3	4	0	2	3	3	0	1	2	1	2	0	0	14	1
Livonia (V)	0	0	0	0	0	3	0	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	3	1	0	0	0	0	2	0	0	0	1	1	1	0	0
Mount Morris (T)	1	1	4	1	1	0	0	0	1 2	2	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	2	0	0	2	0	0	0	1	0	0	1	1	1	0	1	0	1	0	1	1	4	1	0	0	0	0	1	1	2	0	4	1	1	0	1
North Dansville (T)	0	1	1 5	1	3	1	1	0	0	0	0	1	0	0	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0
Nunda (T)	0	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Nunda (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ossian (T)	0	0	8	0	1	0	0	0	0	8	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Portage (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	0	5	0	5	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0
Springwater (T)	0	0	5	0	4	1	0	0	0	5	0	1	0	1	1	0	0	0	0	0	0	0	1	2	0	0	1	0	0	0	0	0	1	1	0	0	1	0
West Sparta (T)	0	0	1 6	0	3	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

Jurisdiction	Number of Critical Facilities Located Within Selected Buffer of Hazardous Materials Tier II Facilities																																		
	Adult Care	Airport	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	Correctional Facility	County Building	Dam	Dialysis Center	Electric Substation	EMS	Fire Station	Highway Department	Hospital	Library	Major Chemical Storage	Major Employer	Military Installation	Pharmacy	Police Station	Polling Site	Post Office	Post-Secondary	Potable Water Facility	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage
York (T)	0	0	16	1	3	2	0	0	0	3	0	2	1	2	1	0	0	3	2	0	0	1	2	4	0	0	3	0	1	0	1	0	8	1	0	0	1
Livingston County (Total)	**5**	**6**	**139**	**9**	**58**	**30**	**4**	**5**	**15**	**53**	**1**	**13**	**9**	**20**	**22**	**3**	**8**	**10**	**29**	**1**	**11**	**17**	**51**	**20**	**4**	**5**	**18**	**9**	**13**	**4**	**15**	**7**	**39**	**14**	**7**	**26**	**9**

E.6 Invasive Species

E.6.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
2008 to 2014	WNV	N/A	N/A	Between 2008 and 2014, Livingston County had a very low occurrence of WNV among birds, horses, humans, and pets.
2012	Armyworm	N/A	N/A	Livingston County was included in a USDA disaster declaration (S3411) for the armyworm outbreak. The county lost 65% of its crops.

E.6.2 Risk Assessment Tables

N/A

E.7 Landslide

E.7.1 Hazard Events in the 2015 HMP

N/A

E.7.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located in the Steep Slope (Greater Than 15% Grade) Landslide Hazard Area										
	Airport	Bridge	Bus Facility	Cell Tower	Dam	Electric Substation	Fire Station	Major Chemical Storage	Polling Site	Post Office	Tier II HazMat
Avon (T)	0	0	0	0	0	0	0	0	0	0	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	0	0	0	0	0	0	0	0	0
Conesus (T)	0	0	0	0	0	0	0	0	0	0	0
Dansville (V)	0	0	0	0	0	0	0	0	0	0	0
Geneseo (T)	1	0	0	0	0	1	0	0	3	0	0
Geneseo (V)	0	0	0	0	0	0	0	0	0	0	0
Groveland (T)	0	0	0	0	0	0	0	0	0	0	0
Leicester (T)	0	1	0	0	0	0	0	0	0	0	0
Leicester (V)	0	0	0	0	0	0	0	0	0	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	0	0	0	0	0	0	0	0	0	0
Livonia (T)	0	0	0	0	0	0	0	0	0	0	0

Jurisdiction	Number of Critical Facilities Located in the Steep Slope (Greater Than 15% Grade) Landslide Hazard Area										
	Airport	Bridge	Bus Facility	Cell Tower	Dam	Electric Substation	Fire Station	Major Chemical Storage	Polling Site	Post Office	Tier II HazMat
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (T)	0	0	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	0	0	0	0	0	0	0	0	0
North Dansville (T)	0	0	0	0	0	0	0	0	0	0	0
Nunda (T)	0	0	0	0	0	0	0	0	0	0	0
Nunda (V)	0	0	0	0	0	0	0	0	0	0	0
Ossian (T)	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	0	0	0	0	0	0	0	0	0	0
West Sparta (T)	0	0	0	0	0	0	0	0	0	0	0
York (T)	0	2	1	1	1	1	1	1	0	1	2
Livingston County (Total)	**1**	**3**	**1**	**1**	**1**	**2**	**1**	**1**	**3**	**1**	**2**

E.8 Mine Subsidence

E.8.1 Hazard Events in the 2015 HMP

N/A

E.8.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located in the Salt Mine Subsidence Hazard Area											
	Bridge	Cell Tower	Correctional Facility	County Building	Dam	Electric Substation	Police Station	Potable Water Tank	Potable Water Tower	Sheriff Radio Tower	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	1	1	0	0	0	0	0	0	0	0	0	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	4	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	0	0	0	0	0	0	0	0	0	0

Jurisdiction	Number of Critical Facilities Located in the Salt Mine Subsidence Hazard Area											
	Bridge	Cell Tower	Correctional Facility	County Building	Dam	Electric Substation	Police Station	Potable Water Tank	Potable Water Tower	Sheriff Radio Tower	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Conesus (T)	0	0	0	0	2	0	0	0	0	0	0	0
Dansville (V)	0	0	0	0	0	0	0	1	0	0	0	0
Geneseo (T)	0	1	0	0	0	0	0	0	0	0	1	0
Geneseo (V)	0	0	1	0	0	0	1	0	0	0	0	0
Groveland (T)	1	0	0	0	0	0	0	0	0	0	0	0
Leicester (T)	2	0	0	0	1	0	0	0	0	0	0	0
Leicester (V)	0	0	0	0	0	0	0	0	0	0	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	1	0	0	0	0	0	0	1	0	0	0
Livonia (T)	1	0	0	0	1	0	0	0	1	0	1	0
Livonia (V)	0	0	0	0	0	1	0	0	0	0	0	0
Mount Morris (T)	0	0	0	2	0	0	0	0	0	0	0	0
Mount Morris (V)	0	0	0	0	0	0	0	0	0	0	0	0
North Dansville (T)	0	2	0	0	0	0	0	0	0	1	0	0
Nunda (T)	0	0	0	0	0	0	0	1	0	0	0	0
Nunda (V)	0	0	0	0	0	0	0	0	0	0	0	0
Ossian (T)	1	0	0	0	1	0	0	0	0	0	0	0
Portage (T)	2	0	0	0	1	0	0	0	0	0	0	0
Sparta (T)	0	0	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	0	0	0	1	0	0	1	0	0	0	0
West Sparta (T)	1	0	0	0	1	0	0	0	0	0	0	0
York (T)	4	0	0	0	0	0	0	0	0	0	0	1
Livingston County (Total)	**13**	**9**	**1**	**2**	**8**	**1**	**1**	**3**	**2**	**1**	**2**	**1**

E.9 Pandemic

E.9.1 Hazard Events in the 2015 HMP

N/A

E.9.2 Risk Assessment Tables

N/A

E.10 Severe Storm

E.10.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 9, 2008	Thunderstorm Wind	N/A	N/A	A powerful cold front crossed the region during early morning hours. The thunderstorms that accompanied the front produced damaging wind gusts measured to 75 mph. Trees and power lines were downed by the winds throughout the region. Several homes and automobiles sustained damage by falling trees and limbs.
January 30, 2008	High Wind	N/A	N/A	A powerful cold front crosses western New York and was followed by very strong west to southwest winds. Sustained winds increased to 30 to 45 mph with gusts measured to 80 mph at the peak of the storm. Trees and power lines were downed by the strong winds. Utility companies reported close to 100,000 customers without power in locations scattered throughout region. Several homes and automobiles were damaged by falling trees and limbs. The New York State Thruway was closed from Henrietta to Depew because of blowing snow and whiteout conditions. Two tractor trailers were blown over on the Thruway. In Irondequoit, the steeple of a church was blown down.
April 12, 2008	Thunderstorm Wind	N/A	N/A	A line of severe thunderstorms moved through the area in the early hours of the morning. In addition to hail (up to ¾ inch in diameter), downburst winds brought down trees and power lines. In the central Livingston County Town of West Sparta, a concentrated area of more significant straight line wind damage occurred. The damage area was about 2 miles long and several hundred yards wide. Five buildings sustained shingle and siding damage in the area along Redmond and McKay Roads, and two sheds were blown over. Numerous trees were uprooted and snapped off, including two distinct areas of enhanced damage in forested areas just north of McKay Road. Winds were estimated at 70 to 80 mph in this area.
June 10, 2008	Thunderstorm Wind	N/A	N/A	A pre-frontal trough well ahead of a cold front moved into a sultry air mass with ample instability and wind shear. A weak super-cell formed near Erie, Pennsylvania, and grew as it encountered an outflow from earlier convection. The storm continued to intensify as it moved across the western southern tier of New York and reach severe limits as it cross the eastern Finger Lakes and eastern Lake Ontario Regions of New York. The thunderstorms produced hail (up to ¾ inch in diameter) and wind gusts were estimated to near 70 mph. The storms cut power to nearly 75,000 customers for several hours through the evening. Falling trees damaged homes and automobiles in Avon and York, (Livingston County) and Phoenix, Oswego and Sandy Pond in Oswego County.
June 13, 2008	Thunderstorm Wind	N/A	N/A	A very warm and humid southerly flow between low pressure over the upper Great Lakes and high pressure off the mid-Atlantic coast during the day provided ideal conditions for late afternoon thunderstorms across the parts of the area. Convection focused on outflow and lake breeze boundaries. The thunderstorm wind gusts were measured to 62 mph and downed trees and power lines. Hail (up to nickel-sized) was also reported.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
June 29, 2008	Thunderstorm Wind	N/A	N/A	A line of severe thunderstorms developed over the extreme western part of the state and tracked eastward across the region. The thunderstorms brought another round of damaging hail and thunderstorm winds to western and central New York. Trees and power lines and poles were downed by the wind gusts estimated between 60 and 65 mph. Scattered power outages were reported by the utility companies with tens of thousands of customers affected throughout the region.
July 17, 2008	Hail	N/A	N/A	Thunderstorms that crossed parts of the Finger Lakes region during the morning hours produced three-quarter inch hail and damaging winds estimated nearing 60 mph. Several thousand were left without power.
July 24, 2008	Thunderstorm Wind	N/A	N/A	Thunderstorms which crossed the area produced hail up to one inch in diameter and strong winds estimated to 60mph. The thunderstorms produced as much as 5 inches of rain in a few hours over parts of the region. The Town of Springwater, was particularly hard hit washing away roads and culverts and exposing underground water pipes.
September 14, 2008	High Wind	N/A	N/A	The low center (a remnant of Hurricane Ike) reached the lower Great Lakes region during the late evening and brought high winds to the area as it lifted from Indiana across southern Ontario. Wind gusts were measured to 66 mph. The winds downed trees and power lines throughout the area. The wet soil conditions contributed to the number of downed trees. Debris blocked many streets and highways. There were numerous reports of homes, building and automobiles being damaged by fallen trees.
December 28, 2008	High Wind	N/A	N/A	A complex area of low pressure developed over the midsection of the nation and strengthened as it moved into the western Great Lakes region then into Quebec. Winds accompanying the system increased rapidly across the area ranging from 30 to 40 m.p.h. Close to 100,000 customers lost power during the storm and nearly 90,000 were without phone service. Downed trees damaged several structures and automobiles. The strong winds tore off roofs and shingles on many buildings.
February 12, 2009	High Wind	N/A	N/A	Deep low pressure moved across southern Ontario and Lake Ontario to the New England coast. The track and intensity of the low resulted in high winds for much of western New York. Wind gusts were measured to 69 mph with widespread estimated gusts between 55 and 60 mph. The strong winds downed trees and power lines. Electric utilities reported nearly 100,000 customers without power at the peak of the storm.
June 25, 2009	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms accompanied the passage of a cold front across the region. The thunderstorm winds downed trees and power lines. Scattered power outages were reported across the area.
July 11, 2009	Hail	N/A	N/A	Thunderstorms preceded and accompanied a cold front moving across the region during the late morning and afternoon hours. The thunderstorm winds downed trees and power lines. In Livingston county, a thunderstorm produced nickel-size hail just north of Dansville.
July 21, 2009	Thunderstorm Wind	N/A	N/A	Thunderstorms preceded and accompanied a cold front moving across the region during the late morning and afternoon hours. The thunderstorm winds downed power lines in the town of Caledonia in Livingston county.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
August 9, 2009	Thunderstorm Wind	N/A	N/A	A massive convective complex moved from lower Michigan across southern Ontario near Toronto then dove southeast across the Niagara Frontier and western Southern Tier. This followed an earlier round of strong thunderstorms and heavy rains earlier in the day. Damage from the thunderstorm winds was widespread across the Niagara Frontier and western Southern Tier. Trees, as large as 2 to 3 feet in diameter, were downed. Power outages were scattered throughout the region as the winds downed power lines. The unprecedented heavy rains added 4 to 6 inches of water in less than 2 hours, resulting in some of the worst flash flooding the area had seen. Tri-County hospital in Gowanda was inundated by flood waters. Patients were transferred to Lakeshore Hospital in Irving. Several hundred homes sustained damage and 40 homes were condemned. The gage on Cattaraugus Creek at Gowanda indicated the water rose from 6 feet to almost 13 feet in less than an hour (flood stage is 10 feet).
August 29, 2009	Thunderstorm Wind	N/A	N/A	Low pressure tracked across Ontario and Quebec dragging a cold front across the region. Thunderstorm winds downed trees and power lines in West Sparta.
May 8, 2010	High Wind	N/A	N/A	Deep low pressure passed over western New York with its trailing cold front rapidly sweeping east across the region. Winds increased within a few hours of the approaching front to gust speeds of 60 to 65 mph. Tens of thousands were left without power. There were reports of vehicles and/or buildings damaged by falling trees. The high winds were also blamed for several delayed flights at both Buffalo and Rochester airports. The Clayton Dock was damaged by the winds.
July 28, 2010	Thunderstorm Wind	N/A	N/A	Thunderstorms developed ahead of and along a cold front that crossed the area during the late afternoon and evening hours. The thunderstorms produced damaging wind gusts estimated to 65 mph. Trees, power lines and poles were downed by the winds. Utility companies reported tens of thousands without power across the region.
August 16, 2010	Thunderstorm Wind	DR-1899	Yes	A cold front crossed the region during the early overnight hours. The front was accompanied by strong thunderstorms that produced winds gusting to 60 mph. The strong winds downed trees and power lines.
April 16, 2011	High Wind	N/A	N/A	An area of low pressure moved across the eastern Great Lakes region. The system brought strong winds to the area. Wind gusts were measured to 67 mph. The strong winds downed trees and power lines. Utilities reported several thousand customers without power during the evening hours. Damage was reported in Portland, Barcelona, Bemus Point, Wellsville, Springwater, Carthage and Fort Drum.
April 27, 2011	Thunderstorm Wind	DR-1993	Yes	A line of thunderstorms developed along a pre-frontal trough and moved across the entire region from west to east from mid-morning through early afternoon. The thunderstorm winds downed trees and power lines as the fast-moving line swept across the area. Power poles were snapped in some cases and power outages were reported throughout the area. Utilities reported tens of thousands of customers without power. In Dansville, the thunderstorm winds blew off a portion of the roof of Dansville High School.
June 23, 2011	Thunderstorm Wind	N/A	N/A	A line of thunderstorms developed in a southwest flow of moist, unstable air. The thunderstorms bowed across Livingston county producing wind gusts to 60 mph. The winds downed several trees near Lakeville. One of the trees fell onto a house resulting in moderate structural damage.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
September 11, 2011	Hail	DR-1869	Yes	An upper level disturbance crossing the lower Great Lakes fueled thunderstorms across the region.
November 14, 2011	Thunderstorm Wind	N/A	N/A	Severe thunderstorms spawned two tornadoes in Chautauqua County and moved across the western Southern Tier and southern Finger Lakes regions. The thunderstorm winds downed trees and power poles and lines. In Little Valley, a portion of a roof was blown off a house. Wind gusts were estimated between 70 and 80 mph.
January 17, 2012	Thunderstorm Wind	N/A	N/A	Low pressure moved across southern Ontario and pulled a strong cold front across the region during the evening hours. Thunderstorms accompanied the front and produced wind gusts up to 70 mph. The strong winds downed trees and power lines and poles. Power outages were scattered throughout the region with utilities reporting several thousand without power at its worse. In Caledonia, a metal shed was blown over.
May 3, 2012	Thunderstorm Wind	N/A	N/A	An area of showers and thunderstorms moved across the Finger Lakes during the late evening and early overnight hours. The thunderstorms produced damaging downburst winds that knocked down trees and power lines in Avon, Victor, East Bloomfield, Farmington, Bristol and just north of Geneseo. A lightning strike started a house on fire in Victor. The two-story home was a total loss. The four people in the home were able to escape safely.
May 29, 2012	Thunderstorm Wind	N/A	N/A	A strong cold front crossed the region bringing an end to oppressive heat and humidity; however, the front was accompanied by severe thunderstorms which produced hail (up to 1.75 inches in diameter) and damaging winds that downed trees and power lines. Utilities reported tens of thousands without power scattered throughout the region. Only minor structural damage was reported mainly broken windows and ripped off shingles. Several automobiles were damaged by falling trees and limbs.
August 5, 2012	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms developed in a warm, moist atmosphere ahead of an approaching cold front. Wind gusts were measured to 60 mph. The thunderstorm winds downed trees and power lines throughout the region. In many areas, downed trees blocked roads and highways.
September 8, 2012	Thunderstorm Wind	N/A	N/A	A line of thunderstorms developed along a pre-frontal trough and moved across the entire region from west to east from mid-morning through early afternoon. The thunderstorm winds downed trees and power lines as the fast moving line swept across the area. Power poles were snapped in some cases and power outages were reported throughout the area. Utilities reported tens of thousands of customers without power.
October 29, 2012	High Wind	N/A	N/A	Remnants of Hurricane Sandy brought strong winds and heavy rains to western and north central New York. Rainfall amounts of 2 to 5 inches were reported with some area creeks reaching bankful. The high winds downed trees and power lines throughout the region. Wind gusts were measured to 60 mph. Tree damage was greater than usual with such wind speeds because of saturated ground and northeast winds, opposite of the normal prevailing southwest winds. Utilities reported tens of thousands of customers without power across the entire region.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 20, 2013	High Wind	N/A	N/A	A deepening storm system moved across the upper Great Lakes, bringing strong, damaging winds to the entire region late Saturday night into Sunday (20th-21st). Trees, power poles, and wires were brought down by the winds. Numerous roads were blocked by fallen trees, wires, and debris. Structural damage was also reported. Some of the more significant damage included: an awning ripped off in Lancaster, roof trusses were downed on an building under construction in Batavia, part of a metal roof blown off in Portageville, a trailer damaged by a fallen tree in West Bloomfield, ladder assembly blown off a silo near Constableville, and a boat destroyed by a fallen tree in Livonia. Utilities reported tens of thousands without power for a time. Specific measured gusts included 51 mph at Livonia.
May 10, 2013	Hail	N/A	N/A	Thunderstorms developed ahead of and accompanied a cold front crossing the area. The thunderstorms produced hail (up to 1.25 inches in diameter) in several locations.
May 21, 2013	Hail	N/A	N/A	Thunderstorms developed along various boundaries within a warm and moist air mass over the region. Storms first developed across the Finger Lakes midday along the Lake Ontario lake breeze and then in the mid-afternoon along the Lake Erie lake breeze boundary as it pushed inland across the southern tier. The strongest storms produced 1- to 2- inch hail stones. In several locations, automobiles were damaged by the hail stones. Later in the afternoon, thunderstorms rolled across northern New York State with downed trees and power poles reported.
July 10, 2013	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms developed in a warm, moist, unstable air mass as a cold front approached from the west. The thunderstorms produced damaging winds. Hail (up to 1-inch in diameter) fell near Sherman. The thunderstorm winds downed trees and power lines. In Springwater, a house was damaged when thunderstorm winds knocked a tree onto it.
September 2, 2013	Hail	N/A	N/A	After a week of late summer warmth and humidity, a cold front crossed the region. The front sparked showers and thunderstorms with its passage. Several thunderstorms produced large hail and damaging winds with the large hail mainly across the southern tier and the damaging wind gusts across the northern part of the country. Hail (up to 1.75 inch in diameter) was reported throughout the County. In several locations, downed trees made roads impassable.
November 1, 2013	High Wind	N/A	N/A	Deep low pressure lifted across the Great Lakes region. The system brought strong winds to much of the region. Winds gusted as high as 62 mph. The strong winds downed trees and power lines throughout the region. Power outages were in the tens of thousands. In addition to minor structural damage to homes and building, a number of houses and automobiles were damaged by falling trees and limbs.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
May 13-22, 2014	Severe Storm and Flooding	DR-4180	Yes	A storm cell passed through the County, with a duration of several days. Total rainfall from the storm consisted of 7 inches. The rainfall led to widespread flooding and caused severe damages to both municipal and County-owned roads and bridges. All Towns and Villages were impacted by the storm and it took several days for the jurisdictions to recover. The first estimates of storm damage included about $350,000, and a presidential disaster declaration was given to the County (FEMA DR-4180). Neighboring counties who were impacted by the storm also received coverage under the disaster declaration. The total amount of storm damage was $1.4 million. In Livingston County, the hardest hit area was the southern portion of the County. General types of damage from the storm included ditch, crossover pipes, and road shoulder washouts. All fire departments participated in pumping details of basements for personal residences. There was no loss of life during this storm.
July 26-27, 2014	Severe Storm and Flooding	N/A	N/A	A storm passed through the northwest corner of the County, affecting the Town of York, Town of Avon, Town of Caledonia, the Village of Caledonia, the Village of Avon, the Village of Lima, and a portion of the Town of Lima. The flooding damaged these jurisdictions' infrastructure, exposing underground waterlines, natural gas lines, sewer lines, shoulder and road damage, as well as causing stream bank erosion and flooding in residential property of basements. Stormwater systems, crossover pipes, and box culverts also flooded. The storm overflowed the sewer system in the Hamlet of Retsof in the Town of York. While daily flows are typically about 100,000 gallons, the outflow on the day of the storm and for several days after consisted of over a million gallons. The Village of Avon experienced overflowing of sewer and stormwater management systems. Fire departments of impacted towns and villages responded to the affected areas. County and jurisdictional fire departments from non-impacted areas also responded under mutual aid agreements. County road damage was minimal, and the County was able to assist towns and villages with equipment and personnel needs. An operations center was established at the Avon Fire Department to oversee the storm damage. Damage estimates were at $450,000. Estimates were reported to DHSES-OEM. No Presidential Declaration was determined for this storm. No loss of life was associated with this storm.
August 2-3, 2014	Severe Storm and Flooding	N/A	N/A	One week after the July 26-27th storm, the County experienced a second severe storm, which impacted the same villages and towns damaged from the previous storm (the Town of York, Town of Avon, Town of Caledonia, the Village of Caledonia, the Village of Avon, the Village of Lima, and a portion of the Town of Lima). The same infrastructure from the previous storm was again damaged. There were additional damages to road shoulders and driveway pipes. The Fire Department mutual aid system was activated to assist with flooding. The operations center was re-established at the Avon Fire Department to manage the storm and damages. Damage estimates were at $300,000. The State determined this storm as an isolated event from the last storm and the two events are categorized separately.

E.10.2 Risk Assessment Tables

N/A

E.11 Severe Winter Storm

E.11.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
March 4, 2008	Winter Storm	N/A	No	Low pressure developed over the lower Mississippi valley and lifted to the Ohio valley. The storm brought a mix of snow, sleet, and freezing rain to the region. A general snow of 4 to 6 inches blanketed the entire region and was followed by several inches of sleet and up to a half inch of glaze from freezing rain. Schools were closed in many parts of the region. Some county officials declared States of Emergency, while others recommended no unnecessary travel. Utility companies reported scattered power outages affected tens of thousands of customers across the region.
March 7-9, 2008	Winter Storm	N/A	No	One of the worst storms of the 2007-2008 winter season occurred from the 7th through the 9th. This was an extended two-part event, but totals of 1 to 2 feet of snow were common, with some isolated higher amounts. The storm occurred over a weekend so impact to daily activities (school and businesses) was minimal. Numerous automobile accidents were blamed on the slippery conditions and poor visibilities in falling and blowing snow. The 21.6 inch total measured at the Buffalo Airport was the greatest general (non-lake effect) snowfall in Buffalo in 24 years. Other snowfall reports included: 30 inches at Ellicottville; 26 inches at Lockport and Perrysburg; 24 inches at Depew; 23 inches at Getzville; 22 inches at North Tonawanda and Hamlin; 21 inches at Hamburg, Amherst, and Niagara Falls; 18 inches at Brockport, Colden, Sinclairville, and Warsaw; 17 inches as Copenhagen, Forestville, and South Dayton; 16 inches at Darien and Scottsburg; 15 inches at Colden, Gaines, Pulaski, and Basom; 14 inches at Middleport, Lacona, and Webster; 13 inches as Greece, Hannibal, and Kennedy; and 12 inches at Cato, Bennetts Bridge, and Marion.
December 19, 2008	Winter Storm	N/A	No	Low pressure moved out of the central plains and moved across Pennsylvania. The low brought an 8 to 12 inch blanket of snow to the entire region on the 19th. Across the western southern tier, snowfall amounts were slightly lower; the snow mixed with freezing rain and sleet across that area. Some of the highest snowfall amounts included: 16 inches at Fairport; 15 inches at Youngstown; 14 inches at LaSalle; 13 inches at Medina; 12 inches at Getzville, Lockport, and North Tonawanda; 11 inches at Montezuma, Charlotte, Perinton, and Warsaw; 10 inches at Kenmore, Buffalo, Stafford, Pavilion, Lowville, Harrisville, Rochester, Niagara Falls, Wilson, Oswego, Walworth and Akron; 9 inches at West Seneca, Black River, Calcium, Hooker, Gorham, Phelps, and Palmyra. Innumerable automobile accidents were reported throughout the region as the roads became hard to navigate in the heavy snow and reduced visibilities. Schools shut down across the region and many municipalities suggested avoiding unnecessary travel if possible.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
December 31, 2008	Winter Storm	N/A	No	A deepening area of low pressure moved across the Ohio valley and Pennsylvania before moving off the southern New England Coast during the afternoon of the 31st. Steady snow developed over the region and was accompanied by increasing northerly winds. Widespread snowfall amounts ranged from 8 to 14 inches during the 8-hour event. The strong winds produced areas of blowing and drifting snow and resulted in significantly reduced visibilities. Some of the highest snowfall reports included: 14 inches at Walworth; 12 inches at Fairport; 11 inches at Lockport; 10 inches at Alden, Colden, Kenmore, Livonia, Penfield, and Warsaw; 9 inches at Sinclairville, Buffalo, Amherst, Clarence, Elma, Pavilion, Greece, and Niagara Falls; and 8 inches at South Dayton, Montezuma, Avon, Mount Morris, and Newark.
February 25, 2010	Winter Storm	N/A	No	A deep storm system off Long Island strengthened and stalled off the New York/New Jersey coast. The system circulated Atlantic moisture back across western and north central New York. A general 6 to 10 inches of snow fell across the region with higher amounts to the east (closer to the low center) and downwind of the Great Lakes (where lake enhancement occurred). Many schools throughout the region were closed because of the snow. Numerous automobile accidents were blamed on the treacherous driving conditions.
February 25, 2011	Winter Storm	N/A	No	An intensifying area of low pressure moved across Pennsylvania then headed northeast across New England. The system brought a significant snowfall of 6 to 12 inches of snow to the entire area. A brisk northerly flow also resulted in a significant amount of blowing and drifting snow. Winds gusted to 40 mph along the Lake Erie Shore. A 30-mile stretch of the New York State Thruway between Hamburg and Dunkirk was closed because of multiple accidents. There were several reports of building collapses throughout the region from the weight of the snow that had built up throughout the snowy winter.
April 22, 2012	Winter Storm	N/A	No	A significant east coast storm spread rain then snow across the region. The heavy, wet snow was significant enough to down trees and power lines resulting in scattered power outages across the region. Snowfall amounts and damage were highly elevation dependent, thus the western southern tier and Finger Lakes region were most impacted. Specific reports included: 15 inches at Sinclairville; 13 inches at Cattaraugus, Colden, and Frewsburg; 12 inches at Warsaw; 10 inches at Alfred and Boston; 9 inches at West Valley and Dansville; 8 inches at Wales; 7 inches at Glenwood; and 6 inches at Whitesville and Livonia.
December 26, 2012	Winter Storm	N/A	No	Low pressure over the deep south lifted across the Tennessee Valley to the Delmarva coast. The low pressure spread a general foot to a foot and a half of snow across the entire region. Winds increased to 20 to 30 mph, gusting at times to near 40 mph. The winds produced blowing snow and reduced visibilities. Numerous automobile accidents occurred because of the wintry conditions. Some holiday travel was disrupted at Buffalo and Rochester airports. Specific snowfall reports received included: 20 inches at Sodus; 18 inches at Copenhagen; 17 inches at Watertown and Fulton; 16 inches at Gainesville; 15 inches at Wales and Walworth; 14 inches at Greece, Bennetts Bridge, and Newark; 13 inches at Allegany, Perrysburg, Hamburg, Beaver Falls, Dansville, Bristol, and Minetto; 12 inches at Portville, Franklinville, Buffalo Airport, Orchard Park, Lowville, Chili, Penfield, Honeoye, Phelps, Medina, Holley, Palermo, Phoenix, Palmyra, and Bennington; 11 inches at Wellsville, Whitesville, Alden, Elma, West Seneca, Williamsville, Croghan, Rochester Airport, Lockport, and Perry; 10 inches at Almond, Alfred, Rushford, Salamanca, Olean, Cato, East Aurora, Boston, Stafford, Pavilion, Portageville, Avon, Pendleton, Albion, Mexico, and Warsaw; 9 inches at Forestville and Ripley.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
November 26, 2013	Winter Storm	N/A	No	A strengthening area of low pressure moved north along the U.S. East Coast. The storm brought accumulating snow across western New York. Across parts of the North Country, the snow mixed with sleet and freezing rain. Although not exceptionally high snowfall totals, strong winds accompanying the system resulted in a considerable amount of blowing snow resulting in frequent white out conditions. Several counties issued travel advisories because of hazardous road conditions. The fact that the storm occurred just a day or two prior to Thanksgiving only added to the impact of the storm. Specific snowfall reports included: 9 inches at Perrysburg, Glenwood, and Warsaw; 8 inches at Randolph, Little Valley, and Frewsburg; 7 inches at Rushford, Franklinville, Jamestown, Colden, Stafford, Pavilion, Greece, and Macedon; 6 inches at Clayton, Geneseo, and Youngstown; and 5 inches at Phelps and Medina.

E.11.2 Risk Assessment Tables

N/A

E.12 Terrorism

E.12.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	Location	FEMA Declaration Number	County Designated?	Losses / Impacts
1989	Explosives	SUNY Geneseo Campus	N/A	N/A	A dean at the State University of New York at Geneseo received a package with a bomb. The package was delivered by campus mail. It was detonated in a field. No injuries or property damage was sustained.
June 14, 2013	Explosives	Springwater	N/A	N/A	The HazMat Team was called to the scene of an explosion the night before at a multiple residence dwelling in Springwater. The Springwater Fire Department was summoned to the scene for an explosion and injury. The cause of the explosion was an individual who was drying bomb making chemicals in his oven. When several pipe bombs were discovered, the County Sheriff's Office and New York State Police became involved. The U.S. Drug Enforcement Agency (DEA) and Bureau of Alcohol, Tobacco, and Firearms (BATF) personnel were called, and the pipe bombs and explosives were removed. The HazMat Team was requested to remove the precursor chemicals to a safe location for disposal by a licensed contractor.

E.12.2 Risk Assessment Tables

N/A

E.13 Utility Failure

E.13.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
January 9, 2008	Thunderstorm Wind	N/A	N/A	A powerful cold front crossed the region during early morning hours. The thunderstorms that accompanied the front produced damaging wind gusts measured to 75 mph. Trees and power lines were downed by the winds throughout the region. Several homes and automobiles sustained damage by falling trees and limbs.
January 30, 2008	High Wind	N/A	N/A	A powerful cold front crosses western New York and was followed by very strong west to southwest winds. Sustained winds increased to 30 to 45 mph with gusts measured to 80 mph at the peak of the storm. Trees and power lines were downed by the strong winds. Utility companies reported close to 100,000 customers without power in locations scattered throughout region. Several homes and automobiles were damaged by falling trees and limbs. The New York State Thruway was closed from Henrietta to Depew because of blowing snow and whiteout conditions. Two tractor trailers were blown over on the Thruway. In Irondequoit, the steeple of a church was blown down.
March 4, 2008	Winter Storm	N/A	No	Low pressure developed over the lower Mississippi valley and lifted to the Ohio valley. The storm brought a mix of snow, sleet, and freezing rain to the region. A general snow of 4 to 6 inches blanketed the entire region and was followed by several inches of sleet and up to a half inch of glaze from freezing rain. Schools were closed in many parts of the region. Some county officials declared States of Emergency, while others recommended no unnecessary travel. Utility companies reported scattered power outages affected tens of thousands of customers across the region.
April 12, 2008	Thunderstorm Wind	N/A	N/A	A line of severe thunderstorms moved through the area in the early hours of the morning. In addition to hail (up to ¾ inch in diameter), downburst winds brought down trees and power lines. In the central Livingston County Town of West Sparta, a concentrated area of more significant straight line wind damage occurred. The damage area was about 2 miles long and several hundred yards wide. Five buildings sustained shingle and siding damage in the area along Redmond and McKay Roads, and two sheds were blown over. Numerous trees were uprooted and snapped off, including two distinct areas of enhanced damage in forested areas just north of McKay Road. Winds were estimated at 70 to 80 mph in this area.
June 10, 2008	Thunderstorm Wind	N/A	N/A	A pre-frontal trough well ahead of a cold front moved into a sultry air mass with ample instability and wind shear. A weak super-cell formed near Erie, Pennsylvania, and grew as it encountered an outflow from earlier convection. The storm continued to intensify as it moved across the western southern tier of New York and reach severe limits as it cross the eastern Finger Lakes and eastern Lake Ontario Regions of New York. The thunderstorms produced hail (up to ¾ inch in diameter) and wind gusts were estimated to near 70 mph. The storms cut power to nearly 75,000 customers for several hours through the evening. Falling trees damaged homes and automobiles in Avon and York, (Livingston County) and Phoenix, Oswego and Sandy Pond in Oswego County.
June 13, 2008	Thunderstorm Wind	N/A	N/A	A very warm and humid southerly flow between low pressure over the upper Great Lakes and high pressure off the mid-Atlantic coast during the day provided ideal conditions for late afternoon thunderstorms across the parts of the area. Convection focused on outflow and lake breeze boundaries. The thunderstorm wind gusts were measured to 62 mph and downed trees and power lines. Hail (up to nickel-sized) was also reported.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
June 29, 2008	Thunderstorm Wind	N/A	N/A	A line of severe thunderstorms developed over the extreme western part of the state and tracked eastward across the region. The thunderstorms brought another round of damaging hail and thunderstorm winds to western and central New York. Trees and power lines and poles were downed by the wind gusts estimated between 60 and 65 mph. Scattered power outages were reported by the utility companies with tens of thousands of customers affected throughout the region.
July 17, 2008	Hail	N/A	N/A	Thunderstorms that crossed parts of the Finger Lakes region during the morning hours produced three-quarter inch hail and damaging winds estimated nearing 60 mph. Several thousand were left without power.
September 14, 2008	High Wind	N/A	N/A	The low center (a remnant of Hurricane Ike) reached the lower Great Lakes region during the late evening and brought high winds to the area as it lifted from Indiana across southern Ontario. Wind gusts were measured to 66 mph. The winds downed trees and power lines throughout the area. The wet soil conditions contributed to the number of downed trees. Debris blocked many streets and highways. There were numerous reports of homes, building and automobiles being damaged by fallen trees.
December 28, 2008	High Wind	N/A	N/A	A complex area of low pressure developed over the midsection of the nation and strengthened as it moved into the western Great Lakes region then into Quebec. Winds accompanying the system increased rapidly across the area ranging from 30 to 40 m.p.h. Close to 100,000 customers lost power during the storm and nearly 90,000 were without phone service. Downed trees damaged several structures and automobiles. The strong winds tore off roofs and shingles on many buildings.
February 12, 2009	High Wind	N/A	N/A	Deep low pressure moved across southern Ontario and Lake Ontario to the New England coast. The track and intensity of the low resulted in high winds for much of western New York. Wind gusts were measured to 69 mph with widespread estimated gusts between 55 and 60 mph. The strong winds downed trees and power lines. Electric utilities reported nearly 100,000 customers without power at the peak of the storm.
June 25, 2009	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms accompanied the passage of a cold front across the region. The thunderstorm winds downed trees and power lines. Scattered power outages were reported across the area.
July 11, 2009	Hail	N/A	N/A	Thunderstorms preceded and accompanied a cold front moving across the region during the late morning and afternoon hours. The thunderstorm winds downed trees and power lines. In Livingston county, a thunderstorm produced nickel-size hail just north of Dansville.
July 21, 2009	Thunderstorm Wind	N/A	N/A	Thunderstorms preceded and accompanied a cold front moving across the region during the late morning and afternoon hours. The thunderstorm winds downed power lines in the town of Caledonia in Livingston county.
August 9, 2009	Thunderstorm Wind	N/A	N/A	A massive convective complex moved from lower Michigan across southern Ontario near Toronto then dove southeast across the Niagara Frontier and western Southern Tier. This followed an earlier round of strong thunderstorms and heavy rains earlier in the day. Damage from the thunderstorm winds was widespread across the Niagara Frontier and western Southern Tier. Trees, as large as 2 to 3 feet in diameter, were downed. Power outages were scattered throughout the region as the winds downed power lines. The unprecedented heavy rains added 4 to 6 inches of water in less than 2 hours, resulting in some of the worst flash flooding the area had seen. Tri-County hospital in Gowanda was inundated by flood waters. Patients were transferred to Lakeshore Hospital in Irving. Several hundred homes sustained damage and 40 homes were condemned. The gage on Cattaraugus Creek at Gowanda indicated the water rose from 6 feet to almost 13 feet in less than an hour (flood stage is 10 feet).

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
August 29, 2009	Thunderstorm Wind	N/A	N/A	Low pressure tracked across Ontario and Quebec dragging a cold front across the region. Thunderstorm winds downed trees and power lines in West Sparta.
May 8, 2010	High Wind	N/A	N/A	Deep low pressure passed over western New York with its trailing cold front rapidly sweeping east across the region. Winds increased within a few hours of the approaching front to gust speeds of 60 to 65 mph. Tens of thousands were left without power. There were reports of vehicles and/or buildings damaged by falling trees. The high winds were also blamed for several delayed flights at both Buffalo and Rochester airports. The Clayton Dock was damaged by the winds.
July 28, 2010	Thunderstorm Wind	N/A	N/A	Thunderstorms developed ahead of and along a cold front that crossed the area during the late afternoon and evening hours. The thunderstorms produced damaging wind gusts estimated to 65 mph. Trees, power lines and poles were downed by the winds. Utility companies reported tens of thousands without power across the region.
August 16, 2010	Thunderstorm Wind	DR-1899	Yes	A cold front crossed the region during the early overnight hours. The front was accompanied by strong thunderstorms that produced winds gusting to 60 mph. The strong winds downed trees and power lines.
April 16, 2011	High Wind	N/A	N/A	An area of low pressure moved across the eastern Great Lakes region. The system brought strong winds to the area. Wind gusts were measured to 67 mph. The strong winds downed trees and power lines. Utilities reported several thousand customers without power during the evening hours. Damage was reported in Portland, Barcelona, Bemus Point, Wellsville, Springwater, Carthage and Fort Drum.
April 27, 2011	Thunderstorm Wind	N/A	N/A	A line of thunderstorms developed along a pre-frontal trough and moved across the entire region from west to east from mid-morning through early afternoon. The thunderstorm winds downed trees and power lines as the fast-moving line swept across the area. Power poles were snapped in some cases and power outages were reported throughout the area. Utilities reported tens of thousands of customers without power.
April 27, 2011	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms accompanied the passage of a cold front across the region. The thunderstorms winds downed trees and power lines. Several hundred customers were without power. In Dansville, the thunderstorm winds blew off a portion of the roof of Dansville High School.
June 23, 2011	Thunderstorm Wind	N/A	N/A	A line of thunderstorms developed in a southwest flow of moist, unstable air. The thunderstorms bowed across Livingston county producing wind gusts to 60 mph. The winds downed several trees near Lakeville. One of the trees fell onto a house resulting in moderate structural damage.
September 11, 2011	Hail	DR-1869	Yes	An upper level disturbance crossing the lower Great Lakes fueled thunderstorms across the region.
November 14, 2011	Thunderstorm Wind	N/A	N/A	Severe thunderstorms spawned two tornadoes in Chautauqua County and moved across the western Southern Tier and southern Finger Lakes regions. The thunderstorm winds downed trees and power poles and lines. In Little Valley, a portion of a roof was blown off a house. Wind gusts were estimated between 70 and 80 mph.
January 17, 2012	Thunderstorm Wind	N/A	N/A	Low pressure moved across southern Ontario and pulled a strong cold front across the region during the evening hours. Thunderstorms accompanied the front and produced wind gusts up to 70 mph. The strong winds downed trees and power lines and poles. Power outages were scattered throughout the region with utilities reporting several thousand without power at its worse. In Caledonia, a metal shed was blown over.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
April 22, 2012	Winter Storm	N/A	No	A significant east coast storm spread rain then snow across the region. The heavy, wet snow was significant enough to down trees and power lines resulting in scattered power outages across the region. Snowfall amounts and damage were highly elevation dependent, thus the western southern tier and Finger Lakes region were most impacted. Specific reports included: 15 inches at Sinclairville; 13 inches at Cattaraugus, Colden, and Frewsburg; 12 inches at Warsaw; 10 inches at Alfred and Boston; 9 inches at West Valley and Dansville; 8 inches at Wales; 7 inches at Glenwood; and 6 inches at Whitesville and Livonia.
May 3, 2012	Thunderstorm Wind	N/A	N/A	An area of showers and thunderstorms moved across the Finger Lakes during the late evening and early overnight hours. The thunderstorms produced damaging downburst winds that knocked down trees and power lines in Avon, Victor, East Bloomfield, Farmington, Bristol and just north of Geneseo. A lightning strike started a house on fire in Victor. The two-story home was a total loss. The four people in the home were able to escape safely.
May 29, 2012	Thunderstorm Wind	N/A	N/A	A strong cold front crossed the region bringing an end to oppressive heat and humidity; however, the front was accompanied by severe thunderstorms which produced hail (up to 1.75 inches in diameter) and damaging winds that downed trees and power lines. Utilities reported tens of thousands without power scattered throughout the region. Only minor structural damage was reported mainly broken windows and ripped off shingles. Several automobiles were damaged by falling trees and limbs.
August 5, 2012	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms developed in a warm, moist atmosphere ahead of an approaching cold front. Wind gusts were measured to 60 mph. The thunderstorm winds downed trees and power lines throughout the region. In many areas, downed trees blocked roads and highways.
September 8, 2012	Thunderstorm Wind	N/A	N/A	A line of thunderstorms developed along a pre-frontal trough and moved across the entire region from west to east from mid-morning through early afternoon. The thunderstorm winds downed trees and power lines as the fast moving line swept across the area. Power poles were snapped in some cases and power outages were reported throughout the area. Utilities reported tens of thousands of customers without power.
October 29, 2012	High Wind	N/A	N/A	Remnants of Hurricane Sandy brought strong winds and heavy rains to western and north central New York. Rainfall amounts of 2 to 5 inches were reported with some area creeks reaching bankful. The high winds downed trees and power lines throughout the region. Wind gusts were measured to 60 mph. Tree damage was greater than usual with such wind speeds because of saturated ground and northeast winds, opposite of the normal prevailing southwest winds. Utilities reported tens of thousands of customers without power across the entire region.
January 20, 2013	High Wind	N/A	N/A	A deepening storm system moved across the upper Great Lakes, bringing strong, damaging winds to the entire region late Saturday night into Sunday (20th-21st). Trees, power poles, and wires were brought down by the winds. Numerous roads were blocked by fallen trees, wires, and debris. Structural damage was also reported. Some of the more significant damage included: an awning ripped off in Lancaster, roof trusses were downed on an building under construction in Batavia, part of a metal roof blown off in Portageville, a trailer damaged by a fallen tree in West Bloomfield, ladder assembly blown off a silo near Constableville, and a boat destroyed by a fallen tree in Livonia. Utilities reported tens of thousands without power for a time. Specific measured gusts included 51 mph at Livonia.
May 21, 2013	Hail	N/A	N/A	Thunderstorms developed along various boundaries within a warm and moist air mass over the region. Storms first developed across the Finger Lakes midday along the Lake Ontario lake breeze and then in the mid-afternoon along the Lake Erie lake

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				breeze boundary as it pushed inland across the southern tier. The strongest storms produced 1- to 2- inch hail stones. In several locations, automobiles were damaged by the hail stones. Later in the afternoon, thunderstorms rolled across northern New York State with downed trees and power poles reported.
July 10, 2013	Thunderstorm Wind	N/A	N/A	Showers and thunderstorms developed in a warm, moist, unstable air mass as a cold front approached from the west. The thunderstorms produced damaging winds. Hail (up to 1-inch in diameter) fell near Sherman. The thunderstorm winds downed trees and power lines. In Springwater, a house was damaged when thunderstorm winds knocked a tree onto it.
November 1, 2013	High Wind	N/A	N/A	Deep low pressure lifted across the Great Lakes region. The system brought strong winds to much of the region. Winds gusted as high as 62 mph. The strong winds downed trees and power lines throughout the region. Power outages were in the tens of thousands. In addition to minor structural damage to homes and building, a number of houses and automobiles were damaged by falling trees and limbs.

E.13.2 Risk Assessment Tables

N/A

E.14 Wildfire

E.14.1 Hazard Events in the 2015 HMP

Dates of Event	Event Type	FEMA Declaration Number	Location / County Designated?	Losses / Impacts
March 17, 2010	Brush Fire	N/A	N/A	A fire in the cattails on River Road was reported in the Town of Leicester.
April 1, 2010	Brush Fire	N/A	N/A	A large brush and field fire was reported on Chase Road in the Village of Lima. Departments from three counties assisted.
April 2, 2010	Brush Fire	N/A	N/A	A large brush and field fire was reported on Depot Road in the Village of Dansville. Several area fire departments assisted the Village.
April 4, 2010	Brush Fire	N/A	N/A	A brush fire and barn fire was reported in the Village of Mount Morris.

E.14.2 Risk Assessment Tables

Jurisdiction	Number of Critical Facilities Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area																												
	Adult Care	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
Avon (T)	0	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avon (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Caledonia (V)	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conesus (T)	0	1	0	0	0	0	0	4	0	0	1	1	0	0	0	1	2	1	1	0	0	0	0	0	0	1	0	3	0
Dansville (V)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Geneseo (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Geneseo (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groveland (T)	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	4	1
Leicester (T)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leicester (V)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Lima (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lima (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Livonia (T)	1	3	0	0	0	0	0	2	0	0	1	0	0	0	1	1	1	1	1	2	0	0	0	0	0	0	0	6	0
Livonia (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Mount Morris (T)	0	1	0	1	0	0	5	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Mount Morris (V)	0	1	0	0	2	0	0	1	0	1	1	1	1	1	0	1	4	1	0	0	1	1	2	0	4	1	1	0	1
North Dansville (T)	0	4	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Nunda (T)	0	2	1	0	0	0	0	3	0	0	0	1	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0
Nunda (V)	0	4	0	0	1	0	0	1	0	1	1	1	1	1	1	1	3	1	0	0	0	1	1	0	0	1	1	0	0
Ossian (T)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portage (T)	0	6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparta (T)	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
Springwater (T)	0	2	0	3	1	0	0	3	1	0	1	1	0	0	0	0	1	2	1	0	0	0	0	0	1	1	0	0	1

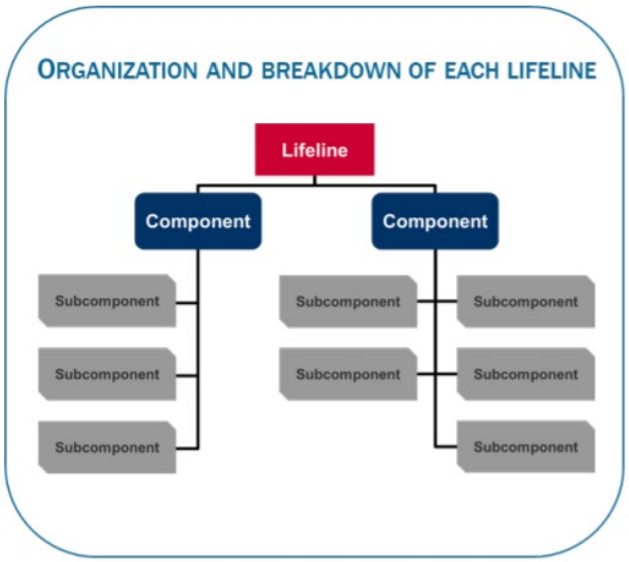
Jurisdiction	Number of Critical Facilities Located in the Wildland-Urban Interface/Intermix Wildfire Hazard Area																												
	Adult Care	Bridge	Bus Facility	Cell Tower	Child Care Facility	Communication Facility	County Building	Dam	Electric Substation	EMS	Fire Station	Highway Department	Library	Major Employer	Pharmacy	Police Station	Polling Site	Post Office	Potable Water Tank	Potable Water Tower	Primary Education	Secondary Education	Shelter	Sheriff Radio Tower	Tier II HazMat	Town Hall	Village Hall	Wastewater Pump Station	Wastewater Sewage Treatment Facility
West Sparta (T)	0	1	0	3	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
York (T)	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Livingston County (Total)	**1**	**35**	**1**	**16**	**6**	**1**	**5**	**17**	**3**	**2**	**7**	**8**	**2**	**2**	**2**	**5**	**14**	**8**	**8**	**3**	**2**	**2**	**3**	**2**	**7**	**5**	**2**	**15**	**3**

APPENDIX F CRITICAL FACILITIES

This appendix contains information and details to support information provided in Section 4 – County Profile and Section 5 – Risk Assessment and provides the distribution of critical facilities located within Livingston County and its jurisdictions. Due to the sensitive nature of this information, this appendix is considered confidential.

CRITICAL FACILITIES AND LIFELINES

The identification of community lifelines across Livingston County provides an enhancement to the 2022 HMP. FEMA defines a lifeline as: *"providing indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security."* Identifying community lifelines will help government officials and stakeholders to prioritize, sequence, and focus response efforts towards maintaining or restoring the most critical services and infrastructure within their respective jurisdiction(s). Identifying potential impacts to lifelines can help to inform the planning process and determining priorities in the event an emergency occur. According to FEMA, a community may have the following lifelines:



- Safety and Security
- Food, Water and Shelter
- Health and Medical
- Energy (Power and Fuel)
- Communications
- Transportation
- Hazardous Materials

Each lifeline category is comprised of multiple components and subcomponents that help define the services that make up that lifeline. The components FEMA describes for each lifeline are summarized by Table F-1. A summary of the critical facilities and lifelines within Livingston County are in the remaining sections of this appendix.

Table F-1. FEMA Lifeline Categories and Components

Lifeline Category	Lifeline Components
Safety and Security	Law Enforcement/Security
	Fire Service
	Search and Rescue
	Government Service

Lifeline Category	Lifeline Components
	Community Safety
Food, Water and Shelter	Food
	Water
	Shelter
	Agriculture
Health and Medical	Medical Care
	Public Health
	Patient Movement
	Medical Supply Chain
	Fatality Management
Energy	Power Grid
	Fuel
Communications	Infrastructure
	Responder Communications
	Alerts, Warnings, and Messages
	Finance
	911 and Dispatch
Transportation	Highway/Roadway/Motor Vehicle
	Mass Transit
	Railway
	Aviation
	Maritime
Hazardous Material	Facilities
	HAZMAT, Pollutants, Contaminants

Source: FEMA 2020

Emergency Facilities

The following table summarizes the number of emergency facilities, by type, for each jurisdiction in Livingston County.

Table F-2. Emergency Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Emergency Operations Center	3360 Gypsy Lane	Groveland (T)	42.73073791	-77.8300088	Yes	Safety and Security	EOC
Livingston County EOC	3360 Gypsy Lane	Groveland (T)	42.73065349	-77.82973281	Yes	Safety and Security	EOC

Hospitals and Medical Facilities

The following table summarizes the number of hospitals and medical facilities for each jurisdiction in Livingston County.

Table F-3. Care Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
After Hours Care: Noyes Hospital	111 Clara Barton St., Dansville, NY	Dansville (V)	42.55244701	-77.69812561	Yes	Health and Medical
UR Emergency Care: Noyes Hospital	111 Clara Barton St., Dansville, NY	Dansville (V)	42.55300995	-77.6972162	Yes	Health and Medical
Noyes Urgent Care Center	50 E. South St.,Geneseo, NY 14454	Geneseo (V)	42.79324779	-77.80180984	Yes	Health and Medical
NOYES CENTER for KIDNEY DISEASE and DIALYSIS	4616 MILLENNIUM DRIVE	Geneseo (V)	42.797673	-77.791521	Yes	Health and Medical

Fire Station Facilities

The following table summarizes the number of fire station facilities for each jurisdiction in Livingston County.

Table F-4. Fire Station Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
East Avon 1	1615 West Henrietta Rd	Avon (T)	42.91081318	-77.70541729	Yes	Safety and Security
East Avon 2	2120 Sackett Rd	Avon (T)	42.89758067	-77.76190976	Yes	Safety and Security
Avon	74 Genesee St	Avon (V)	42.91111264	-77.7456607	Yes	Safety and Security
Caledonia	3095 Main St	Caledonia (V)	42.9735758	-77.85507819	Yes	Safety and Security
Conesus	6073 South Livonia Rd	Conesus (T)	42.72539527	-77.67341776	Yes	Safety and Security
Dansville	11 Franklin St	Dansville (V)	42.56158802	-77.69943658	Yes	Safety and Security
Geneseo	133 Center St	Geneseo (V)	42.79469022	-77.80068072	Yes	Safety and Security

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Groveland 1	7428 Groveland Station Rd	Groveland (T)	42.66398701	-77.76948471	Yes	Safety and Security
Groveland 2	4955 Aten Rd	Groveland (T)	42.70196964	-77.74891535	Yes	Safety and Security
Cuylerville	2943 Canandaigua St	Leicester (T)	42.77827103	-77.8714833	Yes	Safety and Security
Leicester	126 Main St	Leicester (V)	42.77172654	-77.89896689	Yes	Safety and Security
Lima	7286 West Main St	Lima (V)	42.90431452	-77.61240568	Yes	Safety and Security
Hemlock	7375 Al Sharpe Ave	Livonia (T)	42.79657982	-77.60910629	Yes	Safety and Security
Lakeville	5822 Stone Hill Rd	Livonia (T)	42.83625173	-77.70408841	Yes	Safety and Security
Livonia	4213 South Livonia Rd	Livonia (T)	42.81387374	-77.67141523	Yes	Safety and Security
Mt. Morris	119 Main St	Mount Morris (V)	42.72385931	-77.87277326	Yes	Safety and Security
Nunda	4 South State St	Nunda (V)	42.57888863	-77.94250266	Yes	Safety and Security
Sparta Center	8479 Reeds Corners Rd	Sparta (T)	42.61743167	-77.68266365	Yes	Safety and Security
Springwater	8145 South Main St	Springwater (T)	42.62917438	-77.5973065	Yes	Safety and Security
West Sparta	4451 Red School Rd	West Sparta (T)	42.61857238	-77.78962514	Yes	Safety and Security
York 1	2667 York Rd West	York (T)	42.8714394	-77.88662289	Yes	Safety and Security
York 2	3590 Retsof Rd	York (T)	42.83498414	-77.88187435	Yes	Safety and Security

EMS Facilities

The following table summarizes the number of EMS facilities for each jurisdiction in Livingston County.

Table F-5. EMS Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Avon 2	5582 Lake Rd	Avon (T)	42.8864784	-77.71179906	Yes	Health and Medical
Caledonia 2	3338 Caledonia Avon Rd	Caledonia (T)	42.96376411	-77.84351396	Yes	Health and Medical
Dansville 2	18 Ossian St	Dansville (V)	42.56068981	-77.69868425	Yes	Health and Medical
Geneseo 2	133 Center St	Geneseo (V)	42.79468316	-77.80061868	Yes	Health and Medical
	3360 Gypsy Ln	Groveland (T)	42.73241248	-77.83518887	Yes	Health and Medical
Emergency Management Services	3360 Gypsy Ln, Mount Morris	Groveland (T)	42.73346774	-77.8300087	Yes	Health and Medical
Cuylerville 1	2943 Canandaigua St	Leicester (T)	42.77825289	-77.87137616	Yes	Health and Medical
Lima 2	7024 West Main Rd	Lima (T)	42.90139666	-77.62664971	Yes	Health and Medical
Livonia 2	4213 South Livonia Rd	Livonia (T)	42.81387374	-77.67141523	Yes	Health and Medical
Mt. Morris 1	112 Main St	Mount Morris (V)	42.72420252	-77.87358474	Yes	Health and Medical
Nunda 2	4 South State St	Nunda (V)	42.57907677	-77.94253333	Yes	Health and Medical
York 1	2667 York Rd West	York (T)	42.87145108	-77.88642107	Yes	Health and Medical

Police Station Facilities

The following table summarizes the number of police station facilities for each jurisdiction in Livingston County.

Table F-6. Police Station Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
NYS Encon Police	6274 East Avon-Lima Rd	Avon (T)	42.90248867	-77.67035598	Yes	Safety and Security
Avon PD	67 Genesee St	Avon (V)	42.91080724	-77.74549421	Yes	Safety and Security
Caledonia PD	3095 Main St	Caledonia (V)	42.97372498	-77.85471764	Yes	Safety and Security
Caledonia Sheriff Sub	3241 Iroquois Rd	Caledonia (V)	42.97623064	-77.84807772	Yes	Safety and Security
Conesus Sheriff Sub	6207 South Livonia Rd	Conesus (T)	42.71926295	-77.67578152	Yes	Safety and Security
Dansville PD	14 Clara Barton St	Dansville (V)	42.55959329	-77.69571383	Yes	Safety and Security
Long Point Sheriff Sub	5345 Long Point Pk	Geneseo (T)	42.78078479	-77.72013328	Yes	Safety and Security
Geneseo PD	119 Main St	Geneseo (V)	42.7951485	-77.81669411	Yes	Safety and Security
Livingston County Sheriff	4 Court St	Geneseo (V)	42.80086869	-77.81570967	Yes	Safety and Security
Sheriff's Office & 911 Center	4 Court St, Geneseo	Geneseo (V)	42.80244348	-77.81633088	Yes	Safety and Security
SUNY Geneseo PD	1 College Cir	Geneseo (V)	42.79665518	-77.82356584	Yes	Safety and Security
Groveland Corrections	7000 Sonyea Rd	Groveland (T)	42.68287151	-77.83368238	Yes	Safety and Security
NYS PD Geneseo	5831 Groveland Station Rd	Groveland (T)	42.73832615	-77.83214996	Yes	Safety and Security
Letchworth Park Police	2250 Park Rd	Leicester (T)	42.72730263	-77.92045893	Yes	Safety and Security
Leicester Sheriff Sub	52 South Pw	Leicester (V)	42.77144822	-77.89416372	Yes	Safety and Security
NYS PD Lima Sub	7321 East Main St	Lima (V)	42.9053539	-77.61083837	Yes	Safety and Security
Hemlock Sheriff Sub	4705 Main St	Livonia (T)	42.79342258	-77.60557597	Yes	Safety and Security
Sand Point Sheriff Sub	5828 Big Tree Rd	Livonia (T)	42.83490084	-77.70412454	Yes	Safety and Security
Mt. Morris PD	117 Main St	Mount Morris (V)	42.72404488	-77.87271017	Yes	Safety and Security
Nunda PD	1 Mill St	Nunda (V)	42.57928397	-77.94247374	Yes	Safety and Security
Portage Sheriff Sub	9907 North Church St	Portage (T)	42.54758185	-77.9934541	Yes	Safety and Security
Scottsburg Sheriff Sub	7351 STHWY 256	Sparta (T)	42.66469032	-77.71319144	Yes	Safety and Security
York Sheriff Sub	2668 Main St	York (T)	42.87196441	-77.88557056	Yes	Safety and Security

School Facilities

The following table summarizes the number of schools and school districts, by jurisdiction, for each jurisdiction in Livingston County.

Table F-7. School Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Avon Elementary School	191 Clinton St	Avon (V)	42.90704387	-77.7419036	Yes	Safety and Security	Primary Education
St. Agnes Catholic	60 Park Pl	Avon (V)	42.91281678	-77.74508452	Yes	Safety and Security	Primary Education
Avon Jr. Sr. High School	191 Clinton St	Avon (V)	42.9059686	-77.73912199	Yes	Safety and Security	Secondary Education
Caledonia/Mumford School	99 North St	Caledonia (V)	42.9829894	-77.85403973	Yes	Safety and Security	Primary Education
GCC Dansville	31 Clara Barton St	Dansville (V)	42.55798288	-77.69636302	Yes	Safety and Security	Post-Secondary Education
Dansville Elementary	280 Main St	Dansville (V)	42.56964413	-77.70255883	Yes	Safety and Security	Primary Education
Dansville Primary School	284 Main St	Dansville (V)	42.57123237	-77.70450682	Yes	Safety and Security	Primary Education
Dansville HS	282 Main St	Dansville (V)	42.57057243	-77.70304114	Yes	Safety and Security	Secondary Education
Genesee Valley Christian	4120 Long Point Rd	Geneseo (T)	42.78248476	-77.79461161	Yes	Safety and Security	Primary Education
SUNY Geneseo	1 College Cir	Geneseo (V)	42.79720485	-77.82126899	Yes	Safety and Security	Post-Secondary Education
Geneseo Central School	4050 Avon Rd	Geneseo (V)	42.81224047	-77.80870521	Yes	Safety and Security	Primary Education
Leicester BOCES	3 Mount Morris Rd	Leicester (V)	42.77173778	-77.89340315	Yes	Safety and Security	Secondary Education
GCC Lima	7285 Gale Rd	Lima (T)	42.92406292	-77.61257052	Yes	Safety and Security	Post-Secondary Education
Lima Christian School	1575 Rochester St	Lima (T)	42.91630163	-77.61295927	Yes	Safety and Security	Primary Education
Elim Bible Institute	7245 College St	Lima (V)	42.9097045	-77.61535612	Yes	Safety and Security	Post-Secondary Education
Lima Primary School	7342 College St	Lima (V)	42.90791148	-77.60881734	Yes	Safety and Security	Primary Education
Livonia High School	2 Bulldog Blvd	Livonia (T)	42.81147065	-77.66624688	Yes	Safety and Security	Secondary Education
Livonia Middle School	2 School Blvd	Livonia (V)	42.81719291	-77.66851733	Yes	Safety and Security	Primary Education
Livonia Primary School	6 Puppy Ln	Livonia (V)	42.81531633	-77.66510478	Yes	Safety and Security	Primary Education
Mt. Morris Central School	30 Bonnadonna Ave	Mount Morris (V)	42.71301087	-77.87425308	Yes	Safety and Security	Primary Education
BOCES	27 Lackawanna Ave	Mount Morris (V)	42.73172867	-77.87334458	Yes	Safety and Security	Secondary Education
Dalton Elementary School	1716 Church St	Nunda (T)	42.53852773	-77.95481956	Yes	Safety and Security	Primary Education
Keshequa Jr. Sr. H.S.	15 Mill St	Nunda (V)	42.57865971	-77.94075899	Yes	Safety and Security	Secondary Education
York Central School	2578 Genesee St	York (T)	42.82998986	-77.89370556	Yes	Safety and Security	Primary Education

Senior Care and Living Facilities

The following table summarizes the number of senior care and living facilities for each jurisdiction in Livingston County.

Table F-8. Senior Care and Living Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Avon Nursing Home	215 Clinton St.	Avon (V)	42.90702392	-77.7375181	Yes	Health and Medical
Morgan Estates	4588 Morganview Rd	Geneseo (T)	42.79592068	-77.77900776	Yes	Health and Medical
Alpine Manor	2714 Poplar Hill Rd.	Lima (T)	42.86763276	-77.65621505	Yes	Health and Medical
Conesus Lake Nursing Home	6131Big Tree Rd.	Livonia (T)	42.82715889	-77.68638357	Yes	Health and Medical
Livingston County SNF Murray Hill	1 Murray Hl	Mount Morris (T)	42.73175452	-77.88290136	Yes	Health and Medical

Highway Facilities

The following table summarizes the number of highway facilities for each jurisdiction in Livingston County.

Table F-9. Municipal Highway Department Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Town of Avon	-	Avon (T)	42.87001762	-77.72442678	Yes	Transportation
Village of Avon	-	Avon (V)	42.92141088	-77.75614523	Yes	Transportation
Town of Caledonia	-	Caledonia (T)	42.9465305	-77.84468283	Yes	Transportation
Village of Caledonia	-	Caledonia (V)	42.97455962	-77.84518998	Yes	Transportation
Town of Conesus	-	Conesus (T)	42.73482558	-77.670383	Yes	Transportation
NYSDOT Dansville DOT Residency	-	Dansville (V)	42.54920847	-77.69824503	Yes	Transportation
Village of Dansville	-	Dansville (V)	42.55928848	-77.70459571	Yes	Transportation
NYSDOT Lakeville DOT Residency	-	Geneseo (T)	42.83501516	-77.71644739	Yes	Transportation
Town of Geneseo	-	Geneseo (T)	42.77519971	-77.76747249	Yes	Transportation
Village of Geneseo	-	Geneseo (V)	42.80964873	-77.82225676	Yes	Transportation
Town of Groveland	-	Groveland (T)	42.70275496	-77.74879975	Yes	Transportation
Town of Leicester	-	Leicester (V)	42.77098058	-77.89845433	Yes	Transportation
Town of Lima	-	Lima (V)	42.90153801	-77.60812939	Yes	Transportation
Village of Lima	-	Lima (V)	42.90172919	-77.60952725	Yes	Transportation
Town of Livonia	-	Livonia (V)	42.818457	-77.67046078	Yes	Transportation
Village of Livonia	-	Livonia (V)	42.81920602	-77.66962071	Yes	Transportation
Town of Mt. Morris	-	Mount Morris (T)	42.72842822	-77.88860081	Yes	Transportation

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Village of Mt. Morris	-	Mount Morris (V)	42.71539475	-77.86514462	Yes	Transportation
Town of North Dansville	-	North Dansville (T)	42.57018298	-77.71596546	Yes	Transportation
Town of Nunda	-	Nunda (T)	42.57376064	-77.94012507	Yes	Transportation
Village of Nunda	-	Nunda (V)	42.57753934	-77.93938304	Yes	Transportation
Town of Ossian	-	Ossian (T)	42.52563051	-77.77122674	Yes	Transportation
Town of Portage	-	Portage (T)	42.54757613	-77.99366224	Yes	Transportation
Town of Sparta	-	Sparta (T)	42.62164649	-77.69889576	Yes	Transportation
Town of Springwater	-	Springwater (T)	42.63198678	-77.5984283	Yes	Transportation
Town of West Sparta	-	West Sparta (T)	42.62005027	-77.79089585	Yes	Transportation
Town of York	-	York (T)	42.87059326	-77.8817194	Yes	Transportation

Airports

The following table summarizes the number of airports for each jurisdiction in Livingston County.

Table F-10 Airport Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Bedson's Land Base	-	Avon (T)	42.93061861	-77.64416611	Yes	Transportation
Geneseo	-	Geneseo (T)	42.79867361	-77.84250333	Yes	Transportation
Merrimac Farms	-	Groveland (T)	42.75006306	-77.78388972	Yes	Transportation
Seven Gullies	-	Groveland (T)	42.69589694	-77.79222222	Yes	Transportation
Lakeville	-	Livonia (T)	42.82645194	-77.71444444	Yes	Transportation
Scott's Sky Ranch	-	Mount Morris (T)	42.64888889	-77.92027778	Yes	Transportation
Tuscarora Plateau	-	Mount Morris (T)	42.63700806	-77.88389056	Yes	Transportation
Dansville Muni	-	North Dansville (T)	42.57053139	-77.71327278	Yes	Transportation

Bus and Other Transit Facilities

The following table summarizes the number of bus facilities, by type, for each jurisdiction in Livingston County.

Table F-11 Bus Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Covered Wagon Tours	-	Avon (T)	42.85941446	-77.71550328	Yes	Transportation
Matthews Busses Inc.	-	Avon (T)	42.90730313	-77.70896701	Yes	Transportation
Avon Central School	-	Avon (V)	42.9049059	-77.74071186	Yes	Transportation
Cal/Mum Central School	-	Caledonia (V)	42.98517234	-77.85487327	Yes	Transportation
Geneseo Central School	-	Geneseo (V)	42.7922117	-77.80610779	Yes	Transportation
Kemp's Bus Service	-	Livonia (T)	42.85448016	-77.70799912	Yes	Transportation
Addonnino's Bus Service	-	Mount Morris (T)	42.71299514	-77.86712761	Yes	Transportation
Dansville Central School	-	North Dansville (T)	42.57380121	-77.70969792	Yes	Transportation
Keshequa Central School	-	Nunda (T)	42.5502723	-77.94710213	Yes	Transportation
York Central School	-	York (T)	42.83027364	-77.88898439	Yes	Transportation

Potable Water Facilities

The following table summarizes the number of potable water facilities, by type, for each jurisdiction in Livingston County.

Table F-12. Potable Water Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Reservoir Rd Tank	-	Avon (T)	42.8787344	-77.74587309	Yes	Food, Water, Shelter	Potable Water Tank
Route 5-20 Tank	-	Avon (T)	42.90480857	-77.65753917	Yes	Food, Water, Shelter	Potable Water Tank
East Avon Hamlet Tank	-	Avon (T)	42.91019056	-77.70550387	Yes	Food, Water, Shelter	Potable Water Tower
Graney Rd Tank	-	Caledonia (T)	42.96584507	-77.87037205	Yes	Food, Water, Shelter	Potable Water Tower
2943 Main Street - Village of Caledonia	-	Caledonia (V)	42.97504754	-77.86640417	Yes	Food, Water, Shelter	Potable Water Tank
Railroad Ave Water Tank	-	Conesus (T)	42.71855769	-77.66204457	Yes	Food, Water, Shelter	Potable Water Tank
Sliker Hill Rd Water Tank	-	Conesus (T)	42.71482049	-77.69206989	Yes	Food, Water, Shelter	Potable Water Tank
Water Storage Tank	-	Dansville (V)	42.55353208	-77.67457407	Yes	Food, Water, Shelter	Potable Water Tank
WTP Tank	-	Dansville (V)	42.55295582	-77.67399608	Yes	Food, Water, Shelter	Potable Water Tank
Reservoir Rd Water Tank	-	Geneseo (T)	42.79576095	-77.77246174	Yes	Food, Water, Shelter	Potable Water Tank

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Route 256 Water Tank	-	Geneseo (T)	42.84414202	-77.71703883	Yes	Food, Water, Shelter	Potable Water Tank
Burbank Dr Water Tank	-	Geneseo (T)	42.7884015	-77.75890925	Yes	Food, Water, Shelter	Potable Water Tower
Groveland Corrections 1	-	Groveland (T)	42.67419259	-77.82874868	Yes	Food, Water, Shelter	Potable Water Facility
Groveland Corrections 2	-	Groveland (T)	42.67399072	-77.82851157	Yes	Food, Water, Shelter	Potable Water Facility
ARS Water Tank	-	Groveland (T)	42.74136654	-77.81223516	Yes	Food, Water, Shelter	Potable Water Tank
Dennison Rd Water Tank	-	Groveland (T)	42.70850272	-77.73956415	Yes	Food, Water, Shelter	Potable Water Tank
Groveland Station Lower Water Tank	-	Groveland (T)	42.66844502	-77.76429085	Yes	Food, Water, Shelter	Potable Water Tank
Groveland Station Upper Water Tank	-	Groveland (T)	42.67647325	-77.75847384	Yes	Food, Water, Shelter	Potable Water Tank
-	-	Leicester (T)	42.74566958	-77.8820873	Yes	Food, Water, Shelter	Potable Water Facility
Route 20A Water Tank	-	Leicester (T)	42.77094969	-77.91146114	Yes	Food, Water, Shelter	Potable Water Tank
Caledonia Rd Water Tank	-	Leicester (T)	42.77724778	-77.88285372	Yes	Food, Water, Shelter	Potable Water Tower
Water Storage Tank	-	Lima (V)	42.9103028	-77.61372268	Yes	Food, Water, Shelter	Potable Water Tower
-	-	Livonia (T)	42.84506446	-77.70950288	Yes	Food, Water, Shelter	Potable Water Facility
Private	-	Livonia (T)	42.85336859	-77.5899941	Yes	Food, Water, Shelter	Potable Water Facility
-	-	Livonia (T)	42.77434504	-77.6080862	Yes	Food, Water, Shelter	Potable Water Tank
Niver Rd Water Tank	-	Livonia (T)	42.76490876	-77.65958411	Yes	Food, Water, Shelter	Potable Water Tank
Shelly Rd Water Tank	-	Livonia (T)	42.81162955	-77.6602347	Yes	Food, Water, Shelter	Potable Water Tank
Airport Water Tank	-	Livonia (T)	42.82354174	-77.71334577	Yes	Food, Water, Shelter	Potable Water Tower
Hemlock Water Tank	-	Livonia (T)	42.80694668	-77.60916732	Yes	Food, Water, Shelter	Potable Water Tower
Lakeville Water Tank	-	Livonia (T)	42.82814074	-77.68089597	Yes	Food, Water, Shelter	Potable Water Tower
Murray Hill	-	Mount Morris (T)	42.73355061	-77.8860824	Yes	Food, Water, Shelter	Potable Water Tower
-	-	Nunda (T)	42.56625339	-77.94635119	Yes	Food, Water, Shelter	Potable Water Tank
Water Storage Tank	-	Nunda (T)	42.56600976	-77.94623122	Yes	Food, Water, Shelter	Potable Water Tank
Scottsburg Water Tank	-	Sparta (T)	42.66263453	-77.70732571	Yes	Food, Water, Shelter	Potable Water Tank
Water Storage Tank	-	Springwater (T)	42.63729105	-77.588755	Yes	Food, Water, Shelter	Potable Water Tank
-	-	York (T)	42.82723513	-77.90886068	Yes	Food, Water, Shelter	Potable Water Tank
Tuttle Rd Water Tanks	-	York (T)	42.82747258	-77.9117265	Yes	Food, Water, Shelter	Potable Water Tank
Tuttle Rd Water Tanks	-	York (T)	42.82748875	-77.91143065	Yes	Food, Water, Shelter	Potable Water Tank

Wastewater Facilities

The following table summarizes the number of wastewater facilities, by type, for each jurisdiction in Livingston County.

Table F-13. Wastewater Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
-	1476 West Henrietta Rd	Avon (T)	42.91729567	-77.70529703	Yes	Food, Water, Shelter	Wastewater Pump Station
-	2851 Lakeville Rd	Avon (T)	42.86281812	-77.71361059	Yes	Food, Water, Shelter	Wastewater Pump Station
-	11-15 Farmers Rd	Avon (V)	42.92020524	-77.75532334	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	5926 East Lake Rd	Conesus (T)	42.73436997	-77.70742242	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6170 East Lake Rd	Conesus (T)	42.72085205	-77.70243572	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6265 Mill St	Conesus (T)	42.71875195	-77.67715351	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6295 North St	Conesus (T)	42.72177172	-77.67507052	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6042 South Livonia Rd	Conesus (T)	42.72622965	-77.67384303	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5506 East Lake Rd	Conesus (T)	42.75385608	-77.71301717	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5650 East Lake Rd	Conesus (T)	42.74696639	-77.7119076	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5756 Mariners Dr	Conesus (T)	42.72800526	-77.70848357	Yes	Food, Water, Shelter	Wastewater Pump Station
-	9621-9635 Commerce Dr	Dansville (V)	42.56530615	-77.71726699	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	4257 West Lake Rd	Geneseo (T)	42.80015353	-77.71863719	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4637 Westwood Dr	Geneseo (T)	42.78798108	-77.72112638	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5346 North Point Dr	Geneseo (T)	42.78123421	-77.71995237	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5113 West Lake Rd	Geneseo (T)	42.76836152	-77.72514864	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5341 West Lake Rd	Geneseo (T)	42.75809726	-77.72696017	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4203 Volunteer Rd	Geneseo (T)	42.80798523	-77.79152373	Yes	Food, Water, Shelter	Wastewater Pump Station
-	275 Riverside Dr	Geneseo (V)	42.8112504	-77.82160319	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	5556 Cottonwood Dr	Groveland (T)	42.74937948	-77.72637897	Yes	Food, Water, Shelter	Wastewater Pump Station
-	West Lake Rd	Groveland (T)	42.74277427	-77.72684274	Yes	Food, Water, Shelter	Wastewater Pump Station
-	West Lake Rd	Groveland (T)	42.7342619	-77.72388232	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6019 West Lake Rd	Groveland (T)	42.72750533	-77.71898582	Yes	Food, Water, Shelter	Wastewater Pump Station
-	7458 Groveland Station Rd	Groveland (T)	42.66257649	-77.76828122	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
-	7405 Ziegler Dr	Lima (V)	42.91568576	-77.60469608	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	3562 Camp Run Dr	Livonia (T)	42.82995625	-77.69469091	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4088 East Lake Rd	Livonia (T)	42.81846739	-77.69717309	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4007 Graywood Ctr	Livonia (T)	42.81068896	-77.71544916	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4440 East Lake Rd	Livonia (T)	42.80375369	-77.70230724	Yes	Food, Water, Shelter	Wastewater Pump Station
-	Rochester Rd	Livonia (T)	42.85191292	-77.71218747	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4820 East Lake Rd	Livonia (T)	42.78630813	-77.70766264	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5158 East Lake Rd	Livonia (T)	42.76960149	-77.71259383	Yes	Food, Water, Shelter	Wastewater Pump Station
-	5289 East Lake Rd	Livonia (T)	42.76410439	-77.71181307	Yes	Food, Water, Shelter	Wastewater Pump Station
-	Main St	Livonia (T)	42.79086338	-77.6060585	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4439 Federal Rd	Livonia (T)	42.80139466	-77.63111268	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4534 Clay St	Livonia (T)	42.79767973	-77.60391576	Yes	Food, Water, Shelter	Wastewater Pump Station
-	4656 Main St	Livonia (T)	42.79500872	-77.60672595	Yes	Food, Water, Shelter	Wastewater Pump Station
-	7438 Pleasant St	Livonia (T)	42.79472571	-77.60415632	Yes	Food, Water, Shelter	Wastewater Pump Station
-	6752 Richmond Mills Rd	Livonia (T)	42.82145656	-77.64407304	Yes	Food, Water, Shelter	Wastewater Pump Station
-	1997 D'Angelo Dr	Livonia (T)	42.84592204	-77.71017283	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	15 Sullivan St	Mount Morris (V)	42.72660493	-77.86624309	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	Sewer Plant Rd	Nunda (V)	42.58176259	-77.92679967	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	7546 Groveland Station Rd	Sparta (T)	42.65857591	-77.76335525	Yes	Food, Water, Shelter	Wastewater Pump Station
-	7737 Kellogg Rd	Springwater (T)	42.64267485	-77.5997948	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility
-	3463 Retsof Rd	York (T)	42.83899434	-77.88042138	Yes	Food, Water, Shelter	Wastewater Sewage Treatment Facility

Communication Facilities

The following table summarizes the number of communication facilities for each jurisdiction in Livingston County.

Table F-14. Communication Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Tower ATT Mobility 6336 Label ID: 0	1625 West Henrietta Rd	Avon (T)	42.9102251	-77.70560246	Yes	Communications	Cell Tower
Tower Railroad Label ID: 0	4798 Paper Mill Rd	Avon (T)	42.86957233	-77.75803982	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	1545 Huckleberry Hl	Avon (T)	42.91495339	-77.65885698	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	1625 West Henrietta Rd	Avon (T)	42.91025426	-77.70559807	Yes	Communications	Cell Tower
WBEE		Avon (T)	42.91439534	-77.65948655	Yes	Communications	Communication Facility
East Avon Fire Hall Tower	1615 West Henrietta Road	Avon (T)	42.91054481	-77.70465926	Yes	Communications	Sheriff Radio Tower
Tower, Sprint/Nextel Label ID: 0	15 Farmers Rd	Avon (V)	42.921944	-77.75605778	Yes	Communications	Cell Tower
Tower ATT 6383 Label ID: 0	2482 Black Street Rd	Caledonia (T)	42.9332244	-77.902211	Yes	Communications	Cell Tower
Tower Frontier Caledonia Label ID: 0	4350 Caledonia-Avon Rd	Caledonia (T)	42.92521558	-77.77776349	Yes	Communications	Cell Tower
Tower Verizon SIte 15/169 Label ID: 0	4350 Caledonia-Avon Rd	Caledonia (T)	42.92521558	-77.77776349	Yes	Communications	Cell Tower
Tower Verizon Wireless Label ID: 0	4350 Caledonia-Avon Rd	Caledonia (T)	42.92521558	-77.77776349	Yes	Communications	Cell Tower
Tower, Dominion Label ID: 16	YSN505	Caledonia (T)	42.98033675	-77.83145939	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	2460 Black St	Caledonia (T)	42.92685309	-77.90024109	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 17	55 Lacey Rd	Caledonia (T)	42.98406635	-77.79351666	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	4350 Caledonia-Avon Rd	Caledonia (T)	42.92521558	-77.77776349	Yes	Communications	Cell Tower
Lacey Road Tower	181 Lacey Rd	Caledonia (T)	42.98406635	-77.79351666	Yes	Communications	Sheriff Radio Tower
Tower Frontier Tel Label ID: 0	327 Center St	Caledonia (V)	42.97125673	-77.85425833	Yes	Communications	Cell Tower
Tower Sprint/Nextel Label ID: 0	2943 Main St	Caledonia (V)	42.97506371	-77.86626258	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	327 Center St	Caledonia (V)	42.97125673	-77.85425833	Yes	Communications	Cell Tower
Tower, Verzion Wireless Label ID: 12	Sunoco Pipeline LP, 6680 Marrowback Rd	Conesus (T)	42.69172607	-77.62358047	Yes	Communications	Cell Tower
Tower ATT Mobility Geneseo Label ID: 1	4536 Lakeville Groveland Rd	Geneseo (T)	42.80061691	-77.74759554	Yes	Communications	Cell Tower

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Tower, American Label ID: 8	American Tower Site #88125 Geneseo	Geneseo (T)	42.76437197	-77.75168714	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	4807 Crossett Rd	Geneseo (T)	42.78730572	-77.8089709	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	3790 Lakeville Groveland Rd	Geneseo (T)	42.82054087	-77.7305207	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	4563 Reservoir Rd	Geneseo (T)	42.79827842	-77.7696826	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 18	3290 West Lake Rd	Geneseo (T)	42.84514567	-77.71728422	Yes	Communications	Cell Tower
Tower Label ID: 13	GFD Lakeville Rd	Geneseo (V)	42.7949943	-77.80058462	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	1College Cr	Geneseo (V)	42.79736567	-77.81973115	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	4 Court St	Geneseo (V)	42.80198186	-77.8161103	Yes	Communications	Cell Tower
WGSU		Geneseo (V)	42.79677716	-77.82311665	Yes	Communications	Communication Facility
Geneseo Tower	6 Court St	Geneseo (V)	42.80193532	-77.81612636	Yes	Communications	Sheriff Radio Tower
Tower ATT 6308 Label ID: 0	5180 Dennison Rd	Groveland (T)	42.71031628	-77.73911253	Yes	Communications	Cell Tower
Tower ATT Mobility 6419 Label ID: 6	3618 East Groveland Rd	Groveland (T)	42.73705197	-77.82077253	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	7260 Route 36	Groveland (T)	42.67502043	-77.81729265	Yes	Communications	Cell Tower
Wilson Road Tower	5129 Wilson Rd	Groveland (T)	42.69456977	-77.73935171	Yes	Communications	Sheriff Radio Tower
Tower Time Warner Lima Label ID: 0	7610 Slocum Rd	Lima (T)	42.91941355	-77.61467782	Yes	Communications	Cell Tower
Tower, American Label ID: 19	6597 Cleary Rd	Lima (T)	42.88901551	-77.65688767	Yes	Communications	Cell Tower
Tower, Crown Castle Label ID: 20	6599 Cleary Rd, Site #816643	Lima (T)	42.88994501	-77.65702342	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 21	1195 Bragg St	Lima (T)	42.93460495	-77.57297026	Yes	Communications	Cell Tower
Tower ATT Mobility 6318 Label ID: 0	7269 Seneca Ave	Lima (V)	42.91023783	-77.61366456	Yes	Communications	Cell Tower
Tower, FCC Label ID: 22	FCC 1061731	Livonia (T)	42.83992522	-77.647145	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	6555 Cleary Rd	Livonia (T)	42.79360121	-77.65808621	Yes	Communications	Cell Tower
WYSL		Livonia (T)	42.8551671	-77.71149452	Yes	Communications	Communication Facility
Jackman Hill Tower	3380 Jakman Hill	Livonia (T)	42.83989224	-77.64706308	Yes	Communications	Sheriff Radio Tower
Tower, Verizon Wireless Label ID: 0	6 Murray Hill Rd	Mount Morris (T)	42.73350674	-77.88611144	Yes	Communications	Cell Tower

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Tower Frontier Tel Label ID: 0	6309 McNeil Hill Rd	North Dansville (T)	42.56874982	-77.6732205	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	9257 McFadden Tr	North Dansville (T)	42.56618239	-77.68416309	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	9257 McFadden Tr	North Dansville (T)	42.566421	-77.68444092	Yes	Communications	Cell Tower
WDNY		North Dansville (T)	42.54325344	-77.6844295	Yes	Communications	Communication Facility
McFadden Trail Tower	9385 McFadden Trail	North Dansville (T)	42.56625011	-77.68430291	Yes	Communications	Sheriff Radio Tower
Tower Frontier Tel Label ID: 0	2777 Nunda Byersville	Nunda (T)	42.58206123	-77.87521356	Yes	Communications	Cell Tower
Tower NYSP Radio Label ID: 0	9310 Scipio Rd	Nunda (T)	42.57330042	-77.87724057	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 4	9334 Scipio Rd	Nunda (T)	42.57330042	-77.87724057	Yes	Communications	Cell Tower
Scipio Road Tower	9655 Scipio Rd	Nunda (T)	42.56069457	-77.85845803	Yes	Communications	Sheriff Radio Tower
Tower Label ID: 5	McNinch Rd	Ossian (T)	42.5443356	-77.78918335	Yes	Communications	Cell Tower
Short Tract Road Tower	8818 Short Tract Rd	Portage (T)	42.59769877	-77.96510049	Yes	Communications	Sheriff Radio Tower
Tower Hasco Realty LLC Label ID: 0	6227 Vista Hill Rd	Sparta (T)	42.58446546	-77.67119126	Yes	Communications	Cell Tower
Tower, American Label ID: 0	6478 Swartz Rd	Sparta (T)	42.63998982	-77.66371351	Yes	Communications	Cell Tower
Tower, ATT Mobility 6433 Label ID: 0	6478 Swartz Rd	Sparta (T)	42.63998982	-77.66371351	Yes	Communications	Cell Tower
Tower, Sprint/Nextel Label ID: 0	8036 Logan Rd	Sparta (T)	42.63603513	-77.72335898	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 9	8036 Logan Rd	Sparta (T)	42.63603513	-77.72335898	Yes	Communications	Cell Tower
Frontier Company Label ID: 11	Marvin Hill & 15	Springwater (T)	42.62723136	-77.60902435	Yes	Communications	Cell Tower
Tower Ontario Co So Label ID: 0	8989 Warner Rd	Springwater (T)	42.62870118	-77.49185382	Yes	Communications	Cell Tower
Tower Sprint/Nextel Label ID: 0	8812 Harpers Ferry Rd	Springwater (T)	42.60134556	-77.6180242	Yes	Communications	Cell Tower
Tower, FAA Label ID: 10	Town Line Rd	Springwater (T)	42.63680976	-77.64371557	Yes	Communications	Cell Tower
Tower, Verizon Wireless Label ID: 0	7608 Marvin Hill Rd	Springwater (T)	42.62182731	-77.58528477	Yes	Communications	Cell Tower
Tower ATT Mobility 6327 Label ID: 0	9223 Moore Rd	West Sparta (T)	42.58065379	-77.83028675	Yes	Communications	Cell Tower
Tower Dominion Transmission Label ID: 3	3343 Nunda Byersville Rd	West Sparta (T)	42.58351524	-77.83376746	Yes	Communications	Cell Tower
Tower US Wireless Label ID: 0	4592 Rock Spring Hill Rd Area	West Sparta (T)	42.61318481	-77.80037827	Yes	Communications	Cell Tower
Tower ATT Mobility 6316 Label ID: 0	2420 Old State Rd	York (T)	42.81847045	-77.90688907	Yes	Communications	Cell Tower
Tower Label ID: 15	2560 Anderson Rd	York (T)	42.90141095	-77.89204654	Yes	Communications	Cell Tower
Tower, American Label ID: 14	York, NY 307074	York (T)	42.82509823	-77.905797	Yes	Communications	Cell Tower

Electric Power Facilities

The following table summarizes the number of electric power facilities for each jurisdiction in Livingston County.

Table F-15. Electric Power Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
-	235 East Main St	Avon (V)	42.9094965	-77.73704691	Yes	Energy
-	4676 Lakeville-Groveland Rd	Geneseo (T)	42.79041004	-77.75306904	Yes	Energy
-	3398 West Lake Rd	Geneseo (T)	42.83870727	-77.71616186	Yes	Energy
-	4836 Crossett Rd	Geneseo (T)	42.78560123	-77.81150134	Yes	Energy
-	Big Tree Ln	Geneseo (T)	42.79487904	-77.82946849	Yes	Energy
-	7429 Groveland Hill Rd	Groveland (T)	42.66378409	-77.7659967	Yes	Energy
-	5300 Mt Morris Rd	Leicester (T)	42.76128953	-77.88779804	Yes	Energy
-	5227 South St	Leicester (T)	42.76698784	-77.90079466	Yes	Energy
-	2499 High Banks Rd	Leicester (T)	42.74030265	-77.90069484	Yes	Energy
-	1869 Genesee St	Lima (V)	42.9056155	-77.61352265	Yes	Energy
-	60 Big Tree St	Livonia (V)	42.82067195	-77.67021702	Yes	Energy
-	2102 Ridge Rd	Mount Morris (T)	42.67566733	-77.91511376	Yes	Energy
-	9740 Frontage Rd	North Dansville (T)	42.55678523	-77.70935162	Yes	Energy
-	86 North State St	Nunda (V)	42.58577048	-77.942043	Yes	Energy
-	Short Tract Rd	Portage (T)	42.5767857	-77.98807798	Yes	Energy
-	Depot Road	Springwater (T)	42.63162754	-77.6057642	Yes	Energy
-	Genesee St	York (T)	42.82961745	-77.8855752	Yes	Energy
-	York Road East	York (T)	42.87169325	-77.87084076	Yes	Energy

Hazardous Materials (HAZMAT) Facilities

The following table summarizes the number of hazardous material (HAZMAT) facilities for each jurisdiction in Livingston County.

Table F-16. Hazardous Material Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Howlett Farms	1112 East River Road	Avon (T)	42.93573543	-77.73409821	Yes	Hazardous Materials	Major Chemical Storage
Crop Production Services - Avon	2305 Lakeville Road, Avon, NY 14414	Avon (T)	42.888454	-77.709224	Yes	Hazardous Materials	Tier II HazMat

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Safety-Kleen	1525 W. Henrietta Road, Avon, NY 14414	Avon (T)	42.914912	-77.704738	Yes	Hazardous Materials	Tier II HazMat
Kraft Heinz Company	140 Spring Street	Avon (V)	42.90544727	-77.75549722	Yes	Hazardous Materials	Major Chemical Storage
Aldon Corporation	221 Rochester Street, Avon, NY 14414	Avon (V)	42.918569	-77.746961	Yes	Hazardous Materials	Tier II HazMat
Barilla	100 Horseshoe Blvd., Avon, NY 14414	Avon (V)	42.923443	-77.75022	Yes	Hazardous Materials	Tier II HazMat
Frontier Comm. - Avon	84 Prospect Street, Avon, NY 14414	Avon (V)	42.91323	-77.745146	Yes	Hazardous Materials	Tier II HazMat
Jacobson Warehouse Co.	100 Horseshoe Blvd., Avon, NY 14414	Avon (V)	42.923443	-77.75022	Yes	Hazardous Materials	Tier II HazMat
Kraft Heinz	140 Spring Street, Avon, NY	Avon (V)	42.90470849	-77.7559159	Yes	Hazardous Materials	Tier II HazMat
Commodity Resource Corp.	LeRoy Caledonia Road	Caledonia (T)	42.97987412	-77.87563899	Yes	Hazardous Materials	Major Chemical Storage
Caledonia Measuring & Reg. Station	166 Wheatland Ctr. Rd., Caledonia, NY 1*	Caledonia (T)	42.98050137	-77.83069635	Yes	Hazardous Materials	Tier II HazMat
RG&E - Caledonia Station		Caledonia (T)	42.980166	-77.830717	Yes	Hazardous Materials	Tier II HazMat
JCI Jones Chemicals	100 Sunny Sol Blvd., Caledonia, NY 144*	Caledonia (V)	42.977476	-77.845755	Yes	Hazardous Materials	Tier II HazMat
Frontier Comm. - Dansville	7 Perine Street, Dansville, NY 14437	Dansville (V)	42.562936	-77.696312	Yes	Hazardous Materials	Tier II HazMat
Noyes Hospital	111 Clara Barton St., Dansville, NY 14*	Dansville (V)	42.55192	-77.700111	Yes	Hazardous Materials	Tier II HazMat
Superior Plus - Dansville	70 Gibson Street, Dansville, NY 14437	Dansville (V)	42.548413	-77.697302	Yes	Hazardous Materials	Tier II HazMat
Frontier Comm. - Geneseo	9 Highland Road, Geneseo, NY 14454	Geneseo (V)	42.798037	-77.806171	Yes	Hazardous Materials	Tier II HazMat
Livingston Health Services	50 East South Street, Geneseo, NY 14454	Geneseo (V)	42.793605	-77.799239	Yes	Hazardous Materials	Tier II HazMat
Verizon - Geneseo	4 Court Street, Geneseo, NY 14454	Geneseo (V)	42.801435	-77.816116	Yes	Hazardous Materials	Tier II HazMat
American Rock Salt	5520 Geneseo Mt. Morris Road	Groveland (T)	42.74583617	-77.83827109	Yes	Hazardous Materials	Major Chemical Storage
Seneca Foods	5705 Rt. 36, Leicester, NY 14481	Leicester (T)	42.745939	-77.883609	Yes	Hazardous Materials	Tier II HazMat
Frontier Comm. - Leicester	141 Main Street, Leicester, NY 14481	Leicester (V)	42.772642	-77.897942	Yes	Hazardous Materials	Tier II HazMat
Perdue Agribusiness LLC.	3142 Bronson Hill Road	Livonia (T)	42.84830477	-77.69134163	Yes	Hazardous Materials	Major Chemical Storage

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
City of Rochester - Hemlock Water Plant	7412 Rix Hill Road, Hemlock, NY 14466	Livonia (T)	42.774862	-77.608553	Yes	Hazardous Materials	Tier II HazMat
Lakeville Grain	3142 Bronson Hill Road, Livonia, NY 14*	Livonia (T)	42.848256	-77.69157	Yes	Hazardous Materials	Tier II HazMat
Suburban Propane - Livonia	15 Main Street, Livonia, NY 14487	Livonia (V)	42.822339	-77.669595	Yes	Hazardous Materials	Tier II HazMat
Allied Frozen Storage	4 Lackawanna Ave., Mt. Morris, NY 14510	Mount Morris (V)	42.729185	-77.875513	Yes	Hazardous Materials	Tier II HazMat
Crop Production Services - Mt. Morris	7 East State St., Mt. Morris, NY 14510	Mount Morris (V)	42.728704	-77.870366	Yes	Hazardous Materials	Tier II HazMat
Frontier Comm. - Mt. Morris	38 Eagle Street, Mt. Morris, NY 14510	Mount Morris (V)	42.721873	-77.877508	Yes	Hazardous Materials	Tier II HazMat
Nurtien Ag Solutions	7 East State St., Mt. Morris, NY 14510	Mount Morris (V)	42.728704	-77.870366	Yes	Hazardous Materials	Tier II HazMat
American Motive Power Inc.	9341 Foster Wheeler Road	North Dansville (T)	42.57343395	-77.723983	Yes	Hazardous Materials	Major Chemical Storage
LMC Industrial Contractors Inc.	9341 Foster Wheeler Road	North Dansville (T)	42.57343395	-77.723983	Yes	Hazardous Materials	Major Chemical Storage
Pinnacle Agriculture	9341 Foster Wheeler Road	North Dansville (T)	42.57343395	-77.723983	Yes	Hazardous Materials	Major Chemical Storage
NYSEG - Meyer Substation	-	North Dansville (T)	42.556769	-77.709294	Yes	Hazardous Materials	Tier II HazMat
Providence Ag - Dansville	9431 Foster Wheeler Rd., Dansville, NY *	North Dansville (T)	42.571754	-77.724691	Yes	Hazardous Materials	Tier II HazMat
Travel Ctrs. of America - Dansville	9616 Commerce Drive, Dansville, NY 144*	North Dansville (T)	42.566308	-77.719449	Yes	Hazardous Materials	Tier II HazMat
Valley Energy Services	10121 Poags Hole Rd., Dansville, NY 14*	North Dansville (T)	42.543611	-77.699214	Yes	Hazardous Materials	Tier II HazMat
Verizon - Nunda	9468 Scipio Road, Nunda, NY 14517	Nunda (T)	42.568494	-77.865991	Yes	Hazardous Materials	Tier II HazMat
Verizon - Springwater	7614 Marvin Hill Road, Springwater, NY *	Springwater (T)	42.628792	-77.585266	Yes	Hazardous Materials	Tier II HazMat
American Rock Salt	3864 Retsof Road	York (T)	42.8259295	-77.88466084	Yes	Hazardous Materials	Major Chemical Storage
Arkema Inc.	3289 Genesee Street	York (T)	42.83232489	-77.84604896	Yes	Hazardous Materials	Major Chemical Storage
Noblehurst Farms Inc.	1842 Craig Road	York (T)	42.86013366	-77.9465757	Yes	Hazardous Materials	Major Chemical Storage
Arkema	3289 Genesee St, Piffard, NY 14533	York (T)	42.827839	-77.846698	Yes	Hazardous Materials	Tier II HazMat
Craigs Station Cheese	1842 Craig Road, Pavilion, NY 14525	York (T)	42.860148	-77.947146	Yes	Hazardous Materials	Tier II HazMat

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Craigs Station Creamery	1840 Craig Road, Pavilion, NY 14525	York (T)	42.860623	-77.947054	Yes	Hazardous Materials	Tier II HazMat
Dominion Energy - Craigs Measuring & Regulating Station	1845 Genesee Street, York, NY 14592	York (T)	42.8497964	-77.9230153	Yes	Hazardous Materials	Tier II HazMat
Growmark FS	2940 Telephone Rd., Caledonia, NY 14423	York (T)	42.914642	-77.860519	Yes	Hazardous Materials	Tier II HazMat
Rochester Southern RR - Retsof	3546 Retsof Road, Retsof, NY 14539	York (T)	42.834774	-77.881132	Yes	Hazardous Materials	Tier II HazMat
Superior Plus - Caledonia	2672 W. Main Road, Caledonia, NY 14423	York (T)	42.871767	-77.885651	Yes	Hazardous Materials	Tier II HazMat
Verizon - York	2420 Old State Road, Piffard, NY 14533	York (T)	42.818421	-77.906905	Yes	Hazardous Materials	Tier II HazMat

Dams and Levees

The following table summarizes the number of dams for each jurisdiction in Livingston County.

Table F-17. Dams in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
AVON MARSH DAM	-	Avon (T)	42.89719639	-77.6698789	Yes	Safety and Security
AVON RESERVOIR DAM	-	Avon (T)	42.8801473	-77.71675809	Yes	Safety and Security
AVON RESERVOIR DAM (041-0275)	-	Avon (T)	42.87918032	-77.74430869	Yes	Safety and Security
HERBERT WADSWORTH DAM	-	Avon (T)	42.89855171	-77.76397154	Yes	Safety and Security
LIGHT BROS MILLS DAM	-	Avon (T)	42.89433667	-77.7600019	Yes	Safety and Security
WADSWORTH POND DAM	-	Avon (T)	42.89651995	-77.76388798	Yes	Safety and Security
NYS CONSERVATION DEPT DAM	-	Caledonia (V)	42.98605748	-77.86072765	Yes	Safety and Security
CONESUS INLET W M A DAM	-	Conesus (T)	42.71462994	-77.71043541	Yes	Safety and Security
CONESUS MILL POND DAM	-	Conesus (T)	42.71735692	-77.67717334	Yes	Safety and Security
GORDON ALGER POND DAM	-	Conesus (T)	42.75784983	-77.66166626	Yes	Safety and Security
J ALGER #4 DAM	-	Conesus (T)	42.75757241	-77.66333306	Yes	Safety and Security
LIVONIA RESERVOIR DAM	-	Conesus (T)	42.73822517	-77.65406877	Yes	Safety and Security
COTTONWOOD GULLY DAM	-	Geneseo (T)	42.75979611	-77.74055781	Yes	Safety and Security
HERBERT MAROUARDT DAM	-	Geneseo (T)	42.80391651	-77.75691102	Yes	Safety and Security
LIVINGSTON COUNTRY CLUB DAM	-	Geneseo (T)	42.80047802	-77.77466123	Yes	Safety and Security

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
WALTER DAVIS POND DAM	-	Geneseo (T)	42.79345423	-77.75784097	Yes	Safety and Security
WALTER PADDOCK DAM	-	Geneseo (T)	42.78423727	-77.77333724	Yes	Safety and Security
CRAIG COLONY DAM	-	Groveland (T)	42.68220908	-77.82864949	Yes	Safety and Security
FOREST C HULL DAM	-	Leicester (T)	42.80293316	-77.91694537	Yes	Safety and Security
MOUNT MORRIS DAM	-	Leicester (T)	42.73340412	-77.907229	Yes	Safety and Security
STERLING SALT CO RESERVOIR DAM	-	Leicester (T)	42.79532045	-77.87135023	Yes	Safety and Security
HERBERT H KNOP DAM	-	Lima (T)	42.90027745	-77.6368762	Yes	Safety and Security
HOWARD BELLAMY DAM	-	Lima (T)	42.8945176	-77.5619431	Yes	Safety and Security
L MENZ POND DAM	-	Lima (T)	42.92838957	-77.59186347	Yes	Safety and Security
BEAMS MILL POND DAM	-	Livonia (T)	42.78334183	-77.6044048	Yes	Safety and Security
CONESUS LAKE ASSOCIATION INC DAM	-	Livonia (T)	42.83490573	-77.70633173	Yes	Safety and Security
DR JACKSON DAM	-	Livonia (T)	42.80701848	-77.59888791	Yes	Safety and Security
HEMLOCK LAKE DAM	-	Livonia (T)	42.77757472	-77.61638807	Yes	Safety and Security
LIVONIA WATER SUPPLY DAM	-	Livonia (T)	42.81146287	-77.66055608	Yes	Safety and Security
OTTO WESTBROOK POND DAM	-	Livonia (T)	42.77118487	-77.60083152	Yes	Safety and Security
VILLAGE OF AVON DAM	-	Livonia (T)	42.83622094	-77.70599898	Yes	Safety and Security
CARLTON PERRY DAM	-	Mount Morris (T)	42.63947124	-77.88635028	Yes	Safety and Security
RATTLE SNAKE HILL POND DAM #1	-	Mount Morris (T)	42.6297944	-77.8522259	Yes	Safety and Security
STANLY MANN DAM	-	Mount Morris (T)	42.64620302	-77.95645767	Yes	Safety and Security
MT MORRIS POWER DAM	-	Mount Morris (V)	42.73835365	-77.88169071	Yes	Safety and Security
ALBERT COX DAM	-	Nunda (T)	42.5461445	-77.89547058	Yes	Safety and Security
JACK HOLMES DAM	-	Nunda (T)	42.60075979	-77.85253937	Yes	Safety and Security
JOHN W GAEDKE DAM	-	Nunda (T)	42.56537089	-77.95069432	Yes	Safety and Security
NORMAN FOOTE MARSH DAM	-	Nunda (T)	42.55177155	-77.93798633	Yes	Safety and Security
NUNDA WATER SUPPLY DAM	-	Nunda (T)	42.54130261	-77.91795987	Yes	Safety and Security
RATTLESNAKE HILL MARSH #4 DAM	-	Nunda (T)	42.53473021	-77.85315561	Yes	Safety and Security
STONE POND DAM	-	Nunda (T)	42.57114559	-77.94821688	Yes	Safety and Security
STONE POND DAM (036-0498A)	-	Nunda (T)	42.57300536	-77.94657618	Yes	Safety and Security
NUNDA CASKET CO DAM	-	Nunda (V)	42.5761856	-77.94583929	Yes	Safety and Security
BRADNER CREEK DAM	-	Ossian (T)	42.56194736	-77.75260175	Yes	Safety and Security
EMILE MAZOYER POND DAM	-	Ossian (T)	42.5540161	-77.78841143	Yes	Safety and Security
LIVINGSTON COUNTY FOREST POND #1 DAM	-	Ossian (T)	42.49174127	-77.81916654	Yes	Safety and Security

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
RATTLESNAKE HILL MARSH #1 DAM	-	Ossian (T)	42.5181301	-77.84083488	Yes	Safety and Security
ROBERT GOINS DAM	-	Ossian (T)	42.50035232	-77.81083329	Yes	Safety and Security
ROBERT SCHRAMM DAM	-	Ossian (T)	42.55994456	-77.79547495	Yes	Safety and Security
TIM SHAY DAM	-	Ossian (T)	42.51285289	-77.72833094	Yes	Safety and Security
WEIMAR WHITE DAM	-	Ossian (T)	42.47841071	-77.78194339	Yes	Safety and Security
C GIBSON IRRIGATION POND DAM	-	Portage (T)	42.53141898	-78.00611761	Yes	Safety and Security
ERIE RAIL ROAD CO DAM	-	Portage (T)	42.55195515	-78.01224543	Yes	Safety and Security
JOHN ADAMS DAM	-	Portage (T)	42.57840303	-77.99500765	Yes	Safety and Security
NIAL MINICK DAM	-	Portage (T)	42.53062777	-78.016119	Yes	Safety and Security
W S BEARDSLEY DAM	-	Portage (T)	42.55757002	-78.04417501	Yes	Safety and Security
DAN FLINT POND DAM	-	Sparta (T)	42.59007607	-77.67638688	Yes	Safety and Security
EDWARD ATWOOD DAM	-	Springwater (T)	42.67071096	-77.56580619	Yes	Safety and Security
F H STUART DAM	-	Springwater (T)	42.64013453	-77.61983954	Yes	Safety and Security
KEMP MARSH DAM	-	Springwater (T)	42.59543856	-77.60881271	Yes	Safety and Security
LEON MEHLENBACHER DAM	-	Springwater (T)	42.59757337	-77.55054878	Yes	Safety and Security
LUCIAN HILL DAM	-	Springwater (T)	42.5961854	-77.58332775	Yes	Safety and Security
MARCUS RICHARDS DAM	-	Springwater (T)	42.60313107	-77.58499511	Yes	Safety and Security
AUSTIN E HARTMANN DAM	-	West Sparta (T)	42.65312389	-77.8181948	Yes	Safety and Security
EBENEZER MCMASTER DAM	-	West Sparta (T)	42.62232693	-77.80093295	Yes	Safety and Security
ABBEY OF THE GENESEE DAM	-	York (T)	42.84590596	-77.86195217	Yes	Safety and Security
OUR LADY OF THE GENESEE DAM	-	York (T)	42.85034941	-77.85584096	Yes	Safety and Security
PORTER CHANDLER POND DAM	-	York (T)	42.81812555	-77.8697294	Yes	Safety and Security

Correctional Facilities

The following table summarizes the number of correctional facilities for each jurisdiction in Livingston County.

Table F-18. Correctional Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Livingston County Jail	4 Court St, Geneseo	Geneseo (V)	42.80244348	-77.81633088	Yes	Safety and Security
LIVINGSTON COUNTY JAIL	4 COURT ST	Geneseo (V)	42.80148965	-77.81616011	Yes	Safety and Security
GROVELAND ANNEX	7000 SONYEA RD	Groveland (T)	42.67604047	-77.82607262	Yes	Safety and Security
GROVELAND CORRECTIONAL FACILITY	7000 SONYEA RD	Groveland (T)	42.68250098	-77.8367345	Yes	Safety and Security
LIVINGSTON CORRECTIONAL FACILITY	7005 SONYEA RD	Groveland (T)	42.68706437	-77.8239265	Yes	Safety and Security

County Offices and Municipal Facilities

The following table summarizes the number of county offices and municipal facilities for each jurisdiction in Livingston County.

Table F-19. County Offices and Municipal Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Center for Mental Health & Community Services	4600 Millennium Dr, Geneseo	Geneseo (V)	42.79804808	-77.79142716	Yes	Health and Medical	County Building
County Courthouse	2 Court Street, Geneseo	Geneseo (V)	42.80274355	-77.81655677	Yes	Safety and Security	County Building
Government Center	6 Court St, Geneseo	Geneseo (V)	42.80243614	-77.81591753	Yes	Safety and Security	County Building
Dog Control	3386 Gypsy Ln, Mount Morris	Groveland (T)	42.73346753	-77.82997639	Yes	Safety and Security	County Building
Highway Department	4389 Gypsy Ln, Mount Morris	Groveland (T)	42.73355078	-77.83011506	Yes	Safety and Security	County Building
Center for Nursing & Rehabilitation	11 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73195766	-77.88254316	Yes	Health and Medical	County Building
Central Services	6 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73402787	-77.88611281	Yes	Safety and Security	County Building
Central Services Shop/Storage	9 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73430612	-77.88643281	Yes	Safety and Security	County Building
Cornell Cooperative Extention	3 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73388256	-77.88323668	Yes	Safety and Security	County Building
County Historian	5 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73437753	-77.88466621	Yes	Safety and Security	County Building
Department of Health	2 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73279394	-77.88536212	Yes	Safety and Security	County Building
DSS & Rochester Primary Care Network	1 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73264121	-77.88276023	Yes	Health and Medical	County Building
Garage/Storage	10 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73450556	-77.88632718	Yes	Safety and Security	County Building
Genesee Valley Council on the Arts	4 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73440469	-77.88384682	Yes	Safety and Security	County Building
Office of the Aging	3 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73377211	-77.88314873	Yes	Safety and Security	County Building
Records Management	6 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73411989	-77.88621953	Yes	Safety and Security	County Building
Veterans Service Agency	7 Murray Hill Dr, Mount Morris	Mount Morris (T)	42.73415574	-77.88520668	Yes	Safety and Security	County Building
Avon Town	23 Genesee St., Avon, NY 14414	Avon (V)	42.91181034	-77.7466126	Yes	Safety and Security	Town Hall

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Caledonia Town	3109 Main St., Caledonia, NY 14423	Caledonia (V)	42.9734093	-77.85416212	Yes	Safety and Security	Town Hall
Conesus Town	6210 South Livonia Rd., Conesus, NY 144*	Conesus (T)	42.71905185	-77.67638584	Yes	Safety and Security	Town Hall
North Dansville Town	14 Clara Barton St., North Dansville, N*	Dansville (V)	42.55952689	-77.69571544	Yes	Safety and Security	Town Hall
Geneseo Town	4630 Millennium Dr., Geneseo, NY 14454	Geneseo (V)	42.79721439	-77.79131202	Yes	Safety and Security	Town Hall
Groveland Town	4955 Aten Rd., Groveland, NY 14462	Groveland (T)	42.70198588	-77.7486886	Yes	Safety and Security	Town Hall
Leicester Town	132 Main St., P.O. Box 197, Leicester, *	Leicester (V)	42.77178683	-77.89858008	Yes	Safety and Security	Town Hall
Lima Town	7329 East Main St., Lima, NY 14485	Lima (V)	42.90551109	-77.61062362	Yes	Safety and Security	Town Hall
Livonia Town	35 Commercial St., P.O. Box 43, Livonia*	Livonia (V)	42.8192107	-77.66875401	Yes	Safety and Security	Town Hall
Mount Morris Town	103 Main St., Mount Morris, NY 14510	Mount Morris (V)	42.72461651	-77.87304201	Yes	Safety and Security	Town Hall
Nunda Town	4 Massachussetts St., P.O. Box 699, Nun*	Nunda (V)	42.58279295	-77.94133272	Yes	Safety and Security	Town Hall
Ossian Town	4706 Ossian Hill Rd., Dansville, NY 144*	Ossian (T)	42.52108549	-77.77889054	Yes	Safety and Security	Town Hall
Portage Town	2 North Church St., Hunt, NY 14846	Portage (T)	42.54759678	-77.99353979	Yes	Safety and Security	Town Hall
Sparta Town	8374 Sparta Center Rd., Dansville, NY 1*	Sparta (T)	42.62106662	-77.69937431	Yes	Safety and Security	Town Hall
Springwater Town	8022 South Main St., Springwater, NY 14*	Springwater (T)	42.63492371	-77.59731775	Yes	Safety and Security	Town Hall
West Sparta Town	8302 Kysorville-Byersville Rd., Dansvil*	West Sparta (T)	42.62049467	-77.79154068	Yes	Safety and Security	Town Hall
York Town	2668 Main St., P.O. Box 187, York, NY 1*	York (T)	42.87194982	-77.88562106	Yes	Safety and Security	Town Hall
Avon Village	74 Genesee St., Avon , NY 14414	Avon (V)	42.91077726	-77.74548036	Yes	Safety and Security	Village Hall
Caledonia Village	3095 Main St., Caledonia, NY 14423	Caledonia (V)	42.97348163	-77.85488365	Yes	Safety and Security	Village Hall
Dansville Village	14 Clara Barton St., Dansville, NY 14437	Dansville (V)	42.55955505	-77.69573021	Yes	Safety and Security	Village Hall
Geneseo Village	119 Main St., Geneseo, NY 14454	Geneseo (V)	42.79517305	-77.81648532	Yes	Safety and Security	Village Hall
Leicester Village	52 South Pkwy., Leicester NY 14481	Leicester (V)	42.77154619	-77.89420292	Yes	Safety and Security	Village Hall

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category	Type
Lima Village	7329 East Main St. P.O. Box 20A, Lima N*	Lima (V)	42.90551417	-77.6106167	Yes	Safety and Security	Village Hall
Livonia Village	36 Commercial St., P.O. Box 43 Livonia,*	Livonia (V)	42.81919323	-77.66954715	Yes	Safety and Security	Village Hall
Mount Morris Village	117 Main St., Mount Morris, NY 14510	Mount Morris (V)	42.7241449	-77.87264365	Yes	Safety and Security	Village Hall
Nunda Village	4 Massachusetts St., P.O. Box 537, Nund*	Nunda (V)	42.58260871	-77.94140773	Yes	Safety and Security	Village Hall

Library Facilities

The following table summarizes the number library facilities for each jurisdiction in Livingston County.

Table F-20 Library Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline
Avon Free Library	143 Genesee St., Avon	Avon (V)	42.90980982	-77.74733334	No
Caledonia Library	3108 Main St., Caledonia	Caledonia (V)	42.9729125	-77.85425361	No
Dansville Public Library	200 Main St., N. Dansville	Dansville (V)	42.5622825	-77.69637936	No
SUNY Geneseo: Milne Library	1 College Cir., Geneseo	Geneseo (V)	42.79736582	-77.81978729	No
Wadsworth Library	24 Center St., Geneseo	Geneseo (V)	42.79563102	-77.81425888	No
Lima Public Library	1872 Genesee St., Lima	Lima (V)	42.90563676	-77.614139	No
Livonia Public Library	2 Washington St., Livonia	Livonia (V)	42.82202119	-77.66749212	No
Mount Morris Library	121 Main St., Mount Morris	Mount Morris (V)	42.72355318	-77.87241909	No
Bell Memorial Library	16 East St., Nunda	Nunda (V)	42.58051837	-77.94110055	No

Post Office Facilities

The following table summarizes the number post office facilities for each jurisdiction in Livingston County.

Table F-21 Post Office Facilities in Livingston County

Facility Name	Address	Jurisdiction	Latitude	Longitude	Lifeline	Lifeline Category
Avon	100 Prospect St.	Avon (V)	42.91310646	-77.74543731	Yes	Safety and Security
Caledonia	258 North St.	Caledonia (V)	42.97444946	-77.85395504	Yes	Safety and Security
Conesus	6154 S. Livonia Rd.	Conesus (T)	42.71913433	-77.67576056	Yes	Safety and Security
Dansville	Main St	Dansville (V)	42.55970133	-77.69434169	Yes	Safety and Security
Geneseo	13 South St.	Geneseo (V)	42.79371952	-77.81594258	Yes	Safety and Security
Groveland	Groveland Rd.	Groveland (T)	42.66412854	-77.76960934	Yes	Safety and Security
Sonyea	56 Porter Ave.	Groveland (T)	42.68293275	-77.82971808	Yes	Safety and Security
Leicester	130 Main St.	Leicester (V)	42.77188494	-77.89873093	Yes	Safety and Security
Lima	W. Main St.	Lima (V)	42.90534507	-77.61337464	Yes	Safety and Security
Hemlock	4625 Main St.	Livonia (T)	42.79561629	-77.60645048	Yes	Safety and Security
Lakeville	5832 Big Tree Rd.	Livonia (T)	42.83567033	-77.70338504	Yes	Safety and Security
Livonia Center	6825 Route 20A	Livonia (T)	42.82172914	-77.64023684	Yes	Safety and Security
South Lima	6250 S. Lima Rd.	Livonia (T)	42.85506986	-77.68010205	Yes	Safety and Security
Livonia	34 Main St	Livonia (V)	42.82170558	-77.66888442	Yes	Safety and Security
Mt. Morris	31 Chapel St.	Mount Morris (V)	42.72482958	-77.87468252	Yes	Safety and Security
Dalton	9959 State St.	Nunda (T)	42.54297608	-77.94909421	Yes	Safety and Security
Nunda	17 State St.	Nunda (V)	42.57801116	-77.94359697	Yes	Safety and Security
Hunt		Portage (T)	42.54675373	-77.99158764	Yes	Safety and Security
Springwater	7886 Main St.	Springwater (T)	42.63724139	-77.59584623	Yes	Safety and Security
Websters Crossing		Springwater (T)	42.6695753	-77.63515789	Yes	Safety and Security
Linwood		York (T)	42.89455426	-77.95038269	Yes	Safety and Security
Piffard	3215 Genesee St.	York (T)	42.82857361	-77.85186025	Yes	Safety and Security
Retsof	3681 Retsof Rd.	York (T)	42.83167446	-77.88158807	Yes	Safety and Security
York	2706 Main St.	York (T)	42.87044783	-77.88569053	Yes	Safety and Security

APPENDIX G. PLAN REVIEW TOOLS

This appendix includes worksheets to facilitate plan maintenance and review by the Livingston County Planning Partnership.

Worksheet #1 Progress Report step 2

Progress Report Period: _____ to _____
(date) (date)

Project Title: _____ Project ID#: _____

Responsible Agency: _____

Address: _____

City/County: _____

Contact Person: _____ Title: _____

Phone #(s): _____ email address: _____

List Supporting Agencies and Contacts:

_____

_____

_____

Total Project Cost: _____

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

_____

_____

Milestones	Complete	Projected Date of Completion

Plan Goal(s)/Objective(s) Addressed:

Goal: _____

Objective: _____

Indicator of Success (e.g., losses avoided as a result of the acquisition program):

In most cases, you will list losses avoided as the indicator. In cases where it is difficult to quantify the benefits in dollar amounts, you will use other indicators, such as the number of people who now know about mitigation or who are taking mitigation actions to reduce their vulnerability to hazards.

_____

_____

Status (Please check pertinent information and provide explanations for items with an asterisk. For completed or canceled projects, see Worksheet #2 — to complete a project evaluation):

Project Status

☐ Project on schedule

☐ Project completed

☐ Project delayed*

*explain: _____

_____

☐ Project canceled

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain: _____

_____

☐ Cost underrun*

*explain: _____

_____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

_____

_____

_____

_____

B. What obstacles, problems, or delays did you encounter, if any?

_____

_____

_____

C. How was each problem resolved?

_____

_____

_____

Next Steps: What is/are the next step(s) to be accomplished over the next reporting period?

Other comments:

Worksheet #2 Evaluate Your Planning Team step 3

When gearing up for the plan evaluation, the planning team should reassess its composition and ask the following questions:	YES	NO
Have there been local staffing changes that would warrant inviting different members to the planning team?		
Comments/Proposed Action:		
Are there organizations that have been invaluable to the planning process or to project implementation that should be represented on the planning team?		
Comments/Proposed Action:		
Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the planning team?		
Comments/Proposed Action:		
Are there procedures (e.g., signing of MOAs, commenting on submitted progress reports, distributing meeting minutes, etc.) that can be done more efficiently?		
Comments/Proposed Action:		
Are there ways to gain more diverse and widespread cooperation?		
Comments/Proposed Action:		
Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?		
Comments/Proposed Action:		

If the planning team determines the answer to any of these questions is "yes," some changes may be necessary.

Worksheet #3 Evaluate Your Project Results step 3

Project Name and Number: _____

_____

Project Budget: _____

_____

Project Description: _____

_____

_____

Associated Goal and Objective(s): _____

_____

_____

Indicator of Success (e.g., losses avoided): _____

_____

_____

Insert location map.

Include before and after photos if appropriate.

Was the action implemented? ☐ **YES** ☐ **NO**

IF NO

Why not?	**YES**	**NO**
Was there political support for the action?	☐	☐
Were enough funds available?	☐	☐
Were workloads equitably or realistically distributed?	☐	☐
Was new information discovered about the risks or community that made implementation difficult or no longer sensible?	☐	☐
Was the estimated time of implementation reasonable?	☐	☐
Were sufficient resources (for example staff and technical assistance) available?	☐	☐

IF YES

What were the results of the implemented action? _____

_____

_____

_____

_____

_____

_____

	YES	NO
Were the outcomes as expected? If No, please explain:		
Did the results achieve the goal and objective(s)? Explain how:		
Was the action cost-effective? Explain how or how not:		
What were the losses avoided after having completed the project?		
If it was a structural project, how did it change the hazard profile?		
Additional comments or other outcomes:		

Date: _____

Prepared by: _____

Worksheet #4 Revisit Your Risk Assessment step 4

Risk Assessment Steps	Questions	YES	NO	COMMENTS
Identify hazards	Are there new hazards that can affect your community?			
Profile hazard events	Are new historical records available?			
	Are additional maps or new hazard studies available?			
	Have chances of future events (along with their magnitude, extent, etc.) changed?			
	Have recent and future development in the community been checked for their effect on hazard areas?			
Inventory assets	Have inventories of existing structures in hazard areas been updated?			
	Is future land development accounted for in the inventories?			
	Are there any new special high-risk populations?			
Estimate losses	Have loss estimates been updated to account for recent changes?			

If you answered "Yes" to any of the above questions, review your data and update your risk assessment information accordingly.

Worksheet #1 Progress Report step 2

Progress Report Period: October 1, 2003 (date) to December 31, 2003 (date)

Project Title: Raging River Views Park Flood Acquisition Project Project ID#: HVMP-2003-01

Responsible Agency: Hazardville Department of Planning

Address: 1909 Burnham Way

City/County: Hazardville, Emergency

Contact Person: Eunice Euclid Title: Grants Administrator

Phone #(s): (555) 555-8473 email address: eeuclid@town.hazardville.en

List Supporting Agencies and Contacts:

Hazardville Department of Housing: Noah Hudson (555) 555-8465

Hazardville Habitat for Humanity: Carter Goodman (555) 555-9432

Total Project Cost: $360,000

Anticipated Cost Overrun/Underrun: $N/A

Date of Project Approval: July 21, 2003 Start date of the project: November 15, 2003

Anticipated completion date: Summer 2005

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase):

Acquire and demolish 14 structures located at the Raging River Views Park. Work with Habitat for Humanity and the Department of Housing to construct new housing or rehabilitate existing housing for displaced low-income residents. The Department of Housing will also provide funds for temporary housing to displaced residents.

Milestones	Complete	Projected Date of Completion
Conduct surveys of ground and first-floor elevations	✓	
Obtain Notices of Intent by owners	✓	
Conduct structure appraisals	✓	
Send letters of offer to homeowners		1/31/04
Perform title work		3/30/04
Acquire structures		6/30/04
Begin construction of new housing or reconstruction of existing housing for relocated residents		6/30/04
Send payment for relocation to renters		9/30/04
Finalize contract for demolition		1/12/05
Demolish structures		4/26/05
Landscape open parcels		6/30/05

Plan Goal(s)/Objective(s) Addressed:

Goal: Minimize losses to existing and future structures within hazard areas.

Objective: Reduce potential damages to the manufactured home park in the floodplain.

Indicator of Success (e.g., losses avoided as a result of the acquisition program):

In most cases, you will list losses avoided as the indicator. In cases where it is difficult to quantify the benefits in dollar amounts, you will use other indicators, such as the number of people who now know about mitigation or who are taking mitigation actions to reduce their vulnerability to hazards.

Losses Avoided. After a major flood (100-year), the Department of Economic Development will assist the Planning Department in calculating the losses avoided.

Status (Please check pertinent information and provide explanations for items with an asterisk. For completed or canceled projects, see Worksheet #2 — to complete a project evaluation):

Project Status

- [x] Project on schedule
- [ ] Project completed
- [ ] Project delayed*

*explain:

- [ ] Project canceled

Project Cost Status

- [x] Cost unchanged
- [ ] Cost overrun*

*explain:

- [ ] Cost underrun*

*explain:

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

The Department of Planning contacted the owners of the properties vulnerable to floods to determine their willingness to sell their properties. Of the 14 property owners contacted, 10 agreed to have their homes acquired. An appraiser contracted by the Department of Planning estimated the value of the 10 properties.

B. What obstacles, problems, or delays did you encounter, if any?

The owners of four properties refused to sell. There has been some limited neighborhood opposition to various suggestions for the community open space created by the acquisitions.

C. How was each problem resolved?

The Department of Planning has proposed to the residents a design charrette to develop alternatives for the open space that would be created, with the understanding that no permanent structures can be constructed on the open parcels after acquisition and demolition has been completed. Recreational activities will be limited to passive uses such as trails and bike paths.

Next Steps: What is/are the next step(s) to be accomplished over the next reporting period?

1. Send offer letters to homeowners.
2. Do title work.
3. Work with the Department of Housing and Habitat for Humanity to identify existing housing for rehabilitation and viable vacant parcels to construct new housing for the displaced residents.

Other comments:

None

Adapted from the North Carolina HMGP Progress Report Form at http://www.dem.dcc.state.nc.us/mitigation/document_index.htm.

Worksheet #2 Evaluate Your Planning Team step 3

When gearing up for the plan evaluation, the planning team should reassess its composition and ask the following questions:	YES	NO
Have there been local staffing changes that would warrant inviting different members to the planning team?		✓
Comments/Proposed Action: NA		
Are there organizations that have been invaluable to the planning process or to project implementation that should be represented on the planning team?	✓	
Comments/Proposed Action: Hazardville Habitat for Humanity has been invaluable to assisting the relocation of former Raging River Views Park residents. The organization should be invited to participate in THORR.		
Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the planning team?	✓	
Comments/Proposed Action: It is essential that the Department of Public Works be represented at each meeting because so many mitigation actions involve them. However, representatives from the department have been unable to attend meetings consistently since the development of the plan. THORR will work with the departments director to find consistent, active representation.		
Are there procedures (e.g., signing of MOAs, commenting on submitted progress reports, distributing meeting minutes, etc.) that can be done more efficiently?	✓	
Comments/Proposed Action: Again, the Department of Public Works has been unable to provide timely progress reports of its mitigation actions. Administrative duties and paperwork have fallen through the cracks since the department has been assigned numerous new duties in Hazardville's mitigation efforts. Perhaps the department, in partnership with THORR, should approach the Town Council for funding for more department staff.		
Are there ways to gain more diverse and widespread cooperation?	✓	
Comments/Proposed Action: THORR members believe that better publicity about mitigation actions will garner more interest from the public, affected/interested organizations, and state agencies.		
Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?	✓	
Comments/Proposed Action: THORR has learned about new PDM funding. The state has asked that local jurisdictions submit applications for brick and mortar projects and risk assessments studies.		

If the planning team determines the answer to any of these questions is "yes," some changes may be necessary.

Worksheet #3 Evaluate Your Project Results step 3

Project Name and Number:

Raging River Views Park Flood Acquisition Project (HVMP-2003-01)

Project Budget:

$360,000

Project Description:

Acquisition and demolition of 14 flood-prone structures

Associated Goal and Objective(s):

Goal: Minimize losses to existing and future structures within hazard areas

Objective: Reduce potential damages to the manufactured home park in the floodplain

Indicator of Success (e.g., losses avoided):

Losses avoided by acquisition and demolition of flood-prone structures



Town of Hazardville Composite Loss Map developed previously during risk assessment (see FEMA 386-2).

Was the action implemented? ☑ YES ☐ NO

IF NO

Why not?	YES	NO
Was there political support for the action?	☐	☐
Were enough funds available?	☐	☐
Were workloads equitably or realistically distributed?	☐	☐
Was new information discovered about the risks or community that made implementation difficult or no longer sensible?	☐	☐
Was the estimated time of implementation reasonable?	☐	☐
Were sufficient resources (for example staff and technical assistance) available?	☐	☐

IF YES

What were the results of the implemented action?

Of the 14 proposed properties, 10 were acquired. The benefit-cost ratio is 2.19, based on project benefits of $789,000 and costs of $360,274. Benefits are based on the net present value of the avoided damages over the project life. Furthermore, about 40 people are no longer in the path of a potential flood, making emergency rescue operations in that area less likely and evacuation easier.

	YES	NO
Were the outcomes as expected? If No, please explain:		✓
The project originally set out to acquire 14 properties. Four of the 14 owners did not want to participate in the buyout program.		
Did the results achieve the goal and objective(s)? Explain how:	✓	
Despite four properties still in harm's way, the objective has been largely met. See additional comments.		
Was the action cost-effective? Explain how or how not:	✓	
The FEMA Limited Data module was used to perform the benefit-cost analysis. Data for the analysis was collected from historical flood data and used as benchmarks in the before mitigation section of the analysis. The damages after mitigation section was left blank, due to the properties being permanently acquired, and the economic risk removed completely. The analysis resulted in a benefit-cost ratio of 2.19, with benefits totaling $789,000 for 10 properties.		
What were the losses avoided after having completed the project?		
Total avoided losses are $789,000 over the lifetime of the project (estimated at 100 years).		
If it was a structural project, how did it change the hazard profile?		
N/A		
Additional comments or other outcomes:		
The Planning Department has agreed to work with the remaining four homeowners in evaluating other flood-proofing options.		

Date: October 12, 2005

Prepared by: Hazardville Department of Economic Development
Hazardville Department of Planning

Worksheet #4 Revisit Your Risk Assessment step 4

Risk Assessment Steps	Questions	YES	NO	COMMENTS
Identify hazards	Are there new hazards that can affect your community?		✓	
Profile hazard events	Are new historical records available?		✓	
	Are additional maps or new hazard studies available?	✓		Recently completed maps and studies showing vulnerability of the new coastal development to erosion and tidal surge are available.
	Have chances of future events (along with their magnitude, extent, etc.) changed?		✓	
	Have recent and future development in the community been checked for their effect on hazard areas?	✓		
Inventory assets	Have inventories of existing structures in hazard areas been updated?	✓		
	Is future land development accounted for in the inventories?	✓		The Planning Department is preparing a coastal development plan to ensure that any future development is set back far enough to be outside the erosion zones and the coastal high hazard areas. Current and future road configurations will also be studied to ensure adequate evacuation times before hurricane events.
	Are there any new special high-risk populations?	✓		Coastal residents and business owners.
Estimate losses	Have loss estimates been updated to account for recent changes?	✓		

If you answered "Yes" to any of the above questions, review your data and update your risk assessment information accordingly.

APPENDIX H.LINKAGE PROCEDURES

This appendix contains the linkage procedures for the Livingston County Hazard Mitigation Plan (HMP).

H.1 ADMINISTRATIVE PROCESS FOR "LINKAGE" TO THE LIVINGSTON COUNTY HAZARD MITIGATION PLAN

Despite the county's efforts to ensure that every eligible jurisdiction in the county fully participated in the planning process, not all of the jurisdictions did. Completed jurisdictional annexes are presented in Section 9 (Jurisdictional Annexes). Any non-participating local governments within Livingston County can join this plan as a participating jurisdiction and to ultimately achieve approved status by following the linkage procedures defined in this appendix.

It is assumed that some or all of these non-participating local governments may choose to "link" to the plan at some point in time to gain eligibility for programs under the Disaster Mitigation Act of 2000 (DMA 2000). In addition, some of the current partnership may not continue to meet eligibility requirements due to the lack of active participation as prescribed by the plan. These "linkage" procedures will define the requirements established by the Livingston County HMP Planning Partnership and all planning partners for dealing with the increase or decrease in planning partners linked to this plan. It should be noted that currently non-participating jurisdictions within the defined planning area are not obligated to link to this plan. These jurisdictions can choose to do their own "complete" plan that addresses all required elements of 44 CFR Section 201.6.

H.1.1 Increasing the Partnership Through Linkage

Eligibility

Eligible jurisdictions located in the planning area can link to this plan at any point during the plan's performance period (5 years after final approval). Eligibility will be determined by the following factors:

- The linking jurisdiction is a local government as defined by the Disaster Mitigation Act.
- The boundaries or service area of the linking jurisdiction is completely contained within the boundaries of the planning area established during the 2022 HMP development process.
- The linking jurisdiction's critical facilities were included in the critical facility and infrastructure risk assessment completed during the 2022 HMP development process.

Requirements

It is expected that linking jurisdictions will complete the requirements outlined below and submit their completed template to the l Livingston County Office of Emergency Management (OEM) for review within six months of beginning the linkage process:

1. The Livingston County Hazard HMP Planning Partnership has established an annual window for which linkage to the plan can occur. Linking jurisdictions are instructed to complete the following procedures during this time frame.

2. The current non-participating jurisdiction contacts the Livingston County OEM Director for the plan and requests a "Linkage Package". The Livingston County HMP Coordinator is:

   Andrew P. Brodell, Director
   Livingston County Office of Emergency Management
   3360 Gypsy Lane
   Mt Morris, NY 14510
   585-243-7160
   Email: abrodell@co.livingston.ny.us

3. The Livingston County HMP Coordinator will provide a linkage package that includes:

   - Copy of Volume I and II of the HMP (CD-ROM or other electronic medium)
   - Planning Partner's Expectations Sheet
   - Sample Letter of Intent to link to the plan
   - Jurisdictional template and instructions
   - Catalog of Hazard Mitigation Alternatives or the Mitigation Catalog
   - Copy of Section 201.6 of Chapter 44, the Code of Federal Regulations (44CFR), which defines the federal requirements for a local hazard mitigation plan

4. The new jurisdiction will be required to review both volumes of the plan, which includes the following key components for the planning area:

   - The Livingston County risk assessment;
   - The plan's goals and objectives;
   - Plan implementation and maintenance procedures;
   - Catalog of potential mitigation actions; and
   - County-wide initiatives.

   Once this review is complete, the jurisdiction will complete its specific jurisdictional annex by following the template and its instructions for completion provided by the Livingston County HMP Coordinator. Technical assistance can be provided upon request by completing the request for technical assistance (TA) form provided in the linkage package. This TA can be provided by the Livingston County HMP Coordinator or any other resource within the Planning Partnership such as a member of the HMP Planning Partnership or a currently participating jurisdiction. The Livingston County HMP Coordinator will determine who will provide the TA and the possible level of TA based on resources available at the time of the request.

5. The new jurisdiction will also be required to develop a public involvement strategy that ensures the public's ability to participate in the plan development process. At a minimum, the new jurisdiction must make an attempt to solicit public opinion on hazard mitigation at the onset of this linkage process and a minimum of one public meeting to present their draft jurisdiction-specific annex for comment, prior to adoption by the governing body. The Planning Partnership will have available resources to aid in the public involvement strategy such as the plan website. However, it will be the new jurisdiction's responsibility to implement and document this strategy for incorporation into their annex.

   It should be noted that the jurisdictional annex templates do not include a section for the description of the public process. This is because the original partnership was covered under a uniform public involvement strategy that covered the operational area that is described in Volume I of the plan. Since the new partner

was not addressed by that strategy, they will have to initiate a new strategy and add a description of that strategy to their annex. For consistency, new partners are encouraged to follow the public involvement format utilized by the initial planning effort as described in Volume I of the plan.

6. Once their public involvement strategy is completed and they have completed their template, the new jurisdiction will submit the completed package to the Livingston County HMP Coordinator for a pre-adoption review to ensure conformance with the regional plan format.

7. The Livingston County HMP Coordinator will review for the following:

   - Documentation of public involvement and mitigation action development strategies;
   - Conformance of template entries with guidelines outlined in instructions;
   - Chosen actions are consistent with goals, objectives, and mitigation catalog of Livingston County HMP; and
   - Designated point of contact.

   The Livingston County HMP Coordinator may utilize members of the HMP Planning Partnership or other resources to complete this review. All proposed linked annexes will be submitted to the HMP Planning Committee for their review and comment prior to submittal to the New York State Division of Homeland Security and Emergency Services (NYS DHSES).

8. Plans approved and accepted by the HMP Planning Partnership will then be forwarded to NYS DHSES for review with a cover letter stating the forwarded plan meets local approved plan standards and whether the plan is submitted with local adoption or for other review.

9. NYS DHSES will review plans for state and federal compliance. Non-compliant plans are returned to the jurisdiction for correction. Compliant plans are forwarded to Federal Emergency Management Agency (FEMA) Region II office for review with annotation as to the adoption status.

10. FEMA Region II reviews the new jurisdiction's plan in association with the approved plan to ensure DMA compliance. Region II notifies the new jurisdiction of results of the review with copies to NYS DHSES and approved planning authority.

11. The new jurisdiction corrects the plan's shortfalls (if necessary) and resubmits to NYS DHSES through the approved plan lead agency.

12. For plans with no shortfalls that have not been adopted from the Region II review or outstanding corrected shortfalls, the new jurisdiction governing authority adopts the plan (if not already accomplished) and forwards adoption resolution to Region II with copies to lead agency and NYS DHSES.

13. Region II Director notifies the new jurisdiction governing authority of plan approval.

The new jurisdiction plan is then included with Livingston County HMP, and the linking jurisdiction is committed to participate in the ongoing plan implementation and maintenance identified in Volume I of the HMP.

HAZARD MITIGATION PLAN

Livingston County, New York

Volume II



April 2022

TETRA TECH

Prepared By:
Tetra Tech, Inc. | 2000 Linglestown Rd, Suite 203
Harrisburg, PA 17110

SECTION 8. PLANNING PARTNERSHIP

This section describes Livingston County's Hazard Mitigation Plan (HMP) update, the Planning Partnership and its responsibilities throughout the planning process, and the jurisdictional annexes developed as a result of the plan update efforts.

8.1 BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for hazard mitigation. All participating jurisdictions must meet the requirements of Chapter 44 of the Code of Federal Regulations (44 CFR):

> *"Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan." [Section 201.6a(4)]*

For the Livingston County HMP update, a Planning Partnership was formed to leverage resources and meet requirements for the federal Disaster Mitigation Action of 2000 (DMA) for as many eligible governments as possible. Members of the Planning Partnership consisted of representatives from each jurisdiction. The DMA defines a local government as follows:

> *"Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity."*

Members of the Planning Partnership have the expertise to develop the plan and have their jurisdiction's authority to implement the mitigation strategy developed during the planning process.

The Planning Partnership is responsible for developing and reviewing draft sections of the plan, creating the mitigation strategy for their jurisdiction, and adopting the final plan.

Each participating planning partner has prepared a jurisdictional annex to this plan. These annexes, as well as information on the process by which they were created, are contained in this volume.

8.2 INITIAL SOLICITATION AND LETTERS OF INTENT

Livingston County solicited the participation of all municipalities in the county at the commencement of this project. All interested municipalities were asked to sign a "Letter of Intent" committing their participation and resources to the development of the Livingston County HMP update. Table 8-1 lists the jurisdictions that elected to participate in the update process and have met the minimum requirements of participation as established by the county and the Steering Committee. Livingston County and the municipalities indicated in Table 8-1 participated in the HMP update.

Table 8-1. Participating Jurisdictions in Livingston County

Jurisdictions	
Livingston County	
Town of Avon	Town of Livonia
Village of Avon	Village of Livonia
Town of Caledonia	Town of Mount Morris

Jurisdictions	
Village of Caledonia	Village of Mount Morris
Town of Conesus	Town of North Dansville
Village of Dansville	Town of Nunda
Town of Geneseo	Village of Nunda
Village of Geneseo	Town of Ossian
Town of Groveland	Town of Portage
Town of Leicester	Town of Sparta
Village of Leicester	Town of Springwater
Town of Lima	Town of West Sparta
Village of Lima	Town of York

8.2.1 Planning Partner Expectations

The Steering Committee developed the following list of planning partner expectations, which were confirmed at the kickoff meeting held on May 13, 2021. (See Appendix C [Meeting Documentation] for details.)

- Complete administrative tasks:
  - Complete a letter of intent to participate and return to the Livingston County Office of Emergency Services.
  - Designate points of contact.
- Provide representation at Planning Partnership meetings.
- Provide information about jurisdictional assets (critical facilities, plans/ordinances, hazard events/damages, new development, etc.), as requested.
- Support public outreach efforts within the jurisdictions, including posting of notices and plan links on websites and local media sources, advertising and supporting public meetings, and supporting outreach to National Flood Insurance Program (NFIP) repetitive loss and severe repetitive loss property owners, where applicable.
- Solicit and encourage the participation of regional agencies, a range of stakeholders, and citizens in the HMP development process.
- Assist with the identification of stakeholders within the jurisdiction that should be informed and potentially involved with the planning process.
- Prepare and submit a jurisdictional annex:
  - Attend the mitigation workshop.
  - Perform a capability assessment.
  - Review the risk assessment.
  - Involve local NFIP Floodplain Administrator in the planning process and have them complete the NFIP portion of the annex.
  - Review the 2015 mitigation strategies and provide the status of each.
  - Identify jurisdiction-specific mitigation strategies to address each of the hazards posing a risk to the jurisdiction.
- Review draft plan sections when requested and provide comments and input, as appropriate.
- Ensure the HMP update meets the requirements of the DMA 2000 and FEMA and New York State Division of Homeland Security and Emergency Services (NYS DHSES) guidance.
- Adopt the plan by resolution of local governing body after FEMA conditional approval.
- Provide information regarding progress on identified initiatives, as requested by the County HMP Coordinator.
- Participate in and advertise the public review and comment period prior to adoption.

By adopting this plan, each planning partner also agrees to the plan implementation and maintenance protocol established in Volume I. As described in Volume I, Section 7 (Plan Maintenance), it is intended that the Planning Partnership remain active beyond the regulatory update to support plan maintenance. Regarding the composition of the Steering Committee and Planning Partnership, it is recognized that individual commitments change over time, and it shall be the responsibility of each jurisdiction and its representatives to inform the HMP Coordinator of any changes in representation.

8.2.2 Jurisdictional Annex Preparation Process

As stated in the 2017 New York State Hazard Mitigation Planning Standards, jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction. The Livingston County HMP update is organized so that there is an annex for every participating jurisdiction (the county and participating municipalities).

Data Collection

Data collection worksheets were created to help the Planning Partnership prepare jurisdiction-specific annexes. The worksheets were created so that all federal and state criteria would be met, based on a jurisdiction's capabilities and mode of operation. Each partner was asked to participate in the Planning Partnership Kickoff Meeting, held on June 24, 2021, during which key elements of the worksheets were discussed and subsequently completed by the appropriate jurisdictional personnel for each worksheet. The worksheets were collected, and the information was incorporated into each jurisdictional annex. In the event additional information was needed, the jurisdictional point of contact was contacted to provide more input into their annex.

Hazard Ranking Exercise

The presentation of the risk assessment and risk ranking for each jurisdiction was done on August 31, 2021. At this meeting, the consultant presented the overall risk assessment for the hazards of concern. In addition, each planning partner was asked to review the ranked risk specific for its jurisdiction. Refer to Section 5.3 (Hazard Ranking) for the methodology of the hazard ranking process. The calculated ranking was presented to each jurisdiction, and they were asked to review the ranking and revise based on history of events, probability of occurrence, and the potential impact on people, property, and the economy. The objectives of this exercise were to familiarize the partnership with how to use the risk assessment as a tool to support other planning and hazard mitigation processes and to help prioritize types of mitigation actions that should be considered. Hazards that were ranked as "high" for each jurisdiction as a result of this exercise were considered to be priorities for identifying appropriate mitigation actions, although jurisdictions also identified actions to mitigate "medium" or "low" ranked hazards, as appropriate.

Mitigation Strategy Workshop

The consultant conducted a mitigation strategy workshop for Livingston County and its jurisdictions on September 8, 2021. The purpose of this workshop was to guide the Planning Partnership in completing this portion of the planning process and discuss how projects that are well developed and documented are more quickly identifiable for selection when grants become available. At this meeting, the consultant discussed the importance of developing mitigation actions and worked with attendees to help identify mitigation actions and develop action worksheets.

Jurisdictional Annexes

While the jurisdictional annex format is designed to document and assure local compliance with the DMA 2000 regulations, its greater purpose and function includes:

- Providing a locally relevant synthesis of the overall mitigation plan that can be readily presented, distributed, and maintained;
- Facilitating local understanding of the community's risk to natural hazards;
- Facilitating local understanding of the community's capabilities to manage natural hazard risk, including opportunities to improve those capabilities;
- Facilitating local understanding of the efforts the community has taken, and plans to take in the future, to reduce its natural hazard risk;
- Facilitating the implementation of mitigation strategies, including the development of grant applications; and
- Providing a framework by which the community can continue to capture relevant data and information for future plan updates.

Each jurisdiction's annex is intended to be a *living document* and will continue to be improved as resources permit. As such, its design is intended to promote and accommodate continued efforts to maintain the annex to be current and to improve the effectiveness of the annex as the key tool, reference, and guiding document by which the jurisdiction will implement hazard mitigation locally. The following provides a description of the various elements of the jurisdictional annex.

Section 9.X.1: Hazard Mitigation Planning Team: Identifies the jurisdiction's primary and alternate(s) contacts as well as the Floodplain Administrators. Provides details on which departments were involved throughout the development of the jurisdictional annex. Plans developed with the participation of the widest range of departments, stakeholders, and persons familiar with the jurisdiction should be involved in the development of the jurisdictional annexes. Further detail is provided in Section 3 (Planning Process), Section 9 (Jurisdictional Annexes), and Appendix B (Participation Matrix).

Section 9.X.2: Municipal Profile: Provides an overview and profile of the jurisdiction, including identification of areas of known and anticipated future development and the vulnerability of those areas to the hazards of concern.

Section 9.X.3: Jurisdictional Capability Assessment and Integration: Provides an inventory and evaluation of the jurisdiction's tools, mechanisms, and resources available to support hazard mitigation and natural hazard risk reduction. Within the municipal annexes, tables provide an inventory of the municipality's planning, regulatory, administrative, technical, and fiscal capabilities. Further, another table identifies the municipality's level of participation in state and federal programs designed to promote and incentivize local risk reduction efforts.

Section 9.X.4: National Flood Insurance Program (NFIP) Compliance: Summarizes jurisdiction-specific information related to managing and regulating the regulatory floodplain, including current and future compliance with the NFIP.

Section 9.X.5: Evacuation, Sheltering, Temporary Housing, and Permanent Housing: To meet the NYS DHSES requirement, jurisdictions provided evacuation routes, sheltering measures, and potential locations for temporary and permanent housing.

Section 9.X.6: Growth/Development Trends: Summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.

Section 9.X.7: Jurisdictional Risk Assessment: Provides information regarding each participating jurisdiction's vulnerability to the identified hazards. Full data and information on the hazards of concern, the methodology used to develop the vulnerability assessments, and the results of those assessments that serve as the basis of these local risk rankings are included in Section 5.

- ***Hazard Area Extent and Location Map:*** Each annex includes a map (or series of maps) illustrating identified hazard zones and critical facilities. Further, these maps show areas of known or anticipated future development, as available and provided by the jurisdiction.
- ***Hazard Event History:*** Identifies hazard events that have caused significant impacts within the jurisdiction, including a summary characterization of those impacts identified by the jurisdiction.
- ***Hazard Ranking and Vulnerabilities:*** The Livingston County HMP identifies and characterizes the broad range of hazards that pose risk to the entire planning area; however, each jurisdiction has differing degrees of risk exposure and vulnerability aside from the whole. The local risk ranking serves to identify each jurisdiction's degree of risk to each hazard as it pertains to them, supporting the appropriate selection and prioritization of initiatives that will reduce the highest levels of risk for each community.
- ***Critical Facilities:*** Identifies potential flood losses to critical facilities in the jurisdiction based on the flood vulnerability assessment process presented in Section 5.
- ***Identified Issues:*** Presents other specific hazard vulnerabilities as identified by the jurisdiction.

Section 9.X.8: Mitigation Strategy and Prioritization: Discusses and provides the status of past mitigation actions and status and describes proposed hazard mitigation initiatives and prioritization.

- ***Past Mitigation Initiative Status:*** Where applicable, a review of progress on the jurisdiction's prior mitigation strategy is presented, identifying the disposition of each prior action, project, or initiative in the jurisdiction's updated mitigation strategy. Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
- ***Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy:*** Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
- ***Proposed Hazard Mitigation Initiatives for the Plan Update:*** Table 9.X-11 presents the jurisdiction's updated mitigation strategy. As indicated, applicable mitigation actions, projects, and initiatives are further documented on an Action Worksheet, which provides details on the project identification, evaluation, prioritization, and implementation process. Table 9.X-12 provides a summary of the local mitigation strategy prioritization process discussed in Section 6.

Section 9.X.9: Action Worksheets: Provides each jurisdiction with a more developed starting point for project implementation should funding become available. Following NYS DHSES HMP Standards Guide, each jurisdiction developed a minimum of two action worksheets. Workshops and additional meetings (in person, by email, or by teleconference) to complete the jurisdictional annexes were held with the Steering Committee and Planning Partnership throughout the planning process. In summary, all participating communities and the county completed the planning partner expectations and annex preparation process. Details regarding these meetings are described further in Sections 3 (Planning Process) and 6 (Mitigation Strategy). Completed jurisdictional annexes are provided in Section 9 (Jurisdictional Annexes).

8.2.3 Coverage Under the Plan

Of the planning partners identified during the planning process, 23 fully met the participation requirements specified by the Steering Committee. Four planning partners did not meet principal requirements, which included completion of the jurisdictional data collection worksheets, completion of the jurisdictional annex, or participation in meetings. Those who did not meet the requirements will not be able to seek FEMA or NYS DHSES approval at the time of plan submittal nor will they be eligible to obtain FEMA mitigation grant funding. Those jurisdictions can choose to complete their annex and adopt at a later time, working with Livingston County and NYS DHSES to ensure completeness. Any non-participating local government within the Livingston County planning area can "dock" to this plan in the future following the linkage procedures defined in Appendix H (Linkage Procedures).

Table 8-2 lists the status of each jurisdiction, whether or not they submitted letters of intent to participate, and their ultimate status in this plan update. Appendix B (Participation Matrix) and Appendix C (Meeting Documentation) provide details on participation and meeting attendance.

Table 8-2. Jurisdictional Status

Municipality	Letter of Intent to Participate	Attended Workshops and/or Meetings and Project Calls	Provided Update on Past Projects	Submitted Mitigation Actions for Current Plan	Seeking Approval for Adoption (meets all previous requirements)
Town of Avon	-	X	X	X	X
Village of Avon	-	X	X	X	X
Town of Caledonia	-	-	X	X	X
Village of Caledonia	-	X	X	X	X
Town of Conesus	-	-	X	X	X
Village of Dansville	-	X	X	X	X
Town of Geneseo	X	X	X	X	X
Village of Geneseo	-	X	X	X	X
Town of Groveland	-	X	X	X	X
Town of Leicester	-	X	X	X	X
Village of Leicester	-	-	X	X	X
Town of Lima	X	-	X	X	X
Village of Lima	-	-	-	-	-
Town of Livonia	-	-	-	-	-
Village of Livonia	-	X	-	-	-
Town of Mount Morris	-	X	-	X	X
Village of Mount Morris	-	X	-	-	-
Town of North Dansville	X	X	X	X	X
Town of Nunda	-	-	X	X	X
Village of Nunda	-	-	X	X	X
Town of Ossian	-	X	X	X	X
Town of Portage	-	-	-	X	X
Town of Sparta	-	-	-	X	X
Town of Springwater	-	X	-	X	X
Town of West Sparta	-	-	X	X	X
Town of York	-	X	X	X	X

In summary, all participating communities and the county completed the planning partner expectations and annex preparation process. Details regarding these meetings are described further in Section 3 (Planning Process) and Section 6 (Mitigation Strategy). Completed jurisdictional annexes are presented in Section 9.

9.1 LIVINGSTON COUNTY

This section presents the jurisdictional annex for the Livingston County. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the County participated in the planning process; an assessment of the County's risk and vulnerability; the different capabilities utilized in the County; and an action plan that will be implemented to achieve a more resilient community.

9.1.1 Hazard Mitigation Planning Team

The following individuals have been identified as the County's hazard mitigation plan primary and alternate points of contact. The County followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many County departments, including: Central Services, County Clerk, Department of Health, Emergency Management, Highway, Information & Technology Services, Planning, Probation, Sheriff's Office, Social Services, Veteran's Services, and Workforce Development. The Emergency Management Director and the Deputy Planning Director represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.1-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Andrew Brodell, Director, Emergency Management 3360 Gypsy Lane, Mt. Morris, NY 14510 585-243-7160 abrodell@co.livingston.ny.us	Heather Ferrero, Deputy Planning Director, Planning Dept. 6 Court Street, Geneseo, NY 14454 585-243-7550 hferrero@co.livingston.ny.us

9.1.2 County Profile

Please refer to Section 4, Volume I of this Plan for details on Livingston County's population, location, climate, history, growth, and development.

9.1.3 Jurisdictional Capability Assessment and Integration

The County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities

- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.1.3). The County's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the County. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.1-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	New York State Uniform Fire Prevention and Building Code	State, County, and Local	County's Code Enforcement Officer
How does this reduce risk? Provides building standards that protect the public health, safety, and welfare.					
Zoning/Land Use Code	No	No		Local	
How does this reduce risk? N/A					
Subdivision Ordinance	No	No		Local	
How does this reduce risk? N/A					
Site Plan Ordinance	No	No		Local	
How does this reduce risk? N/A					
Stormwater Management Ordinance	No	Yes		Local	
How does this reduce risk? N/A					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk? Livingston County has a Post Disaster Recovery Plan.					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk? N/A					
Environmental Protection Ordinance	No	Yes		Local	

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? N/A					
Flood Damage Prevention Ordinance	No	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)		Local	
How does this reduce risk? N/A					
Wellhead Protection	No	No			
How does this reduce risk? N/A					
Emergency Management Ordinance	No	Yes			
How does this reduce risk? N/A					
Climate Change Ordinance	No	No			
How does this reduce risk? N/A					
Other		-			
Planning Documents					
Master Plan	No	No			
How does this reduce risk? N/A					
Capital Improvement Plan	Yes	No	Annually adopted Capital Improvement Plan	County	Administration
How does this reduce risk? Improves fiscal responsibility and transparency, and provides funding for projects that can be effective for pre-disaster mitigation					
Disaster Debris Management Plan	Yes	No	Livingston County Comprehensive Emergency Management Plan	County	Office of Emergency Management
How does this reduce risk? Provides for the safe and orderly clean-up of post-disaster debris, which protects the public health, safety, and welfare					
Floodplain Management or Watershed Plan	Yes	No	Conesus Lake Watershed Management Plan	County, Local	Conesus Lake Watershed Council, Livingston County Department of Health, and Planning Department
How does this reduce risk? Identifies recommendations for water quality improvement to a Class AA drinking water source – Conesus Lake					
Stormwater Management Plan	No	No			
How does this reduce risk? N/A					
Open Space Plan	No	Yes			
How does this reduce risk? N/A					
Urban Water Management Plan	No	No			
How does this reduce risk? N/A					
Habitat Conservation Plan	No	No			
How does this reduce risk? N/A					
Economic Development Plan	Yes	No	Livingston County Economic Development Strategic Plan	County	County Economic Development Department

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk? N/A					
Community Wildfire Protection Plan	No	No			
How does this reduce risk? N/A					
Community Forest Management Plan	No	No			
How does this reduce risk? N/A					
Transportation Plan	Yes	No	Livingston County Transportation Connectivity Plan	County	County Planning Department
How does this reduce risk? Provides recommendations for increased connectivity of residents to services and the orderly provision of public and private transportation services. Also provides recommendations for more efficient multi-modal connections.					
Agriculture Plan	Yes	No	Livingston County Agricultural & Farmland Protection Plan	County	County Planning Department
How does this reduce risk? Advocates for a strong agricultural economy and provides recommendations on preservation of viable agricultural lands					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk? N/A					
Tourism Plan	Yes	No	Roger Brooks Livingston County Tourism Action Plan	County	Livingston County Development Corporation
How does this reduce risk? Promotes tourism growth and the protection and development of the County's tourism assets					
Business/ Downtown Development Plan	Yes	No	Livingston County Commercial District Analysis	County	Livingston County Development Corporation
How does this reduce risk? Promotes growth and enhancement to downtown districts in the County's Villages.					
Other: Natural Resources Inventory	Yes	No	2007	County	Livingston County Planning Dept.
How does this reduce risk? The County's NRI identifies and locates important natural resources in the County.					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Livingston County Comprehensive Emergency Management Plan	County	County Office of Emergency
How does this reduce risk? The County's CEMP covers short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards					
Strategic Recovery Planning Report	No	No			
How does this reduce risk? N/A					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery Plan	Yes	No	Livingston County CEMP	County	Office of Emergency Management
How does this reduce risk? Provides for the orderly and efficient response to post-disaster recovery operations.					
Continuity of Operations Plan	Yes	No	Livingston County CEMP	County	Office of Emergency Management
How does this reduce risk? This plan allows for the continuity of government in a disaster, which ensures the continual provision of emergency and governmental services to Livingston County residents in a disaster situation					
Public Health Plan	Yes	No	Community Health Improvement Plan	County	County Department of Health
How does this reduce risk? Provides recommendations to improve the health of Livingston County residents, with a focus on chronic disease prevention, well-being promotion, and prevention of mental and substance use disorders.					
Other	-	-			

Development and Permitting Capability

The table below summarizes the capabilities of the County to oversee and track development.

Table 9.1-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	Performed at the municipal level
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	Land development is handled at the local municipal level.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the County and their current responsibilities which contribute to hazard mitigation.

Table 9.1-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	27-member advisory board to the Board of Supervisors on land use development issues, staffed by the County Planning Department
Zoning Board of Adjustments	No	
Planning Department	Yes	9-member staff involved in countywide mapping, Emergency Management mapping support, special projects, land use development, agricultural protection, transportation planning, Conesus Lake Watershed Management, technical assistance for municipalities and county departments, land bank support

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	The Livingston County Environmental Management Council is an advisory board to the Board of Supervisors for input on environmental issues. This board maintains the County's Natural Resources Inventory
Open Space Board/Committee	No	
Economic Development Commission/Committee	Yes	Livingston County Economic Development Department, Livingston County Industrial Development Agency, and Livingston County Development Corporation administer economic development programs in the county
Public Works/Highway Department	Yes	The Livingston County Highway Department has staff, equipment, and materials for the maintenance of the County's roadway system. The Highway Department works closely with the Office of Emergency Management in disaster situations and has engineers on staff
Construction/Building/Code Enforcement Department	Yes	The Livingston County Central Cervices Department is the Code Enforcement Office for Livingston County
Emergency Management/Public Safety Department	Yes	The Livingston County Office of Emergency Management coordinates emergency response in the County, runs disaster drills, arranges training on ICS and disaster response, and is a key agency for securing pre- and post-disaster mitigation grant funding
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The Highway Department engages in maintenance of the County Highways on an annual basis
Mutual aid agreements	Yes	
Human Resources Manual	No	
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Department, Highway Department, Department of Health - Environmental Health
Engineers or professionals trained in building or infrastructure construction practices	Yes	Highway Department, Central Services, and Department of Health
Planners or engineers with an understanding of natural hazards	Yes	Planning Department, Department of Health - Environmental Health, and Highway Department
Staff with expertise or training in benefit/cost analysis	Yes	Administration, Economic Development, Emergency Management, Highway Department, Planning Department
Professionals trained in conducting damage assessments	Yes	Highway Department, Office of Emergency Management
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Highway Department, Office of Emergency Management, Planning Department
Scientist familiar with natural hazards	No	
Surveyor(s)	Yes	Real Property Tax
Emergency Manager	Yes	Office of Emergency Management
Grant writer(s)	Yes	County Grant writer, most county departments
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the County.

Table 9.1-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the County.

Table 9.1-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	The County has a Public Information Officer.
Personnel skilled or trained in website development	Yes	Livingston County has a website, and there is staff in most departments who are capable of updating and creating website information.
Is hazard mitigation information available on your website?	Yes	Yes. There are disaster preparedness webpages on the Department of Health and Office of Emergency Management websites.
Social media for hazard mitigation education and outreach	Yes	The County has an active Facebook, Instagram and Twitter accounts
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	Yes	The Sheriff's Office has a Reverse 911 alert system for alerting residents and visitors to emergencies or hazards (HyperReach)
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	The Sheriff's Office Reverse 911 alert system is a mass alert system (HyperReach)
Natural disaster/safety programs in place for schools	Yes	Sheriff's Office School Resource Officers
Other		

Community Classifications

The table below summarizes classifications for community programs available to the County.

Table 9.1-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	
NYSDEC Climate Smart Community	No	-	
StormReady Certification	Yes	-	
Firewise Communities classification	Yes	-	
Other	-	-	

Note:
N/A Not applicable *NP Not participating* *- Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.1-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Strong
Earthquake	Moderate
Flood	Strong
Hazardous Materials	Strong
Invasive Species	Moderate
Landslides	Strong
Mine Subsidence	Strong
Pandemic	Strong
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failures	Moderate
Wildfire	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.1.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.1-9. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Livingston County	258	102	$538,949.18	15	7	190

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Low-lying properties in the Genesee River Valley, in the Canaseraga Creek Valley, and along Keshequa Creek in the 1% chance flood zone. Livingston County does not maintain a list of properties that have been damaged by flooding.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Livingston County does not maintain a list of properties that are interested in flood mitigation at the County level.
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No RiskMAP projects underway, though there is a FEMA Flood Risk Study kicking off in November 2021.
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	This is handled at the local level by the Floodplain Administrator. County OEM is also involved
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	Number not available at the county level. Handled at the local level.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	No. 99% of the flood maps for municipalities are between 25 – 40 years old. There is a FEMA Flood Risk Study kicking off in November 2021.
NFIP Compliance	
What local department is responsible for floodplain management?	This is handled at the local level by Floodplain Administrators
Are any certified floodplain managers on staff in your jurisdiction?	Yes. Planning Department – Senior Planner
Do you have access to resources to determine possible future flooding conditions from climate change?	Not aware of these resources being available.
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Livingston County does not have a floodplain management program.
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Livingston County maintains a publicly accessible internet mapping application that shows floodplains in the county (digital Q3 Flood Data).
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Not applicable at the County level
What are the barriers to running an effective NFIP program in the community, if any?	The lack of up-to-date flood maps is a significant barrier
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	The most recent CAV was in the Town of Conesus in 2016. The most recent CAC was in the Village of Geneseo in 2018.
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	N/A Adopted by each municipality individually

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Livingston County	258	102	$538,949.18	15	7	190

NFIP Topic	Comments
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	N/A Administrated by each municipality
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	The County does not issue land use permits, but the County Planning Board reviews development through GML-239 and offers advisory comments to municipalities on avoiding development in floodplains and following local Flood Damage Prevention Laws.
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No.

Source: Livingston County Planning Department, 2021

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.1.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

Evacuation routes are described in Section 4.5.4 of this HMP.

Sheltering

The County established evacuation plans for each village and town, which includes sheltering. The plans include considerations for pets and individual with access and functional needs. Evacuation plans and routes are maintained in the County EOP and listed in Section 4.5.4 of this HMP.

Temporary Housing

Although the County does not currently maintain any temporary housing, it will investigate the feasibility of different locations in the County in the event of a disaster necessitating such housing. Priority locations for attention include parks, open spaces, and recreational sites; large parking lots; State Prison property; and residence halls at SUNY Geneseo (dependent on the time of year and mutual aid agreements with the University). A full list is provided in Section 4.5.4 of this HMP.

Permanent Housing

Although the County does not currently maintain any locations for post-disaster permanent housing location, it will investigate the feasibility of different locations outside of floodplains in the County in the event of a disaster necessitating such housing. The locations of possible sites are provided in Section 4.5.4 of this HMP.

9.1.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.1-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development, throughout the County. Overall, the county's vulnerability due to new development has not changed. The change in vulnerability due to development in each municipality is identified in Sections 9.2 through 9.27.

Table 9.1-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	98	1	113	1	85	0	91	1	97	1	138	0	64	1
Multi-Family	1	0	1	0	6	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	94	1	97	0	100	1	100	1	99	0	113	0	155	0
Total Permits Issued	**193**	**2**	**211**	**1**	**191**	**1**	**191**	**2**	**196**	**1**	**251**	**0**	**219**	**1**

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
Avon Commons	Residential	10	Village of Avon	None	Townhouse/Commercial/Apts.
Twin Cedars of Avon	Residential	40	Town of Avon, parcel 35.-1-22.111	None	Upgrading older mobile homes
Solar Field	Commercial	N/A	Pole Bridge Road and East Avon Road, Town of Avon	None	Solar panel field
Solar Field	Commercial	N/A	500 Rochester Street, Town of Avon	None	Solar panel field
Upstate Breaker	Commercial	1	1 Technology Place, Village of Caledonia	None	Approved by Planning & Zoning Boards
Hammocks	Residential	17	Hammocks Drive, Town of Geneseo	None	Completed
Gateway	Commercial	1	Gateway Drive, Town of Geneseo	None	Construction
Steeplechase Phase 2	Residential	11/11	Steeplechase, Village of Geneseo	None	One remaining
DePaul Apartments	Residential	60/6	Mustang Circle,	None	Complete

			Village of Geneseo		
Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Town of Nunda Highway	Commercial	1	1955 Hay Road (170.-1-70.51), Town of Nunda	None	Under construction 2021, completion expected October 2021
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Broadband Expansion	Utility	--	Countywide	TBD	Proposed
East Avon Industrial Park	Commercial	2	Starkey Drive, Town of Avon	None	Proposed
Royal Springs	Residential	250/250	Athena Drive, Town of Avon	None	Proposed
Royal Springs Development	Residential	200	Town of Avon, parcel 45.-1-23.141	None	Would like to start Phase 2
Solar Field	Commercial	N/A	5406 Lake Road, Town of Avon	None	Proposed solar panel field
Solar Field	Commercial	N/A	5530 Wolcott Drive, Town of Avon	None	Proposed solar panel field
Horseshoe Solar	Commercial	solar panels	Town of Caledonia	Portion located in AE Flood Zone	Proposed/Under State review
DePaul Apartments	Residential	48 units	Franklin Plaza, Village of Dansville	None	Proposed
DePaul Apartments	Residential	12 units	Kings Daughters Home, Village of Dansville	None	Proposed
Hammocks Phase 4	Residential	56/14	Hammocks Drive, Town of Geneseo	None	Proposed
Steeplechase Phase 3	Residential	13/13	Steeplechase, Village of Geneseo	None	Subdivision Review in Process
Redevelopment of Livingston Correctional	TBD	TBD	Town of Groveland	Property has some AE Flood zone acreage	Planning phase
Solar Farm	Commercial	To be determined	Lattimer Road and Bailey Road, Town of Groveland	None	Proposed location
Solar Farm	Commercial	To be determined	6842 Groveland Hill Road, Town of Groveland	None	Proposed location

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Solar Farm	Commercial	To be determined	Abele Road and Route 63/Mount Morris Geneseo Road, Town of Groveland	None	Proposed location
White Creek Solar	Commercial	solar panels	Towns of Leicester & York	None	Proposed/Under State review
Morris Ridge Solar	Commercial	Solar panels	Town of Mount Morris	None	Proposed/Under State review
York Travel Center	Commercial	1	Main St/Genesee St, Town of York	None	Proposed

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.1.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the County's risk assessment results and data used to determine the hazard ranking discussed later in this section. The hazard profiles in Section 5.3 (Hazard Profiles) show the hazard areas on maps. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the County has significant exposure. The maps also show the location of potential new development, where available.

Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The County's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.1-11 provides details regarding municipal-specific loss and damages the County experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.1-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Provided in Section 5.3 (Hazard Profiles)
11/15/2020	High Wind	-	Provided in Section 5.3 (Hazard Profiles)
8/27/2020	Flash Flood	-	Provided in Section 5.3 (Hazard Profiles)
1/12/2020	Flood	-	Provided in Section 5.3 (Hazard Profiles)
11/1/2019	Flood	-	Provided in Section 5.3 (Hazard Profiles)

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Summary of Damages and Losses
10/15/2019	Flood	-	Provided in Section 5.3 (Hazard Profiles)
10/27/2019	Flood	-	Provided in Section 5.3 (Hazard Profiles)
9/21/2018	Lightning	-	Provided in Section 5.3 (Hazard Profiles)
4/4/2018	Blizzard	-	Provided in Section 5.3 (Hazard Profiles)
7/20/2017	Tornado	-	Provided in Section 5.3 (Hazard Profiles)
3/8/2017	High Wind	-	Provided in Section 5.3 (Hazard Profiles)
9/9/2015	Thunderstorm Wind	-	Provided in Section 5.3 (Hazard Profiles)

Notes:

DR Major Disaster Declaration (FEMA) *FEMA Federal Emergency Management Agency*

EM Emergency Declaration (FEMA) *N/A Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the County's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the County, as shown in Section 5.4 (Risk Ranking).

Table 9.1-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Terrorism	Utility Failure	Wildfire
Medium	High	Medium	Low	High	Medium

Critical Facilities

The table below identifies County-owned critical facilities located in the 1-percent and 0.2-percent floodplain.

Table 9.1-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
Long Point Sheriff Substation	Police Station	X	X	Yes	N/A – the substation is a road-ready mobile trailer that will be moved to higher ground outside of the SFHA when a flood event is forecast

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the County's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the County has identified the following vulnerabilities:

- Past flooding impacted the County highways. They had flooding, culvert washouts, and damage to road shoulders. The majority of the roads affected are in the southern part of the county.

- Flooding impacted the county bridges, especially along the Keshequa Creek. Erosion under the bridge supports, large deposits of gravel, and wood debris are a constant problem with the creek.
- Flooding impacts the East/West Lake Roads, Dacola Shores, Big Tree Road/Route 20A, and Joy Road along Conesus Lake. The flooding impacts the road infrastructure, personal property, and homes.
- Flooding impacts the water and sewer lift stations and pump stations along the East/West Lake Roads along Conesus Lake.

Specific areas of concern based on resident response to the Livingston County Hazard Mitigation Citizen survey include:

- Communication Outages
- Cyber Attacks
- Drought
- Earthquakes
- Extreme Temperatures
- Flooding
- Hazardous Materials Releases
- Invasive Species
- Subsidence/Ground Sinking
- Pandemic
- Power Outages
- Severe Weather
- Severe Winter Storms
- Terrorism
- Water/Sewer Outages
- Wildfires

9.1.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.1-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
CL-1	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	Soil & Water Conservation District	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-2	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. Because hydrilla has not been detected in the County's water bodies, this action would only be generated when there is a case of hydrilla in the County 3.
CL-3	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. Because hydrilla has not been detected in the County's water bodies, this action would only be generated when there is a case of hydrilla in the County 3.
CL-4	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	County Engineering	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Assign to OEM. 3.
CL-5	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	County Engineering	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Assign to OEM. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
CL-6	Encourage all jurisdictions in the County to maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements, floodplain identification and mapping, and flood insurance outreach to the community.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-7	Develop a coordinated stormwater management program for the Conesus Lake watershed and entire county to address storm and flood impacts.	All	None provided in the 2015 HMP	County Department of Health	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
CL-8	Support each municipality in preparing a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.	All	None provided in the 2015 HMP	Municipalities	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Assign to OEM. 3.
CL-9	Encourage/lobby NY State Departments and Agencies to discount/reduce fees for license registrations for Emergency Response personnel, such as volunteer firefighters, ambulance workers, etc.	All	None provided in the 2015 HMP	County OEM	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-10	Establish pipeline links to Monroe County (especially in the northern part of the county) and City of Rochester water supply systems. This would create redundancy/connection for emergency use.	All	None provided in the 2015 HMP	County Planning Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-11	Assist municipalities with the process of acquiring and providing backup power generators for key locations, including, but not limited, to town/village halls, police and fire stations, schools, airports/airstrips, and public buildings. This assistance can include administrative, logistical, and funding support.	All	None provided in the 2015 HMP	County Planning Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-12	Acquire new, more powerful, radios, walkie-talkies, etc.	All	None provided in the 2015 HMP	County Sheriff	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
CL-13	Provide better communications for First Responder units.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-14	Set up a countywide tornado warning system.	Severe Storms, Tornados	None provided in the 2015 HMP	County OEM	Complete	Information not available 2. 3.	1. Discontinue 2. 3. Complete
CL-15	Establish mutual aid agreements with neighboring counties for their assistance in addressing county wide disasters.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-16	Install a reverse emergency management call system to contact residents (Reverse 911).	All	None provided in the 2015 HMP	County OEM	Complete	1. 2. 3.	1. Discontinue 2. 3. Sheriff's Office uses IPAWS (blast notification) and Hyper (direct dial) to reach people in qualifying circumstances
CL-17	Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-18	Regulate special provision for backup supplies in the Emergency Management Plan.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-19	Provide security provisions and redundancies for telephone lines and power lines.	All	None provided in the 2015 HMP	County Sheriff	Ongoing	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-20	Upgrade security at the Hemlock Lake water treatment facility.	All	None provided in the 2015 HMP	City of Rochester	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Not under the County's control.
CL-21	Secure hazardous materials on farms.	All	None provided in the 2015 HMP	Soil and Water	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-22	Secure funding to alleviate staffing issues for Fire Departments and EMTs.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-23	Set up a "Welcome Wagon" program (based on former Conesus Lake	All	None provided in the 2015 HMP	County OEM	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
	program) to distribute information about disasters for new residents.						
CL-24	Involve community groups and local nonprofit organizations (Boy/Girl Scouts, etc.) with information distribution programs.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-25	Develop public education programs that follow the "Education without panicking" concept.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-26	Develop and disseminate routine public mailings/booklets to every home. Mailings should contain maps and information on shelters and disaster response.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-27	Develop a countywide strategy to address utility failures and protect vulnerable utilities during severe weather events.	Severe Storms, Winter Storms	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-28	Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities.	Severe Storm	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-29	Officially encourage underground utilities. Develop and circulate model ordinances and policies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	County OEM	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-30	Encourage/support the development of tornado shelters.	Severe Weather	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-31	Set design standards for water supply infrastructure and sewage facilities to prevent contamination during flooding.	Flood	None provided in the 2015 HMP	Department of Health	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
CL-32	Regulate building design and construction standards in municipal Flood Prevention Ordinances or Zoning Ordinances to reduce the impact of flooding on the built environment.	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Zoning and Flood Prevention Ordinances are regulated at the local level. Can be included in municipal annexes, if interested.
CL-33	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek	Flood	None provided in the 2015 HMP	County Planning Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
	and Canaseraga Creek and the Conesus Lake shoreline area. These watercourses are the source of significant flooding and require special attention.						2. County Planning can coordinate with County Soil & Water Conservation District 3.
CL-34	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek, Canaseraga Creek and Conesus Lake.	Flood	None provided in the 2015 HMP	County and municipal highway departments	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. County Planning can coordinate with County Soil & Water Conservation District 3.
CL-35	Build a diversion channel/canal to divert flood waters from the flood-prone village of Dansville.	Flood	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
CL-36	Enhance drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Flood	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Add green infrastructure mitigation measures 3.
CL-37	Prepare a coordinated sandbagging plan between the County OEM and flood-prone communities in the southern half of the county.	Flood	None provided in the 2015 HMP	County OEM	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-38	Institute an annual survey of HAZMAT truck traffic on major routes.	Transportation Accidents	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Transition to Highway Department and NYS DOT 3.
CL-39	Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of HAZMAT accidents at those intersections.	Transportation Accidents	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Transition to Highway Department and NYS DOT 3.
CL-40	Conduct general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.	All	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Transition to Highway Department and NYS DOT 3.
CL-41	Encourage each municipality to adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to	Earthquake	None provided in the 2015 HMP	County OEM	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** 2. **Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
	magnitude 6.5 that are possible in Western New York.						
CL-42	Carry out a pre-event inspection of key buildings, bridges, and dams for seismic vulnerability. Based on this inspection, develop a seismic protection plan for these facilities.	Earthquake	None provided in the 2015 HMP	County OEM	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
CL-43	Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, or distribution of information through local newspapers.	Earthquake	None provided in the 2015 HMP	County OEM	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The County did not identify any mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The County participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.1-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X	X		X		X	X			X
Earthquake	X	X		X	X	X	X			X
Flood	X	X		X	X	X	X			X
Hazardous Materials	X	X		X	X	X	X			X
Invasive Species	X	X	X	X		X	X	X		X
Landslides	X	X		X		X	X			X
Mine Subsidence	X	X		X	X	X	X			X
Pandemic	X	X		X		X	X			X
Severe Storm	X	X	X	X	X	X	X	X	X	X
Severe Winter Storm	X	X		X	X	X	X			X
Terrorism	X	X		X	X	X	X			X
Utility Failures	X	X		X	X	X	X			X
Wildfire	X	X		X	X	X	X			X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.1-16 summarizes the comprehensive range of specific mitigation initiatives the County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.1-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Livingston County-001	Improve First Responder Communi-cations	**Problem**: Communication capabilities continue to be plagued by areas of poor reception. **Solution**: Provide better communications for First Responder units	No	No	All	1, 2	3 years	Sheriff's Office/ Emergency Management	FEMA, SICG	Better communication between 911 and responding agencies	$1.2 million	Med.	EAP	ES
2022-Livingston County-002	Mutual Aid Agreements	**Problem**: Lack of interoperability for large-scale emergencies **Solution**: Establish mutual aid agreements with neighboring counties for their assistance in addressing county wide disasters.	No	Yes	All	1, 2	2 years	Emergency Management, Emergency Medical Services	FEMA	More fluidity in planning for and responding to large-scale emergencies	$5,000	Med.	LPR	ES
2022-Livingston County-003	Resident Emergency Notification	**Problem**: Not able to disseminate large amounts of information effectively to every residence. **Solution**: Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.	No	No	All	3	6 months	Emergency Management	County	Better information distribution under emergency conditions	$5,000	Med.	EAP	ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Livingston County-004	Backup Emergency Supplies	**Problem**: Break down of primary means of operational supplies **Solution**: Provide special provision for backup supplies in the Emergency Management Plan.	No	No	All	1, 2	1-2 years	Emergency Management, Emergency Medical Services	FEMA, County Funding	Redundancy in supplies to ensure optimal quantities	$100,000	High	LPR	ES
2022-Livingston County-005	Alleviate Staffing Issues	**Problem**: Volunteer staffing is dwindling over time. **Solution**: Secure funding to alleviate staffing issues for Fire Departments and EMTs.	No	No	All	1, 2	5 years	County, Emergency Management, Emergency Medical Services	FEMA, Federal, County funding	Ensure emergency response	$5 million	Med.	LPR	ES
2022-Livingston County-006	New Resident Education	**Problem**: New residents not acclimated to local issues **Solution**: Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.	No	No	All	3	1 year	Emergency Management	FEMA	Better Community preparation among new residents	$10,000	Med.	EAP	PI
2022-Livingston County-007	Community Information Distribution	**Problem**: Lack of community information distribution **Solution**: Involve community groups and local nonprofit	No	Yes	All	3	1 year	Emergency Management	County funding	Better community preparedness among all members	$2,000	Med.	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		organizations (Boy/Girl Scouts, etc.) with information distribution programs.												
2022-Livingston County-008	Education Without Panicking	**Problem**: People become indecisive during emergency. **Solution**: Develop public education programs that follow the "Education without panicking" concept.	No	No	All	3	1 year	Emergency Management, Sheriff's Office	Staff Time	Better community response to emergencies	Low	Med.	EAP	PI
2022-Livingston County-009	Resident Orientation on Shelters and Disaster Response	**Problem**: People lack geographical knowledge of sheltering **Solution**: Develop and disseminate routine public mailings/ booklets to every home. Mailings should contain maps and information on shelters and disaster response.	No	No	All	3	6 months	Emergency Management	County	Better community preparedness for sheltering events	$5,000	Med.	EAP	ES
2022-Livingston County-010	Utility Response Improvement	**Problem**: Utility response is differentiated based on jurisdictional boundaries, creating inconsistencies. **Solution**: Develop a countywide strategy to address utility	No	Yes	Severe storm; winter storm	1, 2	5 years	Local grid companies	Local shares	Better resiliency in utilities	$50,000	Low	LPR	ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		failures and protect vulnerable utilities during severe weather events.												
2022-Livingston County-011	Weather Receivers to Critical Facilities	**Problem**: Weather information does not always make it to all involved. **Solution**: Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities.	Yes	Yes	Severe storm	3	2 years	Emergency Management	Grant Funding	Better preparedness	$10,000	Low	EAP	ES
2022-Livingston County-012	Tornado Shelters	**Problem**: Structures not adequate means of tornado protection **Solution**: Encourage/support the development of tornado shelters	Yes	No	Severe Weather	1, 2	3 years	Local officials	County	Better community resiliency under tornado emergencies	$1 million	Low	SIP	SP
2022-Livingston County-013	Sandbagging Plan	**Problem**: Flooding problems with large amounts of rain **Solution**: Prepare a coordinated sandbagging plan between the County OEM and flood-prone communities in the southern half of the county.	No	Yes	Flood	1, 2	1 year	Emergency Management	Local municipalities	Reduction in incurred storm costs	$3,000	Low	LPR	ES
2022-Livingston County-014	Lighting Upgrades	**Problem**: Poor lighting leading to increased motor vehicle emergencies	No	No	Earthquake, Flood, Hazmat, Mine Subsidence,	1, 2	3 years	Highway	Highway	Less motor vehicle crashes	$3 million	Low	SIP	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Conduct general infrastructure, signage, traffic control, and lighting upgrades to Rt. 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.			Severe Storm, Severe Winter Storm, Terrorism, Utility Failures, Wildfire									
2022-Livingston County-015	Earthquake Codes	**Problem**: Structures being build are not necessarily rated to proper earthquake magnitude **Solution**: Encourage each municipality to adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to magnitude 6.5 that are possible in Western New York.	No	Yes	Earthquake	1, 2	3 years	Local code enforcement	Staff Time	Decreased damages from earthquakes	Low	Low	LPR	PR
2022-Livingston County-016	Earthquake Preparedness - Inspection	**Problem**: It is currently unknown to what degree buildings can withstand seismic disruption. **Solution**: Carry out a pre-event inspection of key buildings,	Yes	Yes	Earthquake	1, 2	5 years	Contractor through county	County Budget	Better structural integrity and planning	$100,000	Low	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		bridges, and dams for seismic vulnerability. Based on this inspection, develop a seismic protection plan for these facilities.												
2022-Livingston County-017	Earthquake Preparedness – Public Awareness	**Problem**: Livingston County has areas that can be prone to earthquake hazards, and residents have little to no knowledge of this. **Solution**: Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, or distribution of information through local newspapers.	No	Yes	Earthquake	3	1 year	Emergency Management	Staff Time	Better community outreach of potential emergencies	Low	Low	EAP	PI
2022-Livingston County-018	Mitigation of vulnerable structures	**Problem**: Vulnerable structures, including repetitive and severe repetitive loss properties continue to be at risk in flood prone areas **Solution**: Support the mitigation of	No	No	Flooding	1, 2	5 years	Emergency Management	FEMA	Reduce flood hazard risk for vulnerable structures	$2 million	Low	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable												
2022-Livingston County-019	Non-structural Flood Hazard Mitigation Alternatives for at-risk Properties within the Floodplain	**Problem**: A detailed study is needed of options for flood-vulnerable properties **Solution**: Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/ relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as	No	No	Flooding	1, 2	5 years	Emergency Management	FEMA	The examination and evaluation of flood prone properties will lead to efficient mitigation of those properties	$80,000	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		funding becomes available.												
2022-Livingston County-020	Aquatic invasive species management analysis	**Problem**: Aquatic invasive species cause damage to ecosystems, recreational assets and water supplies. **Solution**: Conduct n aquatic invasive species (i.e. hydrilla and Starry Stonewort) management analysis to determine effective control measures.	No	No	Invasive Species	1, 2	2 years	Planning Department	FEMA, Finger Lakes PRISM, State	Protection of ecosystems, recreational assets and water supplies	$30,000	Med.	NSP	NR
2022-Livingston County-021	Aquatic invasive species control	**Problem**: Aquatic invasive species cause damage to ecosystems, recreational assets and water supplies. **Solution**: Implement control measures to prevent the spread of aquatic invasive species (i.e., Starry Stonewort and hydrilla) and to eventually reduce its impact on the County's water systems.	No	No	Invasive Species	1, 2	5 years	Planning Department	FEMA, Finger Lakes PRISM, State	Protection of ecosystems, recreational assets and water supplies	$250,000	Med.	NSP	NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Livingston County-022	Stormwater Management Program	**Problem**: Erosion after storms clogs stormwater infrastructure, threatens streambank integrity leading to infrastructure endangerment, and sedimentation of the County's river, streams, and lakes **Solution**: Develop a coordinated stormwater management program for the Conesus Lake watershed and entire county to address storm and flood impacts.	No	No	Severe Storm, Flooding	1, 2	7 years	Soil & Water Conservation District, Planning Department, Emergency Management, Highway Department	WQIP, FEMA, State LWRP	Protection of infrastructure and healthy waterways	$3 million	Med.	LPR	PR
2022-Livingston County-023	County Highway Flooding Protection	**Problem**: Undersized and aging culverts threaten the County's highway system when they fail, especially when they create a flooding hazard **Solution**: Replace culverts along County roadways that could lead to flooding hazards if they remain in place	No	No	Flooding	1, 2	10 years	Highway Department	State, Federal, County	Protection of County's highway system	$900,000	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Livingston County-024	HAM Radio Operator Inventory	**Problem**: Communications in a disaster can break down and cut the flow of information. **Solution**: Support each municipality in preparing a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.	No	No	All	1, 2	2 years	Municipalities, Emergency Management	Local, State	Maintaining communications in a disaster situation	$2,000	Med.	LPR	ES
2022-Livingston County-025	Establish Water Redundancy	**Problem**: Water systems with solitary water sources are vulnerable to interruption in a hazard situation **Solution**: Establish pipeline links to Monroe County (especially in the northern part of the county) and City of Rochester water supply systems. This would create redundancy/ connection for emergency use	Yes	No	All	1, 2	7-17 years	Water & Sewer Authority, Municipal Water Systems	Federal, State	Redundancy in water sources increases the safety of the County's water systems	$56 million	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Livingston County-026	Backup Power Assistance	**Problem**: Critical facilities do not have backup power in case of emergencies **Solution**: Assist municipalities with the process of acquiring and providing backup power generators for key locations, including, but not limited, to town/village halls, police and fire stations, schools, airports/airstrips, and public buildings. This assistance can include administrative, logistical, and funding support.	Yes	No	All	1, 2	4 years	Emergency Management	FEMA, Federal, State	Continuation of public services in an emergency situation	$50,000	Low	SIP	PP
2022-Livingston County-027	Improve Communication Equipment for Emergency Responders	**Problem**: Communication equipment does not meet the needs of emergency responders **Solution**: Acquire new, more powerful, radios, walkie-talkies, etc.	No	No	All	1, 2	5 years	Sheriff's Office, Emergency Management	DHSES, Federal	Improved communications between and among emergency responders	$600,000	Med.	LPR	ES
2022-Livingston County-028	Establish telephone and power line redundancy	**Problem**: Telephone lines and power lines can be damaged in storms and disaster situations	No	No	Earthquake, Flood, Hazmat, Landslide, Mine Subsidence,	1, 2	10 years	Sheriff's Office, Emergency Management	DHSES, Federal	Continue communications in an emergency situation	TBD	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Provide security provisions and redundancies for telephone lines and power lines.			Severe Storm, Severe Winter Storm, Wildfire, Terrorism, Utility Failure									
2022-Livingston County-029	Flood Mitigation	**Problem**: Flooding damages infrastructure and property. **Solution**: Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek and the Conesus Lake shoreline area. These watercourses are the source of significant flooding and require special attention.	No	No	Flood, Severe Storm	1, 2	5-10 years	Soil & Water Conservation District, Planning Department, Emergency Management	HMGP, BRIC, FMA	Protection of infrastructure and properties	$3 million	Med.	LPR	PP
2022-Livingston County-030	Erosion Control & Streambank Stabilization	**Problem**: Erosion and streambank failure cause damage to infrastructure and waterways. **Solution**: Introduce erosion controls/ stream and bank stabilization measures along specific flood prone	No	No	Flood, Severe Storm	1, 2	7 years	Soil & Water Conservation District, Planning Department, Emergency Management	HMGP	Protection of infrastructure and properties	$7 million	Med.	NSP	NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		watercourses, including Mud Creek, Mill Creek, Canaseraga Creek and Conesus Lake												
2022-Livingston County-031	HAZMAT Truck Traffic Annual Survey	**Problem**: The number and potential impact of HAZMAT truck traffic on major routes needs confirmation annually. **Solution**: Institute an annual survey of HAZMAT truck traffic on major routes.	No	No	HAZMAT	1, 2	Yearly	County Highway Department, State DOT	LEPC	Increase knowledge of potential HAZMAT impact on major routes	$3,000	Med.	LPR	ES
2022-Livingston County-032	Analyze HAZMAT intersections	**Problem**: HAZMAT accidents can cause lasting damage to life and property. **Solution**: Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of HAZMAT accidents at those intersections.	No	No	HAZMAT	1, 2	3 years	County Highway Department, State DOT, Emergency Management	Federal	Reduction in HAZMAT accidents at major intersections	$3,000	Med.	LPR	PR
2022-Livingston County-033	Protect Water and Sewer Lift Stations	**Problem**: Flooding impacts the water and sewer lift stations and pump stations along the East/West Lake Roads along Conesus Lake.	Yes	No	Flood	1, 2	Within 3 years	Engineer	HMGP, BRIC, County Budget, Staff Time	Lower expected damages to critical facilities; continued availability of potable water; public health	$150,000	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Study the flood problem at the lift stations to determine a set of alternatives to protect the facilities.												
2022-Livingston County-034	Bronson Hill Road Culvert Replacement	**Problem**: The current 24" pipe is unable to handle storm flows multiple times per year, causing backup and regular ponding on adjacent properties. **Solution**: Replace the existing 24" diameter pipe with an 8' x 4' concrete box.	No	No	Flood, Severe Storm	1, 2	Within 3 years	Highway	HMGP; BRIC; County Budget	Cost of repairs saved; less risk of flooding to neighboring properties	$200,000	High	SIP	PP
2022-Livingston County-035	Poplar Hill Road Culvert Replacement	**Problem**: The current 24" pipe is unable to 20 percent , causing water to flow over the road. **Solution**: Replace the existing 24" diameter pipe with 36" pipe capable of 50 cubic feet per second of flow	No	No	Flood, Severe Storm	1, 2	Within 3 years	Highway	HMGP; BRIC; County Budget	Cost of repairs saved; less risk of flooding to neighboring properties; reduced risk of road closure	$10,000	High	SIP	PP

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:
CAV Community Assistance Visit
CRS Community Rating System
DPW Department of Public Works

Potential FEMA HMA Funding Sources:
FMA Flood Mitigation Assistance Grant Program
HMGP Hazard Mitigation Grant Program

Timeline:
The time required for completion of the project upon implementation

Cost:

EHP	*Environmental Planning and Historic Preservation*	*BRIC*	*Building Resilient Infrastructure and Communities Program*	*The estimated cost for implementation.*
FEMA	*Federal Emergency Management Agency*			*Benefits:*
FPA	*Floodplain Administrator*			*A description of the estimated benefits, either quantitative and/or qualitative.*
HMA	*Hazard Mitigation Assistance*			
N/A	*Not applicable*			
NFIP	*National Flood Insurance Program*			
OEM	*Office of Emergency Management*			

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.1-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Livingston County-001	Improve First Responder Communications	1	1	1	1	0	1	0	0	0	0	1	0	0	0	6	Medium
2022-Livingston County-002	Mutual Aid Agreements	1	1	1	1	1	1	0	0	0	0	1	0	0	1	8	Medium
2022-Livingston County-003	Resident Emergency Notification	1	1	0	0	0	0	0	0	1	0	1	1	0	0	5	Medium
2022-Livingston County-004	Backup Emergency Supplies	1	1	1	0	1	1	0	0	1	1	1	1	0	0	9	High
2022-Livingston County-005	Alleviate Staffing Issues	1	1	1	0	0	1	-1	0	1	1	1	0	0	0	6	Medium
2022-Livingston County-006	New Resident Education	1	1	0	0	0	0	0	0	1	0	1	1	0	0	5	Medium
2022-Livingston County-007	Community Information Distribution	1	1	1	0	0	0	0	0	1	0	1	1	0	0	6	Medium
2022-Livingston County-008	Education Without Panicking	1	1	1	0	0	0	0	0	0	0	1	1	0	0	5	Medium
2022-Livingston County-009	Resident Orientation on Shelters and Disaster Response	1	0	1	0	0	0	0	0	1	0	1	1	0	0	5	Medium
2022-Livingston County-010	Utility Response Improvement	1	1	0	0	0	0	0	0	0	1	1	0	0	0	4	Low
2022-Livingston County-011	Weather Receivers to Critical Facilities	1	1	0	1	0	0	0	0	0	0	1	0	0	0	4	Low
2022-Livingston County-012	Tornado Shelters	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	Low
2022-Livingston County-013	Sandbagging Plan	1	1	1	0	0	0	0	0	0	0	0	1	0	0	4	Low
2022-Livingston County-014	Lighting Upgrades	1	1	0	0	0	0	0	0	0	0	1	0	0	0	3	Low
2022-Livingston County-015	Earthquake Codes	1	1	0	1	0	1	0	0	0	0	0	0	0	0	4	Low
2022-Livingston County-016	Earthquake Preparedness - Inspection	1	1	0	1	0	0	0	0	0	1	0	0	0	0	4	Low
2022-Livingston County-017	Earthquake Preparedness – Public Awareness	1	0	1	0	0	0	0	0	0	0	0	1	0	0	3	Low
2022-Livingston County-018	Mitigation of vulnerable structures	1	1	0	1	0	0	0	1	0	0	0	0	0	0	4	Low

Table 9.1-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Livingston County-019	Non-structural Flood Hazard Mitigation Alternatives for At-risk Properties within the Floodplain	1	1	0	1	0	0	0	1	0	1	0	0	0	0	5	Medium
2022-Livingston County-020	Aquatic invasive species management analysis	0	1	0	1	0	0	0	1	0	1	0	0	1	0	5	Medium
2022-Livingston County-021	Aquatic invasive species control	0	1	0	1	0	0	0	1	0	1	0	0	1	0	5	Medium
2022-Livingston County-022	Stormwater Management Program	1	1	0	1	0	0	0	1	0	0	1	0	1	1	7	Medium
2022-Livingston County-023	County Highway Flooding Protection	1	1	0	1	0	1	0	1	0	0	0	0	1	1	7	Medium
2022-Livingston County-024	HAM Radio Operator Inventory	1	1	1	0	0	0	0	0	0	1	1	0	0	0	5	Medium
2022-Livingston County-025	Establish Water Redundancy	1	0	0	1	1	1	0	0	1	1	1	0	1	1	9	High
2022-Livingston County-026	Backup Power Assistance	1	1	0	0	0	0	0	0	1	0	1	0	0	0	4	Low
2022-Livingston County-027	Improve Communication Equipment for Emergency Responders	1	1	0	1	0	1	0	0	1	0	1	0	1	0	7	Medium
2022-Livingston County-028	Establish telephone and power line redundancy	1	1	0	1	0	0	0	0	1	0	1	0	0	0	5	Medium
2022-Livingston County-029	Flood Mitigation	1	1	0	1	0	0	0	1	1	0	1	0	1	1	8	Medium
2022-Livingston County-030	Erosion Control & Streambank Stabilization	1	1	0	1	0	0	0	1	0	0	1	0	1	1	7	Medium
2022-Livingston County-031	HAZMAT Truck Traffic Annual Survey	1	1	1	1	0	0	0	1	0	1	0	1	0	0	7	Medium
2022-Livingston County-032	Analyze HAZMAT intersections	1	1	1	1	0	0	0	1	0	1	0	0	0	0	6	Medium
2022-Livingston County-033	Protect Water and Sewer Lift Stations	1	1	1	1	1	1	0	1	1	0	0	1	1	1	11	High
2022-Livingston County-034	Bronson Hill Road Culvert Replacement	0	1	1	1	1	1	1	0	0	0	1	1	1	1	10	High
2022-Livingston County-035	Poplar Hill Road Culvert Replacement	0	1	1	1	1	1	1	0	0	0	1	1	1	1	10	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.1.9 Action Worksheets

The following action worksheets have been developed by the County to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Bronson Hill Road Culvert Replacement		
Project Number:	2022-Livingston County-034		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The current 24" pipe is unable to handle storm flows multiple times per year, causing backup and regular ponding on adjacent properties.		
Action or Project Intended for Implementation			
Description of the Solution:	Replace the existing 24" diameter pipe with an 8' x 4' concrete box.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year storm event	**Estimated Benefits (losses avoided):**	Cost of repairs saved; less risk of flooding to neighboring properties
Useful Life:	30 years	**Goals Met:**	1, 2
Estimated Cost:	$200,000	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	HMGP; BRIC; County Budget
Responsible Organization:	Highway	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate Roadway	$500,000	Not cost effective
	Replace culvert with concrete box	$200,000	Selected alternative
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Bronson Hill Road Culvert Replacement	
Project Number:	2022-Livingston County-034	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Poplar Hill Road Culvert Replacement		
Project Number:	2022-Livingston County-035		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The current 24" pipe is unable to 20 percent , causing water to flow over the road.		
Action or Project Intended for Implementation			
Description of the Solution:	Replace the existing 24" diameter pipe with 36" pipe capable of 50 cubic feet per second of flow		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-year storm (pipe can handle 50 cfs of flow; 500-year storm is only 47.1 cfs)	**Estimated Benefits (losses avoided):**	Cost of repairs saved; less risk of flooding to neighboring properties; reduced risk of road closure
Useful Life:	30 years	**Goals Met:**	1, 2
Estimated Cost:	$10,000	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	HMGP; BRIC; County Budget
Responsible Organization:	Highway	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate Roadway	$500,000	Not cost effective
	Replace culvert	$10,000	Selected alternative
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Poplar Hill Road Culvert Replacement	
Project Number:	2022-Livingston County-035	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

9.2 TOWN OF AVON

This section presents the jurisdictional annex for the Town of Avon. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Avon and who in the Town participated in the planning process; an assessment of the Town of Avon's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.2.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Avon's hazard mitigation plan primary and alternate points of contact. The Town of Avon followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Town Board, Highway Department, and Code Office. The Town Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Avon's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.2-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Sharon Knight, Town Clerk Address: 23 Genesee Street, Avon, NY 14414 Phone Number: (585) 226-2425 Email: sknight@avon-ny.org	Name/Title: David LeFeber, Town Supervisor Address: 23 Genesee Street, Avon, NY 14414 Phone Number: (585)-226-2425 Email: dlefeber@avon-ny.org
NFIP Floodplain Administrator	
Name/Title: Brian Glise, Code Enforcement Officer Address: 23 Genesee Street, Avon, NY 14414 Phone Number: (585) 226-2425 Email: bglise@avon-ny.org	

9.2.2 Municipal Profile

The According to the U.S. Census Bureau, the Town has a total land area of 41.2 square miles, of which 41.2 square miles is land, and 0.1 square mile is water. It is bordered on the east by the Towns of Caledonia, on the north by the Town of Rush, on the west by the Town of Lima, and on the south by the Town of Geneseo and Livonia. The Town of Avon is located in the northern area of Livingston County and is only 20 miles from downtown Rochester.

According to the U.S. Census, the 2020 population for the Town of Avon was 3,540, a 6.1 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.2 percent of the population is 5 years of age or younger and 21 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.2.3 Jurisdictional Capability Assessment and Integration

The Town of Avon performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.2.3). The Town of Avon's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Avon. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.2-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	-	State and Local	Code Enforcement
How does this reduce risk? Prevents questions regarding regulations in the municipality					
Zoning/Land Use Code	Yes	No	Chapter 130	Local	Code Enforcement
How does this reduce risk? The zoning ordinance discourages development within floodplains, as depicted on the official zoning map with the Flood Hazard (FH) zoning district.					
Subdivision Ordinance	Yes	No	Chapter 113	Local	Planning & Zoning Board
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Chapter 99-14	Local & County Planning	Planning & Zoning Board
How does this reduce risk?					
Stormwater Management Ordinance	Yes	Yes	99-46	Local	Planning & Zoning Board
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	Yes	No	Comprehensive Plan	Local	Town Board
How does this reduce risk? Prevents unpermitted building					
Environmental Protection Ordinance	Yes	Yes	113-22	State	NYSDEC
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 61	Federal, State, County and Local	Code
How does this reduce risk? Attempts to lower the risk of flooding from development.					
Wellhead Protection	No	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	Yes	No	61-46	Federal	Code
How does this reduce risk? Prepares for emergencies.					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	2016 Comprehensive Plan	Local	Town Board
How does this reduce risk?					
Capital Improvement Plan	No	No	-	-	-
How does this reduce risk?					
Disaster Debris Management Plan	No	No	-	-	-
How does this reduce risk?					
Floodplain Management or Watershed Plan	Yes	No	61-46	Local	Code
How does this reduce risk?					
Stormwater Management Plan	Yes	No	99-46	State	Code
How does this reduce risk? **Site Plan Review Prevents flooding.**					
Open Space Plan	Yes	Yes	99-64	Local	Code
How does this reduce risk? **Prevents homes being too close together.**					
Urban Water Management Plan	No	No	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Habitat Conservation Plan	No	No	-	-	-
How does this reduce risk?					
Economic Development Plan	No	No	-	-	-
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	No	-	-	-
How does this reduce risk?					
Transportation Plan	No	No	-	-	-
How does this reduce risk?					
Agriculture Plan	Yes	No	2019	Local	Planning Board
How does this reduce risk? Farmland Protection					
Climate Action/ Resiliency/Sustainability Plan	No	No	-	-	-
How does this reduce risk?					
Tourism Plan	No	No	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	No	-	-	-
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	-	Yes			
How does this reduce risk?					
Strategic Recovery Planning Report	No	No	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	No	-	-	-
How does this reduce risk?					
Public Health Plan	No	No	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Other	No	No	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Avon to oversee and track development.

Table 9.2-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Code Enforcement Officer
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Avon and their current responsibilities which contribute to hazard mitigation.

Table 9.2-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Town Planning Board
Zoning Board of Adjustments	Yes	Zoning Board of Appeals
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Town Highway Department
Construction/Building/Code Enforcement Department	Yes	Building and Zoning Department
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Maintain roads, clear debris from storm drains as needed
Mutual aid agreements	No	-
Human Resources Manual	No	-
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Zoning Boards

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Zoning Boards
Planners or engineers with an understanding of natural hazards	Yes	Planning and Zoning Boards
Staff with expertise or training in benefit/cost analysis	Yes	Planning and Zoning Boards
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Avon.

Table 9.2-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	-
Capital improvements project funding	-
Authority to levy taxes for specific purposes	-
User fees for water, sewer, gas or electric service	-
Impact fees for homebuyers or developers of new development/homes	-
Stormwater utility fee	-
Incur debt through general obligation bonds	-
Incur debt through special tax bonds	-
Incur debt through private activity bonds	-
Withhold public expenditures in hazard-prone areas	-
Other federal or state Funding Programs	-
Open Space Acquisition funding programs	-
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Avon.

Table 9.2-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	-
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	Yes	The Town maintains a website that contains information on the different departments, upcoming meetings, town updates, and emergency alerts.
Social media for hazard mitigation education and outreach	Yes	The Town has a Facebook page where they provide information on the town and upcoming meetings.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	Yes	Information can be posted on the website and Facebook page; include information in tax bills and other municipal mailings
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Municipal website and Facebook page
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Avon.

Table 9.2-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	NP	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	-	-
NYSDEC Climate Smart Community	NP	N/A	N/A
StormReady Certification	NP	N/A	N/A
Firewise Communities classification	NP	N/A	N/A
Other	NP	N/A	N/A

Note:

N/A *Not applicable*

NP *Not participating*

- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.2-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.2.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.2-9. NFIP Summary

Town of Avon	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Avon	2	2	$58,963.91	N/A	N/A	0

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	East Side of Village Town Boundary / Pole Bridge Road
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Several interested, a list is not maintained
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	-
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Assistance from Livingston County Office of Emergency Management
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	-

Town of Avon	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Avon	2	2	$58,963.91	N/A	N/A	0

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	-
NFIP Compliance	
What local department is responsible for floodplain management?	Code
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	-
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	-
What are the barriers to running an effective NFIP program in the community, if any?	-
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	-
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	-
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	-
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	-
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	-
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	-

Source: NYS DHSES 2021; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.2.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of Avon has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of Avon has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Avon did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.2.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.2-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New development has not changed the Town's vulnerability, nor is the proposed development expected to.

Table 9.2-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	4	0	4	0	2	0	2	0	0	0	26	0	2	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	91	0	85	0	84	0	81	0	88	0	103	0	142	0
Total Permits Issued	**95**	**0**	**89**	**0**	**86**	**0**	**83**	**0**	**88**	**0**	**126**	**0**	**144**	**0**
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														

Twin Cedars of Avon	Residential	40	35.-1-22.111	None	Upgrading older mobile homes
Solar Field	Commercial	N/A	Pole Bridge Road and East Avon Road	None	Solar panel field
Solar Field	Commercial	N/A	500 Rochester Street	None	Solar panel field
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Royal Springs Development	Residential	200	45.-1-23.141	None	Would like to start Phase 2
Solar Field	Commercial	N/A	5406 Lake Road	None	Proposed solar panel field
Solar Field	Commercial	N/A	5530 Wolcott Drive	None	Proposed solar panel field

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.2.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Avon's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Avon has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.2-1. Town of Avon Flood and Mine Subsidence Hazard Areas

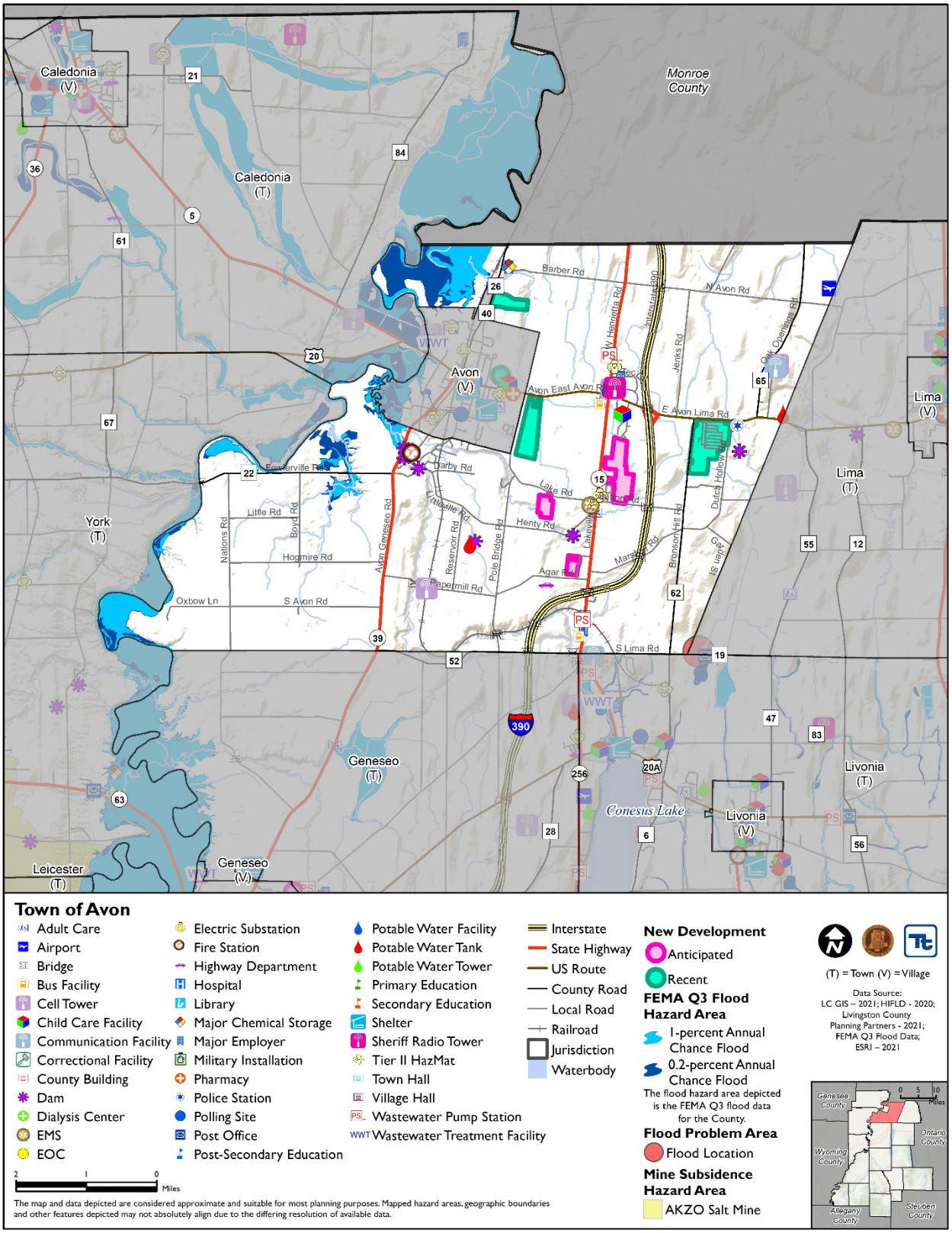


Figure 9.2-2. Town of Avon Hazmat and Wildfire Hazard Areas

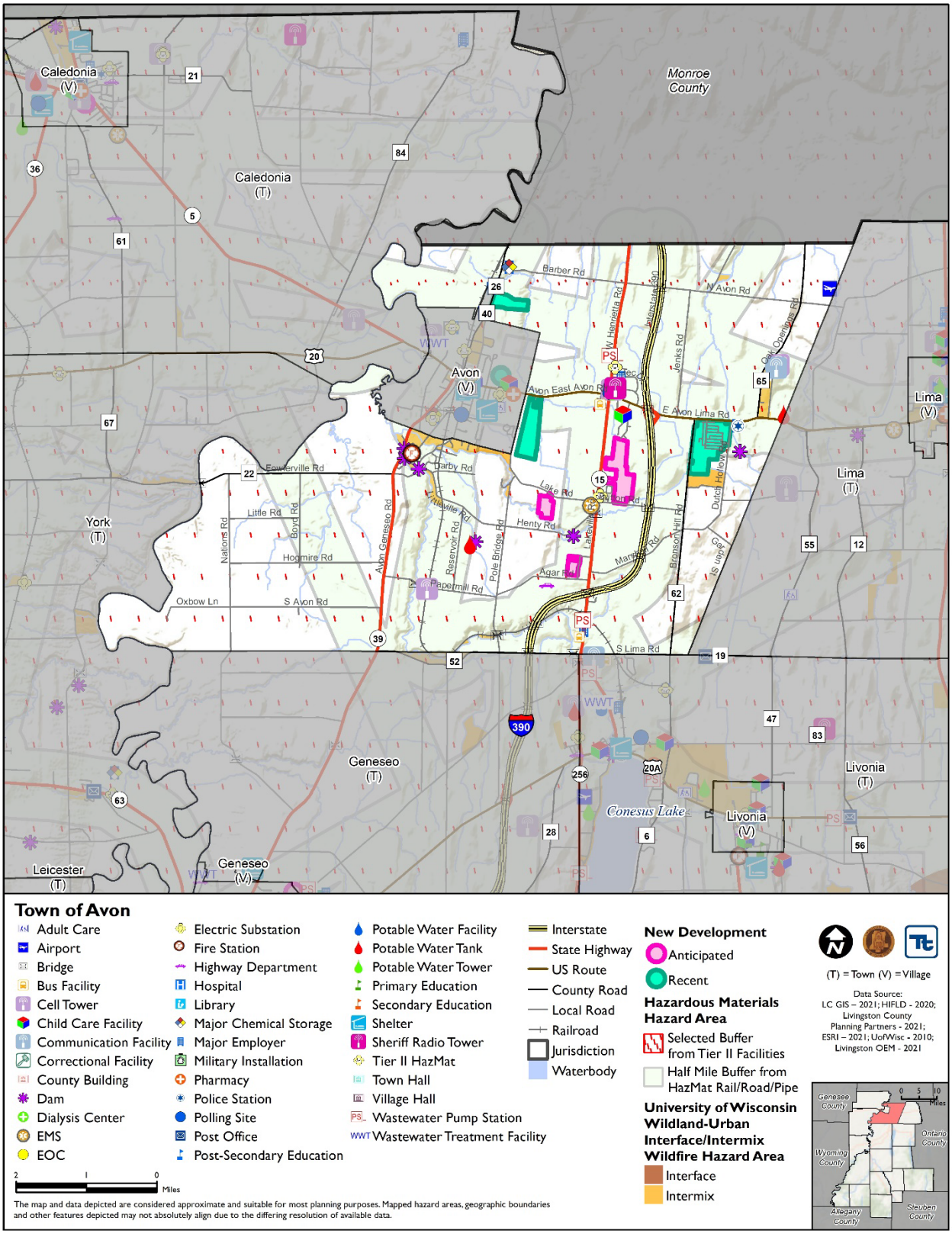
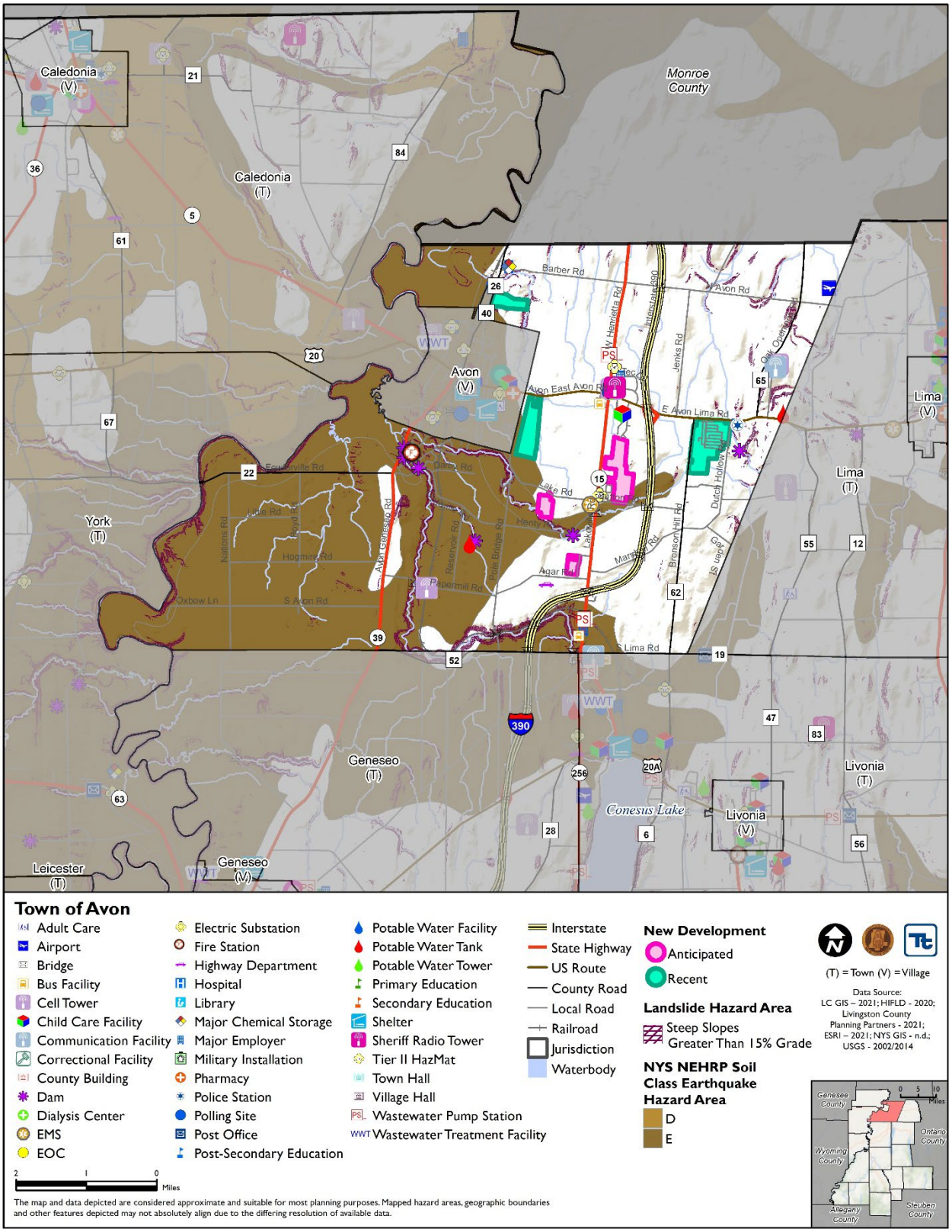


Figure 9.2-3. Town of Avon Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Avon's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.2-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.2-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.
9/9/2015	Thunderstorm Wind	-	Trees Down

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Avon's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Avon ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Avon. The Town of Avon has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.2-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.2-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
No critical facilities located in the floodplain					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Avon's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Avon has identified the following vulnerabilities within their community:

- Stormwater flooding
- Lack of backup power at highway garage and town hall

9.2.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.2-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TA-1	Develop a coordinated watershed inspection program for the entire County. Currently, only Conesus Lake has one. A Countywide program would study all watersheds and municipal water supplies and create a fair, uniform, and systematic set of standards.	All	None provided in the 2015 HMP	County Health Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-2	Secure funds to help with the All-Hazard Mitigation Plan updates and to conduct emergency response drills.	All	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-3	Regularly update County and municipal Emergency Response Plans.	All	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-4	Each municipality should prepare a list of experienced HAM radio operators, mechanics, technicians, cooks, nurses, etc. so that in an emergency these people can take charge of rescue/recovery operations.	All	None provided in the 2015 HMP	Municipality	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-5	Encourage and lobby New York State (NYS) departments and agencies to discount or reduce fees for license registrations for emergency response personnel such as volunteer firefighters, ambulance workers, etc.	All	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-6	Establish pipeline links to Monroe County (especially in the northern part of the County) and City of Rochester water supply systems. This would create redundancy and connection for emergency use.	All	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-7	Develop Countywide strategy to address utility failures during severe weather events	Severe Storms, Winter Storms	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town;

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
							therefore, it will not be included in the Town's annex
TA-8	Enhance the emergency notification system by providing National Oceanic and Atmospheric Administration (NOAA) Weather Radio Receivers to critical facilities.	Severe Storm	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-9	Develop a Countywide strategy to protect vulnerable utilities during severe weather events.	Severe Storms, Winter Storms	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-10	Encourage and support the development of tornado shelters.	Severe Weather	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-11	Regulate building design and construction standards in municipal Flood Prevention Ordinances and/or Zoning Ordinances to reduce the impact of flooding on the built environment.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-12	Improve drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-13	Prepare a coordinated sandbagging plan between the County emergency medical services (EMS) and flood-prone communities in the southern half of the County.	Flood	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-14	Institute an annual survey of hazardous materials (HAZMAT) truck traffic on major routes.	Transportation Accidents	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TA-15	Analyze traffic patterns at major intersections along State and County routes to determine ways to reduce the number of HAZMAT accidents at those intersections.	Transportation Accidents	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-16	Conduct general infrastructure, signage, traffic control, and lighting upgrades to Route 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.	Transportation Accidents, HAZMAT	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-17	Carry out a pre-event inspection of key buildings, bridges, and dams for seismic vulnerability. Based on this inspection, develop a seismic protection plan for these facilities.	Earthquake	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-18	Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, and/or distribution of information through local newspapers.	Earthquake	None provided in the 2015 HMP	County EMO	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-19	Provide backup power generators for Town Hall.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-20	Provide backup power generators for public buildings – libraries, community centers, historical societies/museums, etc.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Not a concern for the Town at this time
TA-21	Provide backup power generators for highway department/Department of Public Works garages and related installations.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-22	Set design standards for communication facilities in the Zoning Ordinance or	All	None provided in the 2015 HMP	County Planning Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Telecommunication Ordinance such that they are less prone to disaster.						
TA-23	Set up a Countywide tornado warning system.	Severe Storms, Tornados	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-24	Establish mutual aid agreements with neighboring counties for their assistance in addressing Countywide disasters.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-25	Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aid agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between County and municipal officials and contractors to facilitate rapid response.	All	None provided in the 2015 HMP	Town Building and Zoning	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-26	Set up a reverse emergency management call system to contact residents (Reverse 9-1-1).	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. The Town will research the different mass notification systems and select a program that works best for the community. 3. -
TA-27	Develop a standardized door tag that can be left on residents' doors when door-to-door notifications are necessary.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-28	Set up a special promotional campaign that will award a $100 Wegmans gift card to citizens who prepare detailed family plans for	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town;

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	evacuation and meeting after a disaster event.						therefore, it will not be included in the Town's annex
TA-29	Ensure designated shelters are stocked with supplies and equipment, especially in regards to special-needs populations (elderly, ill, disabled).	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-30	Regulate special provision for backup supplies in the Emergency Management Plan.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-31	Provide security provisions for telephone lines and power lines.	All	None provided in the 2015 HMP	County Sheriff	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-32	Secure funding to alleviate staffing issues for fire departments and emergency medical technicians.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-33	Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-34	Involve community groups and local nonprofit organizations (Boy/Girl Scouts, etc.) with information distribution programs.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-35	Develop public education programs that follow the "education without panicking" concept.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town;

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
							therefore, it will not be included in the Town's annex
TA-36	Develop and disseminate routine public mailings and booklets to every home. Mailings should contain maps and information on shelters and disaster response.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-37	Replace and upgrade North Littleville Road culvert to appropriate stormwater and flooding capacity.	Flood	None provided in the 2015 HMP	Town Highway Department	Complete	1. 2. 3.	1. Discontinue 2. - 3. Project Complete
TA-38	Develop and implement a stormwater management program for all roads, stream bank, and stream channel clearing.	Flood, Severe Storm	None provided in the 2015 HMP	Town Building Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-39	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-40	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-41	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county action and not applicable to just the Town; therefore, it will not be included in the Town's annex
TA-42	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding,	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	benefits versus costs, and willing participation of property owners. Implement as funding becomes available.						
TA-43	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
TA-44	Maintain compliance with and good standing in the National Flood Insurance Program (NFIP) including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-45	Support and participate in County-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-46	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the County. Join the CRS program if	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	adequate resources to support long-term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.						
TA-47	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-48	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and NYS Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as Federal Emergency Management Agency (FEMA) Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-49	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-50	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TA-51	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.2-14, the Town of Avon did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Avon participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.2-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X	X					X		X	X
Earthquake	X	X					X		X	X
Flood	X	X			X	X	X		X	X
Hazardous Materials	X	X					X		X	X
Invasive Species	X	X					X		X	X
Landslide	X	X					X		X	X
Mine Subsidence	X	X					X		X	X
Pandemic	X	X					X		X	X
Severe Storm	X	X			X	X	X		X	X
Severe Winter Storm	X	X			X	X	X		X	X
Wildfire	X	X					X		X	X
Terrorism	X	X					X		X	X
Utility Failure	X	X					X		X	X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.2-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Avon would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.2-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Avon-001	Pole Ridge Road Drainage	**Problem**: During periods of heavy rain, parts of Pole Bridge Road in the town become inundated and impacts properties along the road. The Town has to close portions of the road which prohibits emergency vehicle access from getting through. **Solution:** The Town will construct a retention pond that will catch and store water runoff along the road to help limit flooding and help remove pollutants from the surrounding environment.	No	Yes	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Town Highway with support from County Engineering	Water Quality Improvement Project (WQIP) Program, Community Development Block Grant, Town Budget	Captures water runoff and reduces flooding in the area	$10,000+	High	SIP	PP, ES
2022-Town of Avon-002	Backup Power for Town Hall	**Problem**: Town Hall, located at 23 Genesee Street, does not have a source of backup power. The building provides essential services to the municipality. Without power, it cannot properly function. **Solution**: Purchase and install a permanent generator and proper utility switches at town hall. This will provide continuity of operations and allow the facility to remain open during emergencies. The facility can then serve as a heating/cooling/charging center for residents without power.	Yes	No	All	1, 2	Within 3 years	Town Board	FEMA HMGP, Town Budget	Continuity of operations; provide essential services to the community	$20,000+	High	SIP	SP, ES
2022-Town of Avon-003	Backup Power for Highway Department	**Problem**: The Town's highway department building, located at 5390 Agar Road, does not have backup power. In the event of a power	Yes	No	All	1, 2	Within 3 years	Town Highway Department	FEMA HMGP	Continuity of operations; provide essential	$45,000	High	SIP	SP, ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		outage, the facility cannot operate properly and cannot provide essential services to the community. **Solution**: Purchase and install a permanent generator and proper utility switches at the highway department building. This will provide continuity of operations and allow the facility to remain open during emergencies.								services to the community				
2022-Town of Avon-004	Recovery Efforts Contractors	**Problem**: The Town does not have a list of contractors that can assist with recovery efforts after an emergency. **Solution**: Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled. Create a mutual aid agreement with outside contractors to provide recovery services in case local resources are overwhelmed. Set up a call list between County and municipal officials and contractors to facilitate rapid response.	No	No	All	1, 2, 3	Within 1 year	Town Board	Town Budget	Identifies help before an incident; increases capabilities; helps with disaster response	Staff Time	Medium	LPR	ES
2022-Town of Avon-005	Emergency Notification System	**Problem**: The Town does not have a mass notification system to relay emergency alerts to its residents. **Solution**: The Town will research the different mass notification systems and select a program that works best for the community.	No	No	All	1, 2, 3	Within 1 year	Town Emergency Management, Town Board	Town Budget	Notification system for residents; increases awareness	$15,000+	High	LPR	PI, ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Avon-006	Stormwater Management Program	**Problem**: The Town lacks a stormwater management program and experiences the impacts of stormwater flooding during periods of heavy rain. **Solution**: Develop and implement a stormwater management program for all roads, stream bank, and stream channel clearing in the Town.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2, 3	Within 2 years	Town Highway Department, Town Planning and Zoning Boards	Town Budget	Controls excess water runoff; increases water quality; provides guidance to controlling stormwater	$30,000+	High	LPR	PR, ES
2022-Town of Avon-007	Expand Education and Outreach Program	**Problem**: The current outreach program run by the town does not have information regarding best management practices to address stormwater runoff from farmland. **Solution**: Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2, 3	Within 3 years	County Planning Department, County Office of Emergency Management, Municipality	Town Budget, FEMA HMGP	High	$20,000	High	LPR	PI
2022-Town of Avon-008	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Town Board	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Avon-009	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training and resources to understand the NFIP program and flooding in the village.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.												

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.2-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Avon-001	Pole Ridge Road Drainage	1	1	1	1	1	0	0	1	0	1	1	1	1	0	10	High
2022-Town of Avon-002	Backup Power for Town Hall	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2022-Town of Avon-003	Backup Power for Highway Department	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2022-Town of Avon-004	Recovery Efforts Contractors	1	1	1	1	1	0	1	0	0	0	1	1	0	0	8	Medium
2022-Town of Avon-005	Emergency Notification System	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
2022-Town of Avon-006	Stormwater Management Program	1	1	1	1	1	1	1	1	0	1	1	1	1	0	12	High
2022-Town of Avon-007	Expand Education and Outreach Program	1	1	1	1	1	1	0	1	0	1	1	1	0	0	10	High
2022-Town of Avon-008	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Avon-009	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.2.9 Action Worksheets

The following action worksheets have been developed by the Town of Avon to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Pole Ridge Road Drainage		
Project Number:	2022-Town of Avon-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm		
Description of the Problem:	During periods of heavy rain, parts of Pole Bridge Road in the town become inundated and impacts properties along the road. The Town has to close portions of the road which prohibits emergency vehicle access from getting through.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will construct a retention pond that will catch and store water runoff along the road to help limit flooding and help remove pollutants from the surrounding environment.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	20-year	**Estimated Benefits (losses avoided):**	High
Useful Life:	15 years	**Goals Met:**	1, 2
Estimated Cost:	$10,000+	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	Water Quality Improvement Project (WQIP) Program, Community Development Block Grant, Town Budget
Responsible Organization:	Town Highway with support from County Engineering	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Drainage work	$100,000+	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Pole Ridge Road Drainage	
Project Number:	2022-Town of Avon-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm, Severe Winter Storm
Timeline	1	To be completed within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Backup Power for Town Hall		
Project Number:	2022-Town of Avon-002		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	Town Hall, located at 23 Genesee Street, does not have a source of backup power. The building provides essential services to the municipality. Without power, it cannot properly function.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a permanent generator and proper utility switches at town hall. This will provide continuity of operations and allow the facility to remain open during emergencies. The facility can then serve as a heating/cooling/charging center for residents without power.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Continuity of operations; provide essential services to the community
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$20,000+	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$10,000+	Weather dependent, may not be best solution for long-term outages
	Install generator	$20,000+	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of Avon-002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Backup Power for Highway Department		
Project Number:	2022-Town of Avon-003		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	The Town's highway department building, located at 5390 Agar Road, does not have backup power. In the event of a power outage, the facility cannot operate properly and cannot provide essential services to the community.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a permanent generator and proper utility switches at the highway department building. This will provide continuity of operations and allow the facility to remain open during emergencies.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Continuity of operations; provide essential services to the community
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$45,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$10,000+	Weather dependent, may not be best solution for long-term outages
	Install generator	$45,000	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Highway Department	
Project Number:	2022-Town of Avon-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Stormwater Management Program		
Project Number:	2022-Town of Avon-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm		
Description of the Problem:	The Town lacks a stormwater management program and experiences the impacts of stormwater flooding during periods of heavy rain.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop and implement a stormwater management program for all roads, stream bank, and stream channel clearing in the Town.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	20-year	**Estimated Benefits (losses avoided):**	Controls excess water runoff; increases water quality; provides guidance to controlling stormwater
Useful Life:	15 years	**Goals Met:**	1, 2
Estimated Cost:	$30,000+	**Mitigation Action Type:**	LPR
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding received
Estimated Time Required for Project Implementation:	Within 2 years	**Potential Funding Sources:**	Town Budget
Responsible Organization:	Town Highway Department, Town Planning and Zoning Boards	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate roadways to reduce flood damage	$1 million+	Not feasible; costly
	Implement project	$30,000+	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Stormwater Management Program	
Project Number:	2022-Town of Avon-006	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Town budget
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm, Severe Winter Storm
Timeline	1	To be completed within 2 years
Agency Champion	1	
Other Community Objectives	0	
Total	12	
Priority (High/Med/Low)	High	

9.3 VILLAGE OF AVON

This section presents the jurisdictional annex for the Village of Avon. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Village of Avon and who in the Village participated in the planning process; an assessment of the Village of Avon's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.3.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Avon's hazard mitigation plan primary and alternate points of contact. The Village of Avon followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: the Mayor, Village Clerk, and Fire Marshall. The Village Clerk represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Village of Avon's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.3-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Heather Randall, Village Clerk Address: 74 Genesee Street, Avon, NY 14414 Phone Number: 585-226-8118 Email: hrandall@village.avon-ny.org	Name/Title: Thomas Freeman, Mayor Address: 74 Genesee Street, Avon, NY 14414 Phone Number: 585-226-8118 Email: tfreeman@village.avon-ny.org
NFIP Floodplain Administrator	
Name/Title: Andy Anderson, Fire Marshal / Code Dept. Address: 74 Genesee Street, Avon, NY 14414 Phone Number: 585-226-8118 Email: aanderson@village.avon-ny.org	

9.3.2 Municipal Profile

The According to the U.S. Census Bureau, the Village has a total land area of 3.0 square miles, of which none of which includes any bodies of water. It is bordered on all corners by the Town of Avon. The Village of Avon is located in the northern area of Livingston County and is only 25-30 miles from downtown Rochester. According to the U.S. Census, the 2020 population for the Village of Avon was 3,399, a 0.15 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 7.6 percent of the population is 5 years of age or younger and 16.4 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.3.3 Jurisdictional Capability Assessment and Integration

The Village of Avon performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.3.3). The Village of Avon's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Avon. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.3-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	IBC 2015	State and Local	Code Enforcement
How does this reduce risk? Prevents questions regarding regulations in the municipality					
Zoning/Land Use Code	Yes	No	Chapter 30 - 2012	Local	Zoning Board
How does this reduce risk? *The purpose of this chapter is to encourage the most appropriate use of land throughout the Village and to conserve the value of property, with due consideration for the character of the districts and their peculiar suitability for particular uses; all in accordance with a comprehensive plan designed to lessen congestion in the streets; to secure safety from fire, flood, panic and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land, to avoid undue concentration of population and to that end to regulate the height, design appearance, number of stories and size of buildings and other structures; the percentage of the area of the lot that may be occupied; the size of yards, courts and other open spaces; the density of population and the location and use of buildings, structures and land for trade, industry, residence or other purposes; and the height, size and location of these uses within the limits of the Village.*					
Subdivision Ordinance	Yes	No	Chapter 31 (Subdivision Regulations); 2012	Local	Planning Board
How does this reduce risk? Prior to the contract of sale of any part of proposed land for subdivision, the subdividing owner must apply for and secure approval by the Planning Board of proposed subdivision.					
Site Plan Ordinance	Yes	No	Chapter 30, Article XII (2012)	Local & County Planning	Planning Board
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Prior to the issuance of a building permit for new development in any district, except for a one or two-family dwelling and related accessory uses or a general farming or nursery use permitted by right, the Zoning Enforcement Officer shall require the preparation of a site plan. The Zoning Enforcement Officer shall refer the site plan to the Board of Trustees for its review and approval in accordance with the standards and procedures set forth in this article.					
Stormwater Management Ordinance	Yes	Yes	2012	Local	Planning Board
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	Yes	No	-	Local	Planning Board
How does this reduce risk? Prevents unpermitted building					
Environmental Protection Ordinance	Yes	Yes	-	State	NYSDEC
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 37 – Flood Damage Prevention	Federal, State, County and Local	Village & Planning Board, Zoning & Code Department
How does this reduce risk? The purpose of the code is to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas. Attempts to lower the risk of flooding from development. The Zoning Officer is the appointed local floodplain administrator for the Village and is responsible for administering and implementing the code. The code requires all new construction and substantial improvements in the floodplain have their lowest floor elevated to or above the BFE.					
Wellhead Protection	N/A	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	No	-	-	-
How does this reduce risk? **Prepares for emergencies.**					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Planning Documents					
Master Plan	Yes	No	Village of Avon Comprehensive Plan Update (2017)	Local	All Depts.
How does this reduce risk? The plan provides a framework for future public and private investment to the community. The Comprehensive Plan Team led the development of updating the plan.					
Capital Improvement Plan	Yes	No	-	Local	Completed by Individual Depts.
How does this reduce risk? Part of the annual budget					
Disaster Debris Management Plan	No	No	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No	-	-	-
How does this reduce risk?					
Stormwater Management Plan	Yes	No	-	Local	Village & Planning Board
How does this reduce risk?					
Open Space Plan	Yes	Yes	-	Local	Village & Planning Board
How does this reduce risk?					
Urban Water Management Plan	No	No	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	No	-	-	-
How does this reduce risk?					
Economic Development Plan	Yes	No	-	County	IDA
How does this reduce risk?					
Shoreline Management Plan	N/A	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	No	-	-	-
How does this reduce risk?					
Community Forest Management Plan	N/A	No	-	-	-
How does this reduce risk?					
Transportation Plan	No	No	-	-	-
How does this reduce risk?					
Agriculture Plan	No	No	-	-	-
How does this reduce risk? Farmland Protection					
Climate Action/ Resiliency/Sustainability Plan	No	No	-	-	
How does this reduce risk?					
Tourism Plan	Yes	No	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	Yes	No	-	Local	Village & Planning Board
How does this reduce risk?					
Other	N/A	-	-	-	-
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	-	Local	Code / Fire Dept.
How does this reduce risk?					
Strategic Recovery Planning Report	No	No	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Yes	-	-	Village Board & Police Dept.
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	No	-	-	-
How does this reduce risk?					
Public Health Plan	No	No	-	-	-
How does this reduce risk?					
Other	N/A	-	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Avon to oversee and track development.

Table 9.3-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	-
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Avon and their current responsibilities which contribute to hazard mitigation.

Table 9.3-4. Administrative and Technical Capabilities

Resources	Available (Yes/No)	Comments (Available Staff, Responsibilities, support of Hazard Mitigation)
Planning Board	Yes	Planning Board – made up of six members and meets monthly
Zoning Board of Adjustments	Yes	Zoning Board – made up of six members and meets as needed
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Park Commission – consists of 4 members and meets monthly
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Village & Planning Board
Public Works/Highway Department	Yes	Department of Public Works

Resources	Available (Yes/No)	Comments (Available Staff, Responsibilities, support of Hazard Mitigation)
Construction/Building/Code Enforcement Department	Yes	Department of Building and Zoning
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	DPW
Mutual aid agreements	Yes	Fire Department
Human Resources Manual	Yes	-
Other	N/A	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	Performed through Livingston County
Engineers or professionals trained in building or infrastructure construction practices	No	Performed through Livingston County
Planners or engineers with an understanding of natural hazards	No	Performed through Livingston County
Staff with expertise or training in benefit/cost analysis	Yes	Livingston County & Local
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	Yes	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

Fiscal Capability

The table below summarizes financial resources available to the Village of Avon.

Table 9.3-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Other federal or state Funding Programs	N/A
Open Space Acquisition funding programs	N/A
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Avon.

Table 9.3-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Local & Livingston County
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Village, Planning, & Zoning Boards
Other programs already in place that could be used to communicate hazard-related information	Yes	Social Media outlets
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Fire Siren
Natural disaster/safety programs in place for schools	Yes	Avon Central School District Plan
Other	N/A	N/A

Community Classifications

The table below summarizes classifications for community programs available to the Village of Avon.

Table 9.3-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4 Commercial, 5 Residential	2019
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/4x	2020
NYSDEC Climate Smart Community	NP	-	-
StormReady Certification	NP	-	-
Firewise Communities classification	Yes	3	2018
Other	N/A	-	-

Note:

N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.3-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.3.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.3-9. NFIP Summary

Village of Avon	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Avon	4	2	$48,639.37	N/A	N/A	0

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Yes – Action Being Taken
Do you maintain a list of property owners interested in flood mitigation?	No – None on File

Village of Avon	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Avon	4	2	$48,639.37	N/A	N/A	0

NFIP Topic	Comments
• How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Onsite evaluation
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Village Board, DPW, & Code Department
Are any certified floodplain managers on staff in your jurisdiction?	Yes
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes – County & NYS
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	-
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	-
What are the barriers to running an effective NFIP program in the community, if any?	-
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	-
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	-
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 37 – Flood Damage Prevention August 3, 1987
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	-
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to	-

Village of Avon	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Avon	4	2	$48,639.37	N/A	N/A	0

NFIP Topic	Comments
reduce flood risk when reviewing variances such as height restrictions?	
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	-

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.3.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- NYS Route 5, NYS Route 39 & US Route 20

Sheltering

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Village Hall	74 Genesee St	175	Yes	Yes	Yes	Fire / Medical / Police	-
Fire Hall	74 Genesee St	175	Yes	Yes	Yes	Fire / Medical / Police	-

Temporary Housing

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Village Parking	74 Genesee St	Water, Electric	5	Parking Lot	None
Tops Parking Lot	600 Dream Valley BLVD	None	3	Parking Lot	Electric Water

Permanent Housing

While the Village of Avon did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Village can utilize this analysis to identify potential locations.

9.3.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.3-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Village is not expected to impact vulnerability to hazards. Even with the permit issued in 2017 for development in the SFHA, new and proposed development in the Village is not expected to impact vulnerability to hazards.

Table 9.3-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	63	-	80	-	64	-	62	-	71	-	79	-	43	-
Multi-Family	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (commercial, mixed-use, etc.)	2	-	5	-	11	1	7	-	3	-	2	-	5	-
Total Permits Issued	**65**	**-**	**85**	**-**	**75**	**1**	**69**	**-**	**75**	**-**	**81**	**-**	**48**	**-**
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														
Avon Commons	Residential		10		-		None		Townhouse / Commercial/ Apts.					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years														
None identified														

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.3.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Avon's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Avon has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.3-1. Village of Avon Hazard Area Extent and Location Map 1

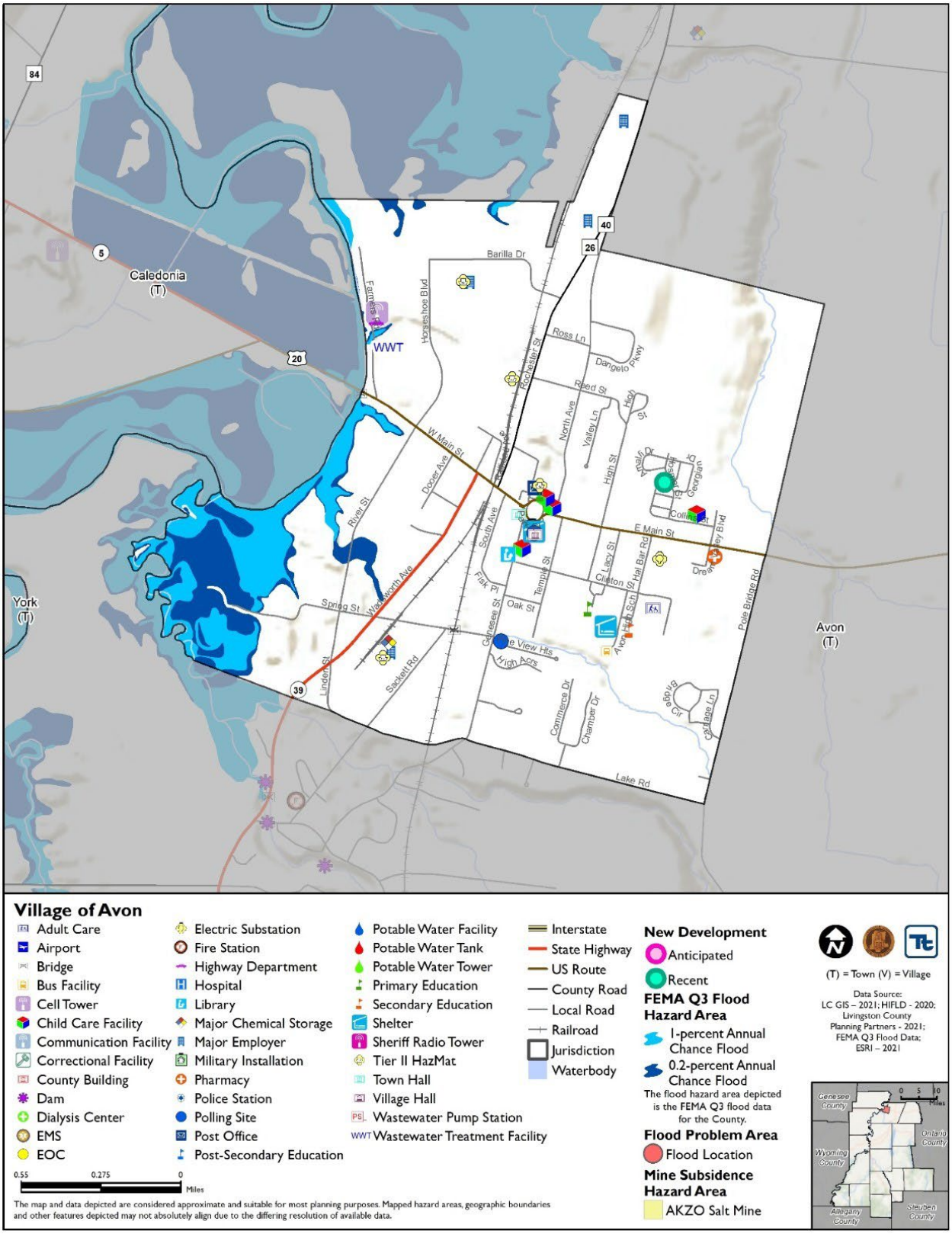


Figure 9.3-2. Village of Avon Hazard Area Extent and Location Map 2

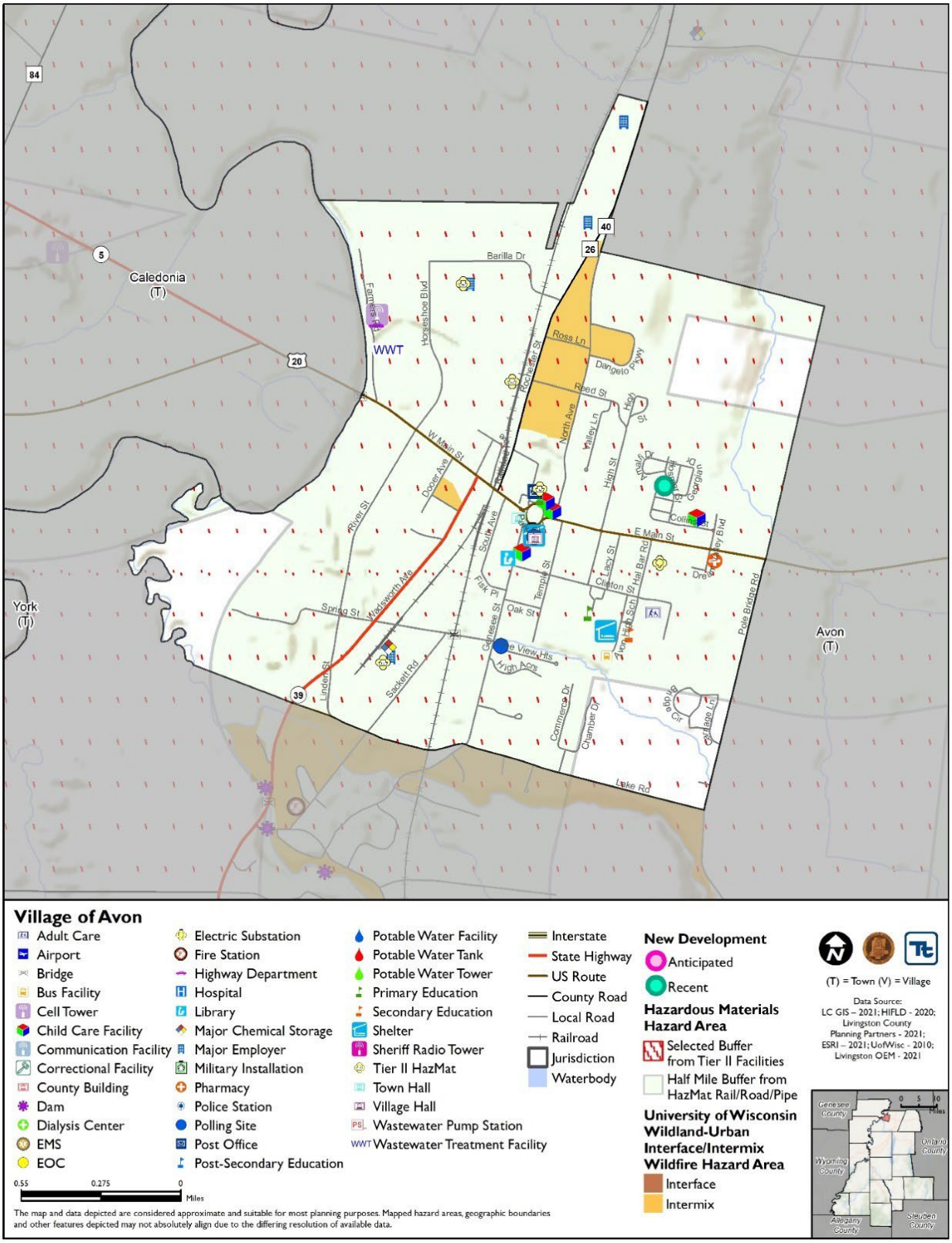
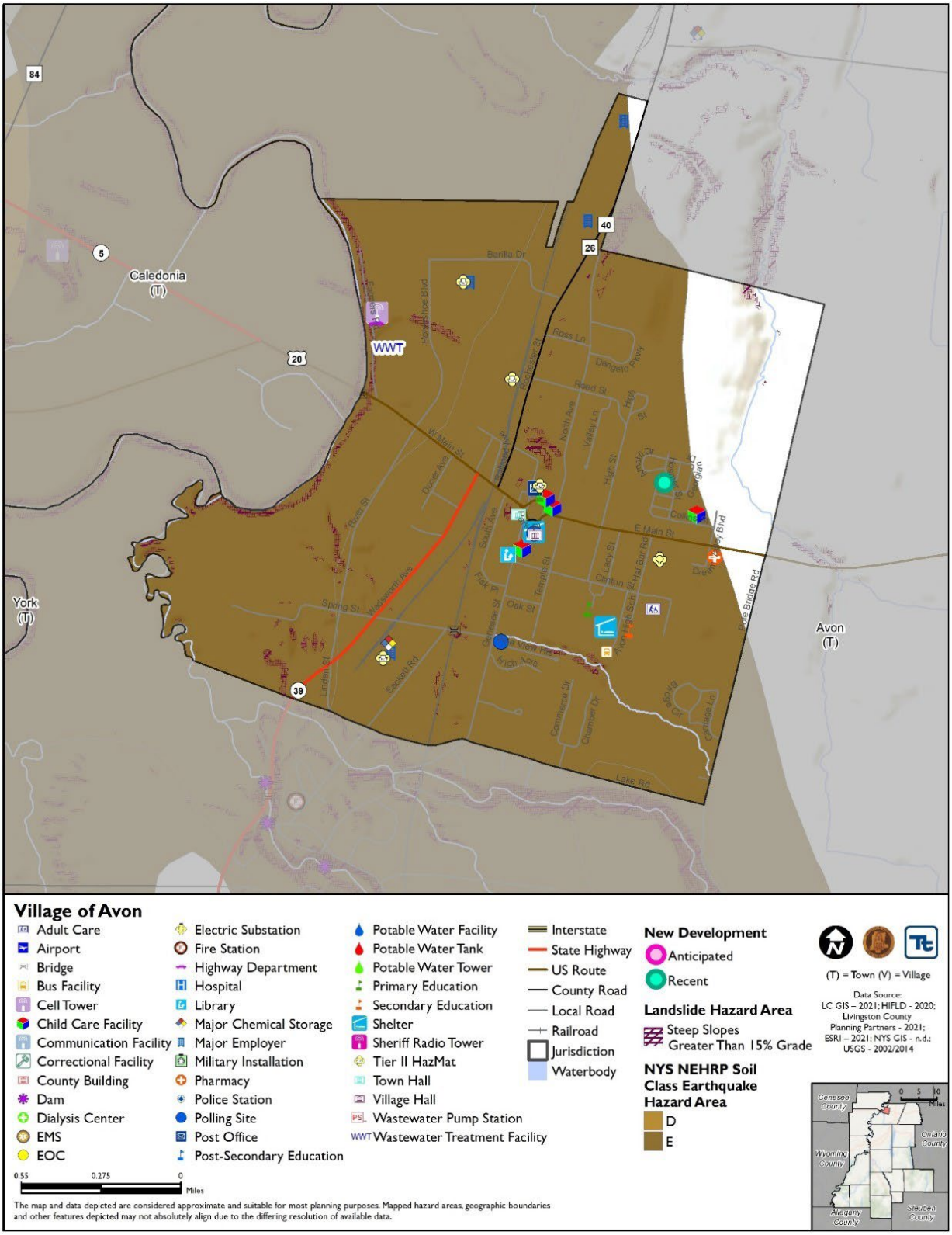


Figure 9.3-3. Village of Avon Hazard Area Extent and Location Map 3



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Avon's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.3-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.3-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.
3/8/2017	High Wind	-	Damage to DPW Garage Roof

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Avon's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Village of Avon ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Avon. The Village of Avon has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.3-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.3-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None located in the floodplain					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Avon's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Avon has identified the following vulnerabilities within their community:

- The area near Route 5/20 by CVS is prone to flooding due to lack of retention basins and water storage.
- The Village currently does not have a stormwater management plan.
- The Village does not have an emergency plan to use during a hazard or disaster.
- The village does not have a COOP/COG plan.
- The current outreach program run by the Village does not have information regarding best management practices to address stormwater runoff from farmland.
- Several waterbodies in the village have been impacted by hydrilla. This is an invasive species that chokes out waterways, affects water quality, and impacts the economy.
- The village lacks an updated flood damage prevention ordinance.
- The floodplain administrator for the village is in need of training and resources to understand the NFIP program and flooding in the village.

9.3.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own

table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.3-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps Project to be included in 2022 HMP or Discontinue If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
VA-1	Develop retention basins and storage areas with controlled outlets to alleviate repetitive flooding issues, especially near Route 5/20 by the CVS store.	Flood, Severe Storm	None provided in the 2015 HMP	SWCD	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-2	Develop a Village stormwater management plan.	Flood, Severe Storm	None provided in the 2015 HMP	Village Planning	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-3	Develop, train, and test an internal Village emergency plan for use during a wide variety of hazard and disaster events.	All	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-4	Develop and test Village Continuity of Operations (COOP)/Continuity of Government (COG) Plans.	All	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-5	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-6	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-7	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. - 3. -
VA-8	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Village Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-9	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Village Engineering	Ongoing Capability	1. 2.	1. Discontinue – ongoing capability for the Village 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps Project to be included in 2022 HMP or Discontinue If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
	the floodplain (including those that have been identified as repetitive loss) such as acquisition/ relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.					3.	3. -
VA-10	Develop and implement an enhanced all-hazards, public outreach/education/ mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Village Supervisor	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-11	Maintain compliance with and good standing in the National Fire Insurance Program (NFIP) including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-12	Support and participate in County-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps Project to be included in 2022 HMP or Discontinue If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
VA-13	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-14	Develop and implement a post-event damage assessment program, including the following elements:	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-15	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long-term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-16	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-17	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYS SFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-18	Develop and maintain mapping of all natural hazard risk areas in the Village, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps Project to be included in 2022 HMP or Discontinue If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
VA-19	Work with County and power companies to identify roads within the Village considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-20	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -
VA-21	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue – ongoing capability for the Village 2. - 3. -

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.3-14, the Village of Avon did not complete any additional mitigation projects/activities since the 2015 HMP

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Avon participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.3-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X				X					X
Earthquake	X				X					X
Flood	X	X			X	X				X
Hazardous Materials	X				X					X
Invasive Species	X		X		X			X		X
Landslide	X				X					X
Mine Subsidence	X				X					X
Pandemic	X				X					X
Severe Storm	X	X			X	X				X
Severe Winter Storm	X				X		X			X
Wildfire	X				X					X
Terrorism	X				X					X
Utility Failure	X				X					X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.3-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Avon would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.3-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Avon-001	Retention Basins and Storage Areas Near Route 5/20	**Problem**: The area near Route 5/20 by CVS is prone to flooding due to lack of retention basins and water storage. **Solution**: Develop retention basins and storage areas with controlled outlets to alleviate repetitive flooding issues, especially near Route 5/20 by the CVS store.	No	No	Flood, Severe Storm	1, 2	Within 5 years	Sewer and Water, Soil and Water, County Sheriff, Local Police	Water Quality Improvement Project (WQIP) Program, Village Budget	High	$100,000+	High	SIP	PP
2022-Village of Avon-002	Stormwater Management Plan	**Problem**: The Village currently does not have a stormwater management plan. **Solution**: Develop and adopt a Stormwater Management Plan for the Village. The plan will include a description of stormwater control measures, best management practices, and procedure sin place to control stormwater. Once developed, the Village will review and update on a routine basis.	No	No	Flood, Severe Storm	1, 2	Within 5 years	Village Planning, County Planning	Village Budget	Medium	Medium	High	LPR	PR, PP
2022-Village of Avon-003	Develop, Train and Test Emergency Plan	**Problem**: The Village does not have an emergency plan to use during a hazard or disaster. **Solution**: Develop, train, and test an internal Village emergency plan for use during a wide variety of hazards and /disaster events.	No	No	All Hazards	1, 2, 3	Within 5 years	County Planning Department, Village Planning, Fire, and Highway	Village Budget	High	Medium	High	LPR	PR, ES
2022-Village of Avon-004	Develop COOP/COG Plan	**Problem**: The village does not have a COOP/COG plan. **Solution**: Develop and test Village Continuity of Operations (COOP)/Continuity of Government (COG) Plans.	No	No	All Hazards	1, 2	Within 5 years	County Planning Department, Village Planning, Fire, and Highway	Village Budget	High	Medium	High	LPR	PR, ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Avon-005	Expand Education and Outreach Program	**Problem**: The current outreach program run by the Village does not have information regarding best management practices to address stormwater runoff from farmland. **Solution**: Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2, 3	Within 3 years	County Planning Department, County Office of Emergency Management, Municipality	Village Budget, FEMA HMGP	High	$20,000	High	LPR	PI
2022-Village of Avon-006	Hydrilla Management Analysis and Control	**Problem**: Several waterbodies in the village have been impacted by hydrilla. This is an invasive species that chokes out waterways, affects water quality, and impacts the economy. **Solution**: Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure. In addition, implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	No	No	Invasive Species	1, 2, 3	Within 3 years	County Planning Department with municipality and NYSDEC support	Village Budget	Medium	Medium	Medium	NSP	NR
2022-Village of Avon-007	Update Flood Damage Prevention Ordinance	**Problem**: The village lacks an updated flood damage prevention ordinance. **Solution**: The village will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Village Board	Village Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Village of Avon-008	NFIP Administrator Training	**Problem:** The floodplain administrator for the village is in need of training and resources to understand the NFIP program and flooding in the village.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Village Budget	Increase education and training on floods	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.								in the village				

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.3-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Village of Avon-001	Retention Basins and Storage Areas Near Route 5/20	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2022-Village of Avon-002	Stormwater Management Plan	1	1	1	1	0	1	1	0	0	1	1	1	0	0	9	High
2022-Village of Avon-003	Develop, Train and Test Emergency Plan	1	1	1	1	0	1	1	0	0	1	1	1	0	0	9	High
2022-Village of Avon-004	Develop COOP/COG Plan	1	1	1	1	0	1	1	0	0	1	1	1	0	0	9	High
2022-Village of Avon-005	Expand Education and Outreach Program	1	1	1	1	0	1	1	0	0	1	1	1	0	0	9	High
2022-Village of Avon-006	Hydrilla Management Analysis and Control	1	1	1	1	0	0	0	0	0	1	0	1	0	0	6	Medium
2022-Village of Avon-007	Update Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High
2022-Village of Avon-008	NFIP Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.3.9 Action Worksheets

The following action worksheets have been developed by the Village of Avon to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Retention Basins and Storage Areas Near Route 5/20		
Project Number:	2022-Village of Avon-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The area near Route 5/20 by CVS is prone to flooding due to lack of retention basins and water storage.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop retention basins and storage areas with controlled outlets to alleviate repetitive flooding issues, especially near Route 5/20 by the CVS store.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	20-year	**Estimated Benefits (losses avoided):**	High
Useful Life:	15 years	**Goals Met:**	1, 2
Estimated Cost:	$100,000+	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 5 years	**Potential Funding Sources:**	Water Quality Improvement Project (WQIP) Program, Village Budget
Responsible Organization:	Sewer and Water, Soil and Water, County Sheriff, Local Police	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Develop retention basins	$100,000+	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Retention Basins and Storage Areas Near Route 5/20	
Project Number:	2022-Village of Avon-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	To be completed within 5 years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet				
Project Name:	Expand Education and Outreach Program			
Project Number:	2022-Village of Avon-005			
Risk / Vulnerability				
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm			
Description of the Problem:	The current outreach program run by the Village does not have information regarding best management practices to address stormwater runoff from farmland.			
Action or Project Intended for Implementation				
Description of the Solution:	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.			
Is this project related to a Critical Facility?	Yes ☐	No ☒		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	High	
Useful Life:	10 years	**Goals Met:**	1, 2, 3	
Estimated Cost:	$20,000	**Mitigation Action Type:**	SIP	
Plan for Implementation				
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award	
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	Village Budget, FEMA HMGP	
Responsible Organization:	County Planning Department, County Office of Emergency Management, Municipality	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation	
Three Alternatives Considered (including No Action)				
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**	
	No Action	$0	Problem continues.	
	Use generic materials regarding BMPs for runoff	<$1,000	Not specific to the Village; may not apply to concerns	
	Expand program	$20,000	Selected project	
Progress Report (for plan maintenance)				
Date of Status Report:				
Report of Progress:				
Update Evaluation of the Problem and/or Solution:				

Evaluation and Prioritization		
Project Name:	Expand Education and Outreach Program	
Project Number:	2022-Village of Avon-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Increases awareness of residents regarding runoff
Property Protection	1	Provides information on how to reduce runoff and protect structures from stormwater flooding
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	0	
Legal	1	
Fiscal	1	Can be funded through village budget
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm, Severe Winter Storm
Timeline	1	To be completed within 3 years
Agency Champion	0	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.4 TOWN OF CALEDONIA

This section presents the jurisdictional annex for the Town of Caledonia. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Caledonia and who in the Town participated in the planning process; an assessment of the Town of Caledonia's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.4.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Caledonia's hazard mitigation plan primary and alternate points of contact. The Town of Caledonia followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: the Highway Department, Code Enforcement, and Town Supervisor. The Highway Superintendent represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Caledonia's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.4-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Mark Schroeder, Highway Superintendent Address: 3109 Main Street, Caledonia, NY 14423 Phone Number: (585) 538-2288 Email: calhighway@frontier.com	Name/Title: Daniel Pangrazio, Town Supervisor Address: 3109 Main Street, Caledonia, NY 14423 Phone Number: (585) 538-4927 Email: supervisor@townofcaledonia.org
NFIP Floodplain Administrator	
Name/Title: Tom Perkins, Code Officer Address: 3109 Main Street, Caledonia, NY 14423 Phone Number: 585-538-4927 Email: zoning@townofcaledonia.org	

9.4.2 Municipal Profile

The Town has an area of 38.92 square miles. It is bordered on the east by the Towns of Rush and Avon, on the north by the Town of Wheatland, on the west by the Towns of LeRoy and Pavilion, and on the south by the Town of York. The Town of Caledonia is the northernmost town in Livingston County and only 20 miles from downtown Rochester. According to the U.S. Census, the 2020 population for the Town of Caledonia was 2,074, a 0.97 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 6.1 percent of the population is 5 years of age or younger and 16.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.4.3 Jurisdictional Capability Assessment and Integration

The Town of Caledonia performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.4.3). The Town of Caledonia's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Caledonia. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.4-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Chapter 54 – Building Construction and Fire Prevention	State and Local	Building & Zoning
How does this reduce risk? *Prevents questions regarding regulations in the municipality*					
Zoning/Land Use Code	Yes	No	Chapter 130 - Zoning	Local	Town, Planning, and Zoning Boards
How does this reduce risk? Regulates and restricts the height, number of stories and size of buildings and other structures; the percentage of occupancy of lots and parcels of land that may be occupied; the size of yards, courts and open spaces; the density of population; the location and use of buildings, structures and land for trade, industry, residence or other purposes and to establish zones or districts in the Town of Caledonia, the Town Board does ordain the following regulations.					
Subdivision Ordinance	Yes	No	Chapter 113	Local	Town Board
How does this reduce risk? It is the policy of the Caledonia Planning Board to consider land subdivision plats as part of a plan for the orderly, efficient and economical development of the Town. This means, among other things, that land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood or other menace and that proper provisions shall be made for drainage, water supply, sewerage, natural features and other needed improvements.					
Site Plan Ordinance	Yes	No	Chapter 130 - Zoning	Local	Town, Planning, and Zoning Boards
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
The Town Planning Board goes through a site plan review process as outlined in the zoning code and is a formal review of a project or proposal for development, redevelopment, etc. or for chances of use at a given location.					
Stormwater Management Ordinance	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	-	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No	-	-	-
How does this reduce risk?					
Environmental Protection Ordinance	No	No	-	-	-
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 74 – Flood Damage Prevention	Federal, State, County and Local	Planning Board
How does this reduce risk? Promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas; requires all new construction or substantial improvements in the SFHA be elevated at or above the BFE; however, this does not meet the state minimum requirement and has been identified as a mitigation action for the Town.					
Wellhead Protection	No	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	No	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Other	No	No	-	-	-
Planning Documents					
Master Plan	Yes	No	Comprehensive Plan – 1964	Local	Planning Board
How does this reduce risk?					
Capital Improvement Plan	Yes	No	Annual Budget	Local	Town Board
How does this reduce risk? Part of the municipal's annual budget and provides capital projects to be completed in the town					
Disaster Debris Management Plan	No	No	-	-	-
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Plan	No	No	-	-	-
How does this reduce risk? Site Plan Review					
Open Space Plan	No	No	-	-	-
How does this reduce risk?					
Urban Water Management Plan	No	No	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	No	-	-	-
How does this reduce risk?					
Economic Development Plan	No	No	-	-	-
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	No	-	-	-
How does this reduce risk?					
Transportation Plan	No	No	-	-	-
How does this reduce risk?					
Agriculture Plan	-	No	2019		Planning Board
How does this reduce risk? Farmland Protection					
Climate Action/ Resiliency/Sustainability Plan	No	No	-	-	-
How does this reduce risk?					
Tourism Plan	No	No	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	No	-	-	-
How does this reduce risk?					
Other	No	No	-	-	-
Response/Recovery Planning					
Emergency Operations Plan	No	No	-	-	-
How does this reduce risk?					
Strategic Recovery Planning Report	No	No	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Continuity of Operations Plan	No	No	-	-	-
How does this reduce risk?					
Public Health Plan	No	No	-	-	-
How does this reduce risk?					
Other	No	No	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Caledonia to oversee and track development.

Table 9.4-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	-
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Caledonia and their current responsibilities which contribute to hazard mitigation.

Table 9.4-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Planning Board
Zoning Board of Adjustments	Yes	Zoning Bord of Appeals
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Town Highway Department
Construction/Building/Code Enforcement Department	Yes	Town Building and Zoning
Emergency Management/Public Safety Department	No	Performed at the county level
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Highway Department

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Mutual aid agreements	Yes	Livingston County
Human Resources Manual	No	-
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Town
Engineers or professionals trained in building or infrastructure construction practices	Yes	Town
Planners or engineers with an understanding of natural hazards	Yes	Town
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	N/Y	Town (N) Livingston County (Y)
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	Yes	Livingston County
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Caledonia.

Table 9.4-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Caledonia.

Table 9.4-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Town Supervisor
Personnel skilled or trained in website development	Yes	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	N/A	-
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	-
Natural disaster/safety programs in place for schools	Yes	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Caledonia.

Table 9.4-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	NP	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	N/A	N/A
NYSDEC Climate Smart Community	NP	N/A	N/A
StormReady Certification	NP	N/A	N/A
Firewise Communities classification	NP	N/A	N/A
Other	NP	N/A	N/A

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words,

it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.4-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.4.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.4-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Caledonia	1	4	$17,910.83	N/A	N/A	1

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	-
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	0
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Caledonia	1	4	$17,910.83	N/A	N/A	1

NFIP Topic	Comments
What local department is responsible for floodplain management?	Yes
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	0
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Inspection, Engineer Review
What are the barriers to running an effective NFIP program in the community, if any?	-
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	-
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 74 Flood Management Prevention 05/12/1994
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.4.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- Route 5 & 20, Route 36, County Roads to open major routes

Sheltering

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
School	99 North St	-	-	Y	Y	Limited	N/A
Jones Hall		-	-	Y	Y	Limited	N/A
Fire Hall	Main St	-	-	Y	Y	Limited	N/A

Highway Dept	Middle Road	-	-	N	Y	Limited	N/A

Temporary Housing

The Town of Caledonia has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Caledonia did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.4.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.4-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.4-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	4	0	1	0	0	0	3	0	2	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	0	0	4	0	1	0	0	0	3	0	2	0	1	0
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														
None identified														
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years														
None identified														

SFHA *Special Flood Hazard Area (1% flood event)*

** Only location-specific hazard zones or vulnerabilities identified.*

9.4.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section

5.4 (Hazard Ranking) for a detailed summary for the Town of Caledonia's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Caledonia has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.4-1. Town of Caledonia Flood and Mine Subsidence Hazard Areas

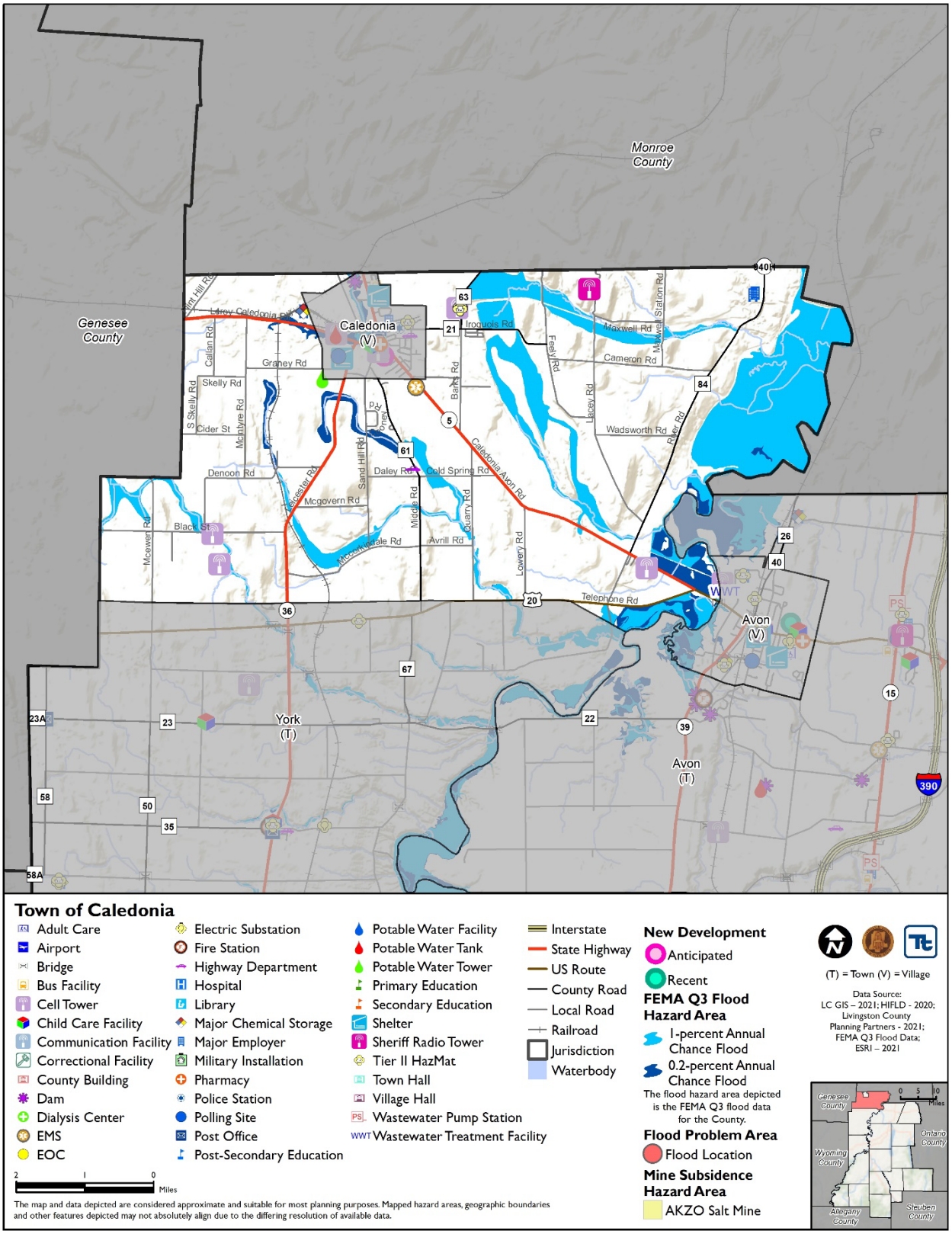


Figure 9.4-2. Town of Caledonia Hazmat and Wildfire Hazard Areas

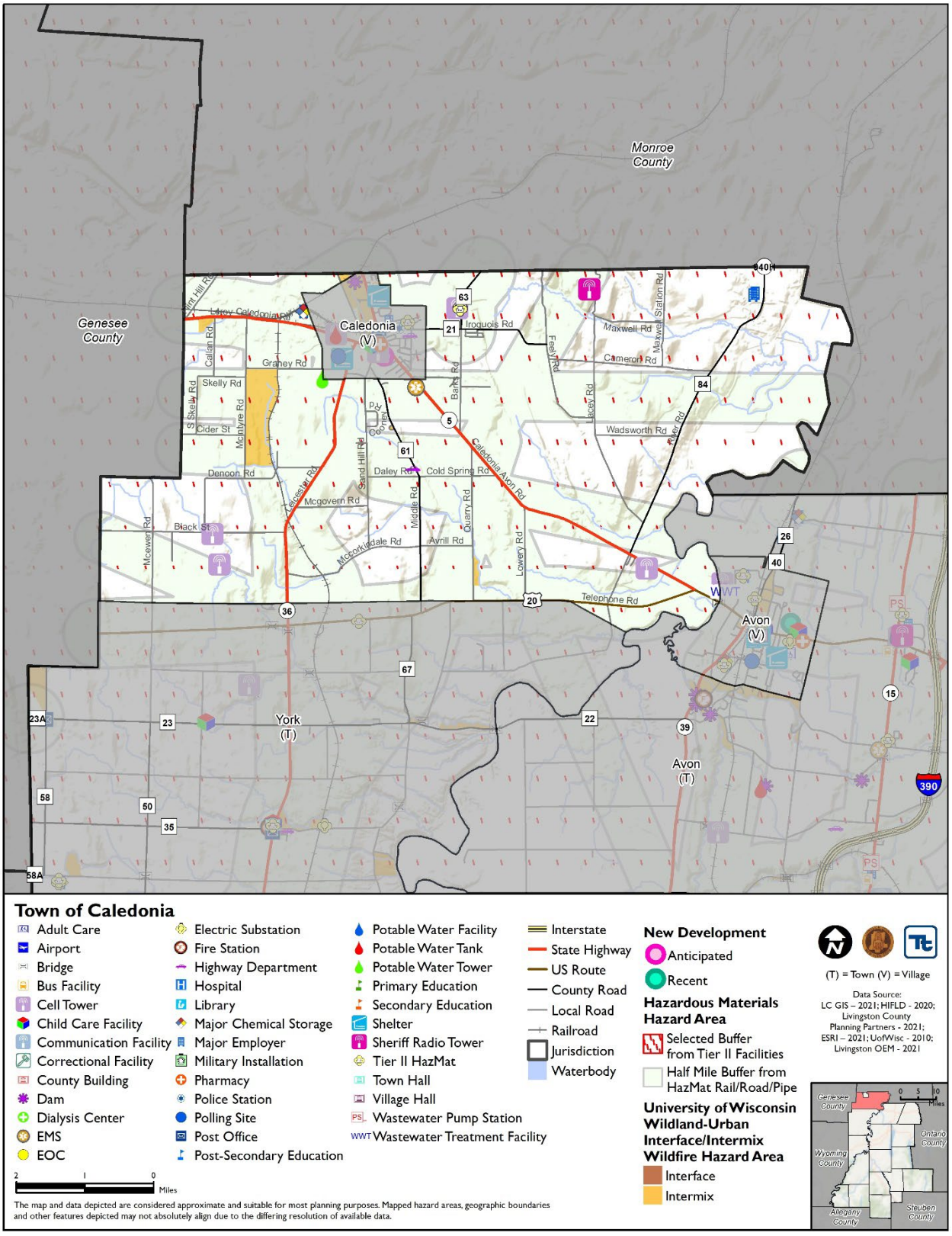
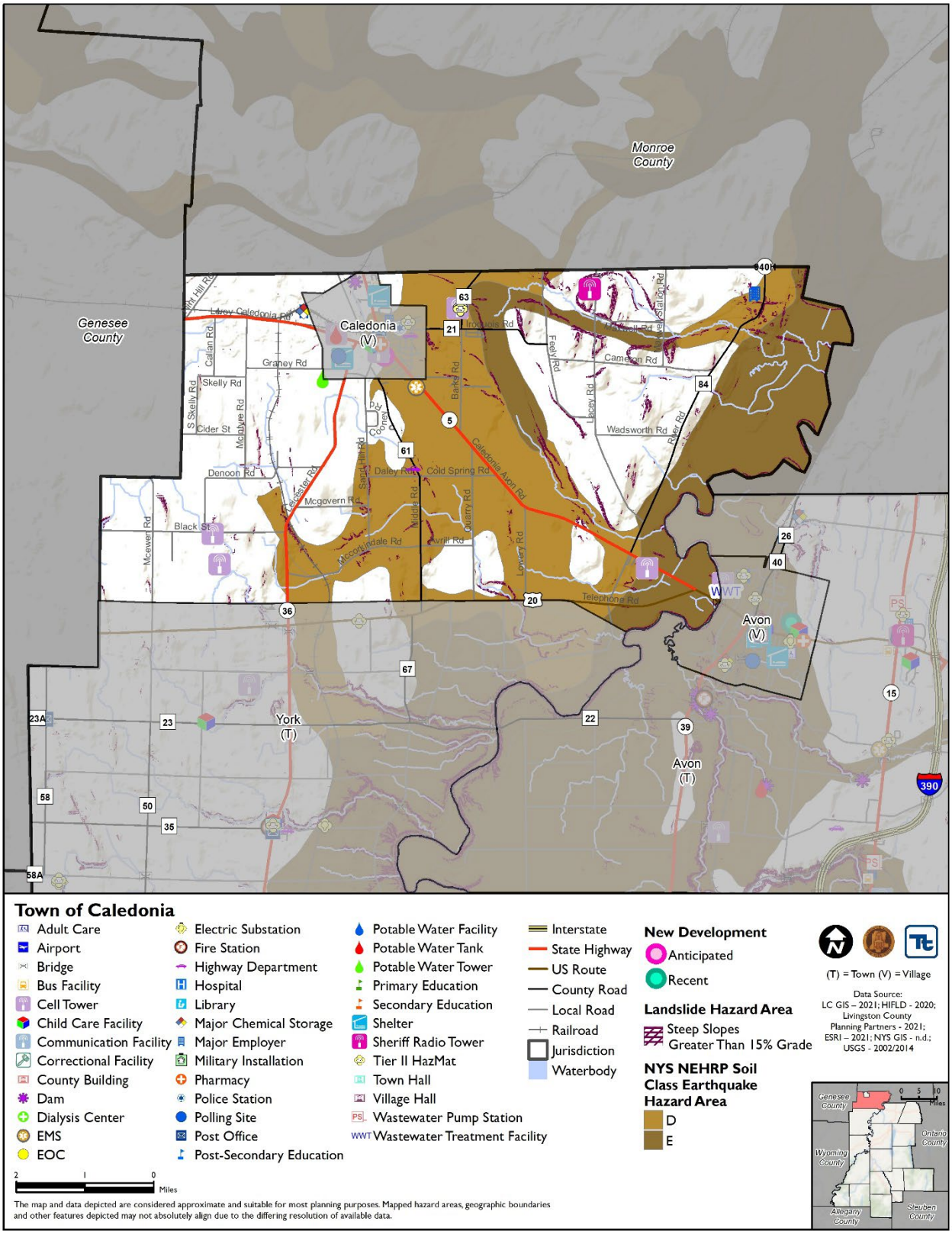


Figure 9.4-3. Town of Caledonia Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Caledonia's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.4-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.4-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Caledonia's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Caledonia ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Caledonia. The Town of Caledonia has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.4-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.4-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
No critical facilities in the floodplain				

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Caledonia's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Caledonia has identified the following vulnerabilities within their community:

- The Town lacks an updated flood damage prevention ordinance.
- The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town.
- Trees located on municipal property are not maintained and include many trees that have died or beginning to die. During a wind event or heavy snow, trees and tree branches can break and fall. This poses a threat to property, buildings, and infrastructure. The municipality currently does not have a proper tree maintenance program in place and is need of routine tree inspections, maintenance, and/or removal.
- The local town hall is a critical facility providing administrative and local government services, Emergency Operations support, and communications support to the County. Loss of power forces the Town to transfer operations to other locations while operating at a greatly diminished capacity.
- The Town's cellular phone towers are critical structures that ensure continuity of communications during and outside of hazard events. Loss of power interrupts consistent communications and can delay hazard response procedures until redundant communications equipment is accessed. In addition, loss of power to communications and cell towers increases the risk of public safety as residents may not have alternate means of communication to notify hospitals and other response personnel of emergency needs.

9.4.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.4-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TC-1	Acquire a low-bed trailer to transport bulldozer and equipment and to haul away debris	All	None provided in the 2015 HMP	County Highway	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-2	Prepare a 'master emergency response plan' for each town to coordinate activities of all emergency response agencies in the event of a disaster. These town-wide plans should be closely integrated with the County emergency response plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-3	Encourage/lobby New York State departments and agencies to discount/reduce fees for license registrations for emergency response personnel, such as volunteer firefighters, ambulance workers, etc.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-4	Provide backup power generators for town halls	All	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-5	Provide backup power generators for: Cellular phone towers	All	None provided in the 2015 HMP	County Planning, Public Works, Soil & Water, Water & Sewer	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TC-6	Improve drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Flood	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-7	Security upgrades for critical facilities and community assets	All	None provided in the 2015 HMP	Sewer & Water	No Progress	1. 2. 3.	1. Discontinue 2. - 3. -
TC-8	Upgrade/install special security features for reservoirs, wells, pump stations and water towers, including fencing and cameras	All	None provided in the 2015 HMP	Sewer & Water	No Progress	1. 2. 3.	1. Discontinue 2. - 3. -
TC-9	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-10	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-11	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county-specific action and does not apply to the Town.
TC-12	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TC-13	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties in the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-14	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-15	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TC-16	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	"All		Town Supervisor's office	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-17	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Town NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-18	Develop and implement a post-event damage assessment program, including these elements:	Flood	None provided in the 2015 HMP	Town NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-19	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-20	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TC-21	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood, Wildfire	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-22	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-23	Work with County and power companies to identify roads within the Town considered “critical” would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-24	Enhance or expand tree maintenance program and coordinate with utility companies.	All Hazards	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town
TC-25	Work with utility companies and developers to bury utility lines underground, wherever possible.	Utility Failure	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.4-14, the Town of Caledonia did not complete any additional mitigation projects/activities since the 2015 HMP

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Caledonia participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.4-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought										
Earthquake										
Flood										
Hazardous Materials										
Invasive Species										
Landslide										
Mine Subsidence										
Pandemic										
Severe Storm										
Severe Winter Storm										
Terrorism										
Utility Failure										
Wildfire										

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.4-16 summarizes the comprehensive-range of specific mitigation initiatives the Town of Caledonia would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.4-16. Summary of Prioritization of Actions

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Caledonia-001	Update Flood Damage Prevention Ordinance	**Problem**: The Town lacks an updated flood damage prevention ordinance. **Solution**: The Town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Town Board	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Caledonia-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR
2022-Town of Caledonia-003	Tree Maintenance Program	**Problem**: Trees located on municipal property are not maintained and include many trees that have died or beginning to die. During a wind event or heavy snow, trees and tree branches can break and fall. This poses a threat to property, buildings, and infrastructure. The municipality currently does not have a proper tree maintenance program in place and is need of routine tree inspections, maintenance, and/or removal. **Solution**: The municipality will develop a tree maintenance program that will include routine inspections of trees located in the municipal right-of-way. During the inspection, the municipality will identify trees that are in need of trimming or removal. Once	No	No	Severe Storm, Severe Winter Storm, Invasive Species	1, 2	Within 1 year then ongoing	Highway Department	Town Budget, HMGP, CHIPs	Reduction in falling trees; reduce or eliminate downed power lines during storms	$5,000+	Medium	NSP	PP, ES, NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		identified, a schedule of maintenance and/or removal will be developed and the municipality will begin work. This will help reduce tree damage, road closures, utility outages, and reduce/eliminate damage to structures and infrastructure.												
2022-Town of Caledonia-004	Provide backup power generators for Town Hall	**Problem:** The local town hall is a critical facility providing administrative and local government services, Emergency Operations support, and communications support to the County. Loss of power forces the Town to transfer operations to other locations while operating at a greatly diminished capacity. **Solution:** Add a permanent generator to be installed at the Town of Caledonia Town Hall (1 total). The generator will have sufficient capacity to allow the Town to quickly respond to a variety of disasters, e.g., Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others, by keeping the local government administrative center open. This also offers an additional option for emergency operations center and communications needs. It will address community needs while ensuring the Town Hall's continuity during routine power or brown out situation.	Yes	No	All	1, 2	Within 1 year	Town Supervisor, Town Board	FEMA HMGP, Town Budget	Continuity of operations	$40,000+	High	SIP	ES
2022-Town of Caledonia-005	Provide backup power generators for cellular phone towers	**Problem**: The Town's cellular phone towers are critical structures that ensure continuity of communications during and outside of hazard events. Loss of power interrupts consistent communications and can delay hazard response procedures until redundant communications equipment is	Yes	No	All	1, 2	Within 1 year	Town Supervisor, Town Board	FEMA HMGP, Town Budget	Continuity of operations; extended cell use during outages	$20,000+	Medium	SIP	ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		accessed. In addition, loss of power to communications and cell towers increases the risk of public safety as residents may not have alternate means of communication to notify hospitals and other response personnel of emergency needs. **Solution**: Add a permanent generator to be installed at the Town of Caledonia cellular phone towers (minimum of 1). The generator will have sufficient capacity to allow the Town to quickly respond to a variety of disasters, e.g., Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others, by ensuring continuous communications between emergency response personnel, emergency operations center personnel, and government personnel during a hazard event. This also ensure that local residents will be able to contact emergency response personnel in the event of an accident or other safety concern.												

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

NFIP *National Flood Insurance Program*
OEM *Office of Emergency Management*

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.4-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Caledonia-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High
2022-Town of Caledonia-002	NFIP Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High
2022-Town of Caledonia-003	Tree Maintenance Program	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
2022-Town of Caledonia-004	Provide backup power generators for Town Hall	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2022-Town of Caledonia-005	Provide backup power generators for cellular phone towers	1	1	1	1	0	0	0	0	0	1	1	1	1	0	8	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.4.9 Action Worksheets

The following action worksheets have been developed by the Town of Caledonia to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Backup Power for Town Hall		
Project Number:	2022-Town of Caledonia-004		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	High wind events, thunderstorms, flooding, and winter storms have caused the widespread loss of electrical power, including power to local schools, residences, and utility providers. This loss of power demonstrates the Town's vulnerability to weather-related and other hazards for those critical facilities which do not have redundancy in power. The local town hall is a critical facility providing administrative and local government services, Emergency Operations support, and communications support to the County. Loss of power forces the Town to transfer operations to other locations while operating at a greatly diminished capacity.		
Action or Project Intended for Implementation			
Description of the Solution:	Add a permanent generator to be installed at the Town of Caledonia Town Hall (1 total). The generator will have sufficient capacity to allow the Town to quickly respond to a variety of disasters, e.g., Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others, by keeping the local government administrative center open. This also offers an additional option for emergency operations center and communications needs. It will address community needs while ensuring the Town Hall's continuity during routine power or brown out situation.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	The Town will be better able to ensure continuity of local government and administrative services, as well as provide communications and emergency operations support. This will prevent dangerous delays in hazard response, tactical decision-making, and evacuation needs during a hazard event.
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$40,000+	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$10,000+	Weather dependent, may not be best solution for long-term outages
	Install generator	$40,000+	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of Caledonia-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 1 year
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Provide backup power generators for cellular phone towers.		
Project Number:	2022-Town of Caledonia-005		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	High wind events, thunderstorms, flooding, and winter storms have caused the widespread loss of electrical power, including power to local schools, residences, and utility providers. This loss of power demonstrates the Town's vulnerability to weather-related and other hazards for those critical facilities which do not have redundancy in power. The Town's cellular phone towers are critical structures that ensure continuity of communications during and outside of hazard events. Loss of power interrupts consistent communications and can delay hazard response procedures until redundant communications equipment is accessed. In addition, loss of power to communications and cell towers increases the risk of public safety as residents may not have alternate means of communication to notify hospitals and other response personnel of emergency needs.		
Action or Project Intended for Implementation			
Description of the Solution:	Add a permanent generator to be installed at the Town of Caledonia cellular phone towers (minimum of 1). The generator will have sufficient capacity to allow the Town to quickly respond to a variety of disasters, e.g., Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others, by ensuring continuous communications between emergency response personnel, emergency operations center personnel, and government personnel during a hazard event. This also ensure that local residents will be able to contact emergency response personnel in the event of an accident or other safety concern.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	The Town will be better able to ensure continuity of local government and administrative services, as well as provide communications and emergency operations support. This will prevent dangerous delays in hazard response, tactical decision-making, and evacuation needs during a hazard event, and it will ensure that residents are able to access life safety and medical treatment needs.
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$20,000+	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town Supervisor, Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$10,000+	Weather dependent, may not be best solution for long-term outages
	Install generator	$20,000+	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Provide backup power generators for cellular phone towers.	
Project Number:	2022-Town of Caledonia-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	0	
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 1 year
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	

9.5 VILLAGE OF CALEDONIA

This section presents the jurisdictional annex for the Village of Caledonia. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Village of Caledonia and who in the Village participated in the planning process; an assessment of the Village of Caledonia's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.5.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Caledonia's hazard mitigation plan primary and alternate points of contact. The Village of Caledonia followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: Public Works and Village Clerk. The Mayor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Village of Caledonia's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.5-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Scott DiLiberto, Mayor Address: 3095 Main St., Caledonia, NY 14423 Phone Number: 585-538-6565 Email: calmayor@frontier.net	Name/Title: Ann Marie Grattan, Clerk-Treasurer Address: 3095 Main St., Caledonia, NY 14423 Phone Number: 585-538-6565 Email: amgrat@frontier.net
NFIP Floodplain Administrator	
Name/Title: Chris Buckley, Working Foreman Address: 3095 Main St., Caledonia, NY 14423 Phone Number: 585-538-2253 Email: cfbuckley@frontier.net	

9.5.2 Municipal Profile

The According to the U.S. Census Bureau, the Village has a total land area of 2.1 square miles. It is bordered on the East, West, and South by the Town of Caledonia, and to the North by the Town of Wheatland in Monroe County. The Village of Caledonia is located in the northern area of Livingston County and is only 25 miles from downtown Rochester. According to the U.S. Census, the 2020 population for the Village of Caledonia was 2,080, a 5.5 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 6.1 percent of the population is 5 years of age or younger and 16.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.5.3 Jurisdictional Capability Assessment and Integration

The Village of Caledonia performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.5.3). The Village of Caledonia's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Caledonia. Section 6 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.5-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Chapter 77 & 113	State and Local	CEO
How does this reduce risk? Provides requirements and standards for development in the village					
Zoning/Land Use Code	Yes	No	Chapter 215	Local	CEO
How does this reduce risk? Regulate and restrict the height, number of stories and size of buildings and other structures; the percentage of occupancy of lots and parcels of land that may be occupied; the size of yards, courts and open spaces; the density of population; the location and use of buildings, structures and land for trade, industry, residence or other purposes; and to establish zones or districts in the Village of Caledonia, the Village Board does ordain the following regulations.					
Subdivision Ordinance	Yes	No	Chapter 186	Local	CEO
How does this reduce risk? It is the policy of the Planning Board to consider land subdivision plats as part of a plan for the orderly, efficient and economical development of the village. This means, among other things, that land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood or other menace, and that proper provisions shall be made for drainage, water supply, sewerage and other needed improvements.					
Site Plan Ordinance	Yes	No	Chapter 186	Local and County	CEO
How does this reduce risk? Part of the zoning procedures to ensure it meets local ordinances					
Stormwater Management Ordinance	No	-	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? Flood damage protection					
Post-Disaster Recovery/ Reconstruction Ordinance	No	-	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	-	-	-	-
How does this reduce risk?					
Environmental Protection Ordinance	No	-	-	-	-
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 121	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk? Minimize public and private losses due to flood conditions in specific areas; requires all new construction or substantial improvements in the SFHA be elevated at or above the BFE; however, this does not meet the state minimum requirement and has been identified as a mitigation action for the village.					
Wellhead Protection	Yes	No	August 1998	Local	Village Board
How does this reduce risk?					
Emergency Management Ordinance	No	-	-	-	-
How does this reduce risk? As per Livingston County Emergency Management Office					
Climate Change Ordinance	No	-	-	-	-
How does this reduce risk?					
Other		-			
Planning Documents					
Comprehensive Plan	Yes	No	February 2016	Local	Village Board
How does this reduce risk? The purpose of the Village of Caledonia Comprehensive Plan is to guide local officials and community members in making decisions that will affect the future of the Village. Future Village actions that will be based on the policies and recommendations in the Plan include revisions to zoning and other local laws and regulations, capital budgeting, and providing services to the community. The Comprehensive Plan addresses the full spectrum of issues facing the Village and balances competing needs and interests in the community.					
Capital Improvement Plan	Yes	No			Village Board
How does this reduce risk?					
Disaster Debris Management Plan	No	-	-	-	-
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Plan	No	-	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Open Space Plan	No	-	-	-	-
How does this reduce risk?					
Urban Water Management Plan	No	-	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	-	-	-	-
How does this reduce risk?					
Economic Development Plan	Yes	No	2016 Comprehensive Plan	Local	Village Board
How does this reduce risk? Part of the Village's Comprehensive Plan					
Shoreline Management Plan	No	-	-	-	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	-	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	-	-	-	-
How does this reduce risk?					
Transportation Plan	Yes	No	2016 Comprehensive Plan	Local	Village Board
How does this reduce risk? Part of the Village's Comprehensive Plan					
Agriculture Plan	No	-	-	-	-
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-	-
How does this reduce risk?					
Tourism Plan	No	-	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	Yes	No	2016 Comprehensive Plan	Local	Village Board
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	No	-	-	-	-
How does this reduce risk?					
Strategic Recovery Planning Report	No	-	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	-	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Public Health Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Caledonia to oversee and track development.

Table 9.5-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Code Enforcement Office
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Caledonia and their current responsibilities which contribute to hazard mitigation.

Table 9.5-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Rhett Clark
Zoning Board of Adjustments	Yes	William Hughes
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	DPW Street & Water
Construction/Building/Code Enforcement Department	Yes	Code Enforcement Officer
Emergency Management/Public Safety Department	Yes	Police for Public Safety
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	DPW Street & Water
Mutual aid agreements	No	-
Human Resources Manual	No	-
Other	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	MRB Group
Engineers or professionals trained in building or infrastructure construction practices	Yes	MRB Group
Planners or engineers with an understanding of natural hazards	Yes	MRB Group
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	No	
Grant writer(s)	No	Through the County
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Village of Caledonia.

Table 9.5-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Unsure
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes if funds available
Open Space Acquisition funding programs	Yes if funds available
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Caledonia.

Table 9.5-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	-
Personnel skilled or trained in website development	Yes	Seth Graham Design
Is hazard mitigation information available on your website?	No	However it can be if needed.
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning Systems / Services (mass notification system, outdoor warning signals)	No	-
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Village of Caledonia.

Table 9.5-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4/4	April 9, 2021
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
NYSDEC Climate Smart Community	No	-	-
StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other	No	-	-

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.5-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.5.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.5-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Caledonia	9	1	$0.00	N/A	N/A	9

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	FEMA Firm Map Panel 36081 001 A – June 1, 1980
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Caledonia	9	1	$0.00	N/A	N/A	9

NFIP Topic	Comments
NFIP Compliance	
What local department is responsible for floodplain management?	Village Code Enforcement Officer
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Possibly
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	The Village Retains MRB Group for Engineering design.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Site Plan Review
What are the barriers to running an effective NFIP program in the community, if any?	Funding
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 121 – Flood Damage Prevention
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	At this time, it does not meet the state minimum bottom floor being elevated 2 feet above the BFE
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.5.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Village uses the main roads in and out of the community as evacuation routes if needed.

Sheltering

The Village of Caledonia has not identified sites for sheltering residents after a disaster. In the event sheltering is needed, the Village will work with the County to find suitable locations.

Temporary Housing

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Jones Hall	366 Leicester	Yes	Unsure	Building	Yes
Caledonia Mumford School	99 North Street	Yes	Unsure	Building	Yes
One Technology	1 Technology Place	Yes	Unsure	Parking Lot	Yes

Permanent Housing

While the Village of Caledonia did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Village can utilize this analysis to identify potential locations.

9.5.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.5-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Village is not expected to impact vulnerability to hazards.

Table 9.5-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	-	-	-	-	1	-	4	-	-	-	-	-	1	-
Multi-Family	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (commercial, mixed-use, etc.)	-	-	-	-	-	-	2	-	2	-	-	-	1	-
Total Permits Issued	-	-	-	-	1	-	6	-	2	-	-	-	1	-
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or**		**Known Hazard Zone(s)***		**Description / Status of Development**					

			block and lot)		
Recent Major Development and Infrastructure from 2015 to Present					
One Technology	Commercial	1	1 Technology Place	None	Approved by Planning & Zoning Board
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.5.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Caledonia's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Caledonia has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.5-1. Village of Caledonia Flood and Mine Subsidence Hazard Areas

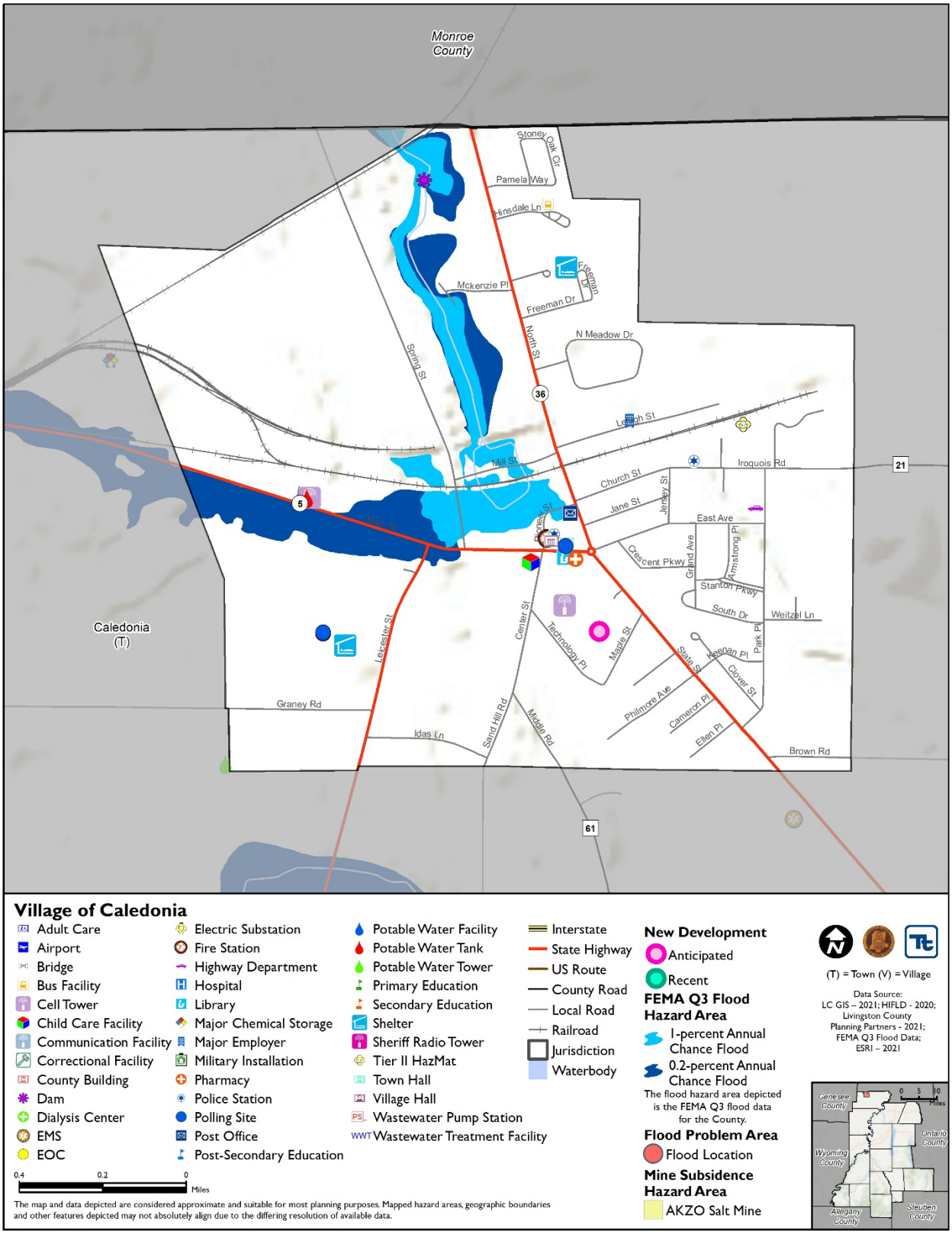


Figure 9.5-2. Village of Caledonia Hazmat and Wildfire Hazard Areas

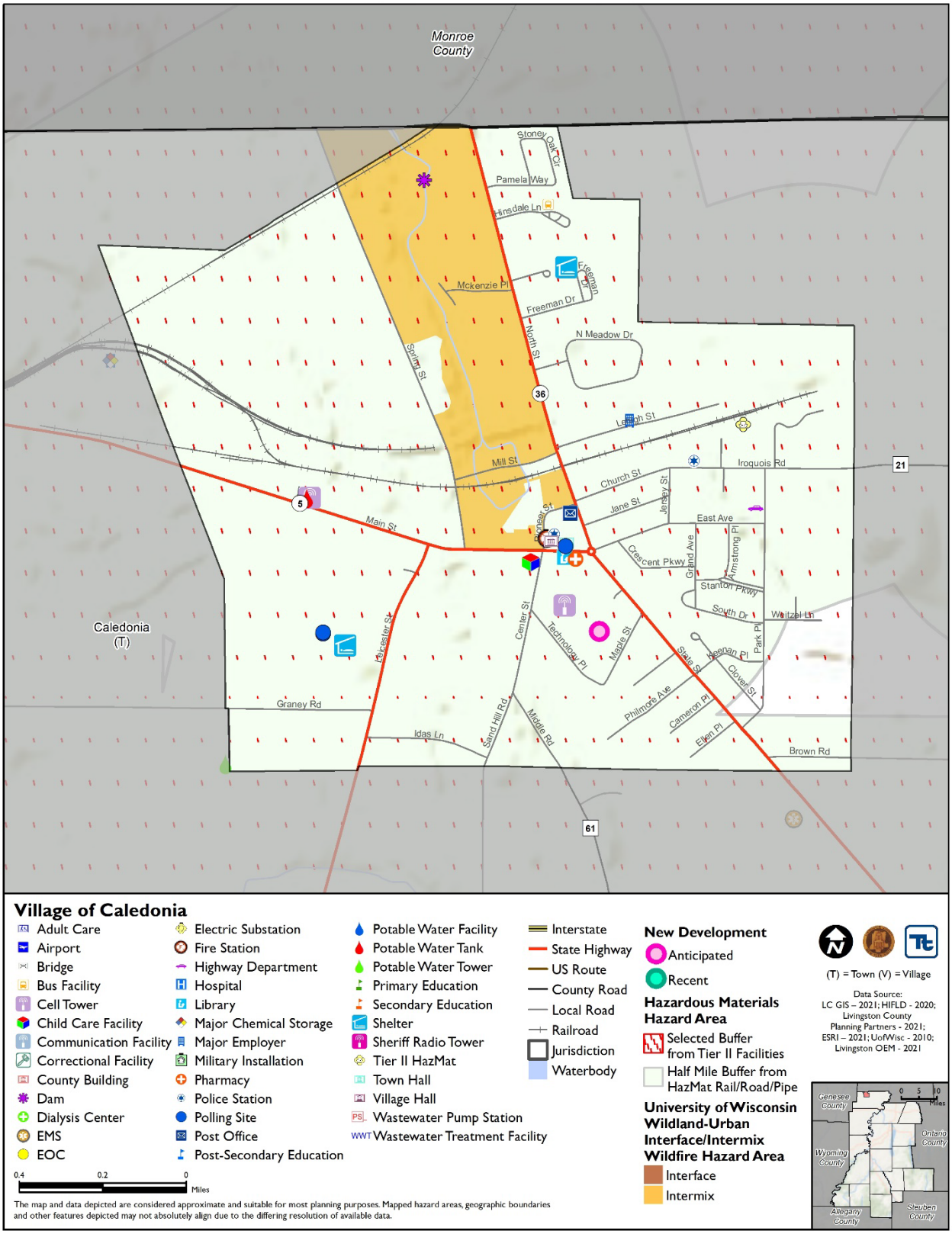
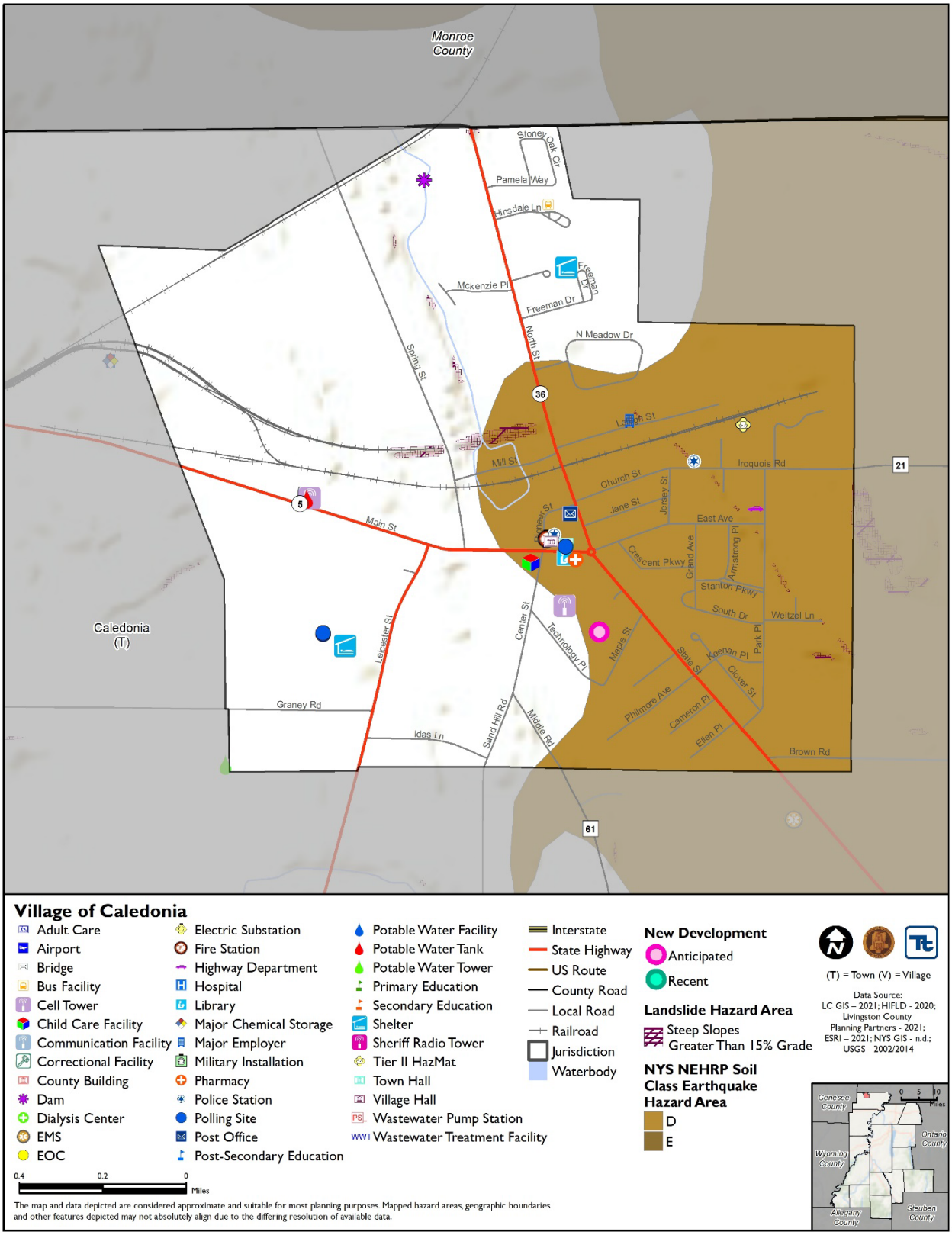


Figure 9.5-3. Village of Caledonia Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Caledonia's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.5-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.5-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.
9/21/2018	Lightning	-	Facility/Structural Damage to the Police Station & Fire Hall Roof.

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Caledonia's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Village of Caledonia ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Caledonia. The Village of Caledonia has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.4-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.5-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
NYS CONSERVATION DEPT DAM	Dam	X	X	

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Caledonia's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Caledonia has identified the following vulnerabilities within their community:

- West Main Street between Village line and Spring Street is a flood-prone area that can affect homes and business's.
- Graney Road is a flood-prone area with the potential to affect homes.
- Pamela Way is a flood-prone area with the potential to affect homes.
- Spring Street Culvert. The failure of the culvert has the potential to affect traffic and the flow of the Spring Creek.
- Caledonia Commons is a flood-prone area that has the potential to affect business and traffic.

9.5.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.5-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VC-1	Develop retention basins and storage areas with controlled outlets to alleviate repetitive flooding issues.	Flood, Severe Storm	None provided in the 2015 HMP	SWCD	No Progress	1. 2. 3.	1. Discontinue 2. - 3. No problem areas.
VC-2	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. No working farms w/in village limits.
VC-3	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Our only water way is sourced from a natural spring.
VC-4	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Our only water way is sourced from a natural spring.
VC-5	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Nothing identified at this time.
VC-6	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. No at risk properties identified currently for 2021.
VC-7	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on	All Hazards	None provided in the 2015 HMP	Village Supervisor's Office	No Progress	1. 2. 3.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.						3. Should refer to Livingston County Emergency Management Office.
VC-8	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Choose an item.	1. 2. 3.	1. Discontinue 2. - 3. Non-applicable
VC-9	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. Currently ongoing when available.
VC-10	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. - 3. No areas identified within the village limits.
VC-11	Develop and implement a post-event damage assessment program, including the following elements:	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. No current areas identified.
VC-12	· Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Non-applicable

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	See following related Community Assistance Visit (CAV) initiative.						
VC-13	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. - 3. At this time we are unaware of CRS, CAV and CAC.
VC-14	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Not applicable within the village.
VC-15	Develop and maintain mapping of all natural hazard risk areas in the Village, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Not needed within the village.
VC-16	Work with County and power companies to identify roads within the Village considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. We can identify through roads. 3.
VC-17	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. Ongoing with DPW and utilities.
VC-18	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. Non-applicable

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.4-14, the Village of Caledonia did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Caledonia participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.5-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought										
Earthquake										
Flood	X	X			X	X		X		
Hazardous Materials	X				X		X			
Invasive Species										
Landslide										
Mine Subsidence										
Pandemic										
Severe Storm	X	X			X	X		X		
Severe Winter Storm										
Wildfire										
Terrorism										
Utility Failure										

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.5-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Caledonia would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.5-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Caledonia-001	Stormwater Flooding in the Village	**Problem**: Stormwater flooding throughout the Village **Solution**: Conduct a feasibility study to identify areas of concern. Once identified, the Village will replace any undersized stormwater piping & replace any deteriorating culverts.	No	No	Flood, Severe Storm	1, 2	Within 2 years	Public Works	FEMA HMGP and FMA, Village Budget	Reduce flood concerns; increase stormwater capacity	$60,000+	Medium	LPR, SIP	PR, PP, NR
2022-Village of Caledonia-002	Hazmat Concerns with Jones Chemicals	**Problem**: The Village has concerns with hazmat spills associated with Jones Chemicals. A spill at this facility could lead to contamination and health hazards for the community. **Solution**: Work with Jones Chemicals to form an emergency plan should a spill occur in the Village.	Yes	No	Hazardous Materials	1, 2	Within 1 year	Village Board, Emergency Services, Jones Chemicals	Village Budget	Identify potential hazards; implement procedures in case of spill	Staff Time	Medium	LPR	PI, PR
2022-Village of Caledonia-003	Spring Street Culvert	**Problem**: Spring Street Culvert that crosses the Spring Creek Headwaters is in need of upgrading. **Solution**: Three-sided concrete box culvert that would provide ample stream flow during flooding events. It would also provide a natural stream bottom for trout spawning and other critical stream life.	No	No	Flood, Severe Storm	1, 2	Within 2 years	Public Works	FEMA HMGP and FMA, BridgeNY, Village Budget	Reduce flood concerns; increase culvert capacity	$45,000+	Medium	LPR, SIP	PP, PR, NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Caledonia-004	Pamela Way Flooding	**Problem**: Pamela Way flooding concerns during periods of heavy rain **Solution**: Fill in low area of the street to allow storm water to be conveyed to an outfall area.	No	No	Flood, Severe Storm	1, 2	Within 3 years	Village Public Works	FEMA HMGP, BridgeNY, Village Budget	Increase stormwater capacity; reduce flooding	$25,000+	High	SIP	PR, PP
2022-Village of Caledonia-005	Caledonia Commons Drainage	**Problem**: Caledonia Commons and business district drainage concerns. **Solution**: Partner with the NYSDOT to identify a drainage outfall area that would benefit the Commons and the business district of the Village and reduce flooding.	No	No	Flood, Severe Storm	1, 2	Within 3 years	Village Public Works and NYSDOT	FEMA HMGP, BridgeNY, Village Budget	Increase stormwater capacity; reduce flooding	$25,000+	High	SIP	PR, PP
2022-Village of Caledonia-006	Graney Road Drainage	**Problem**: Graney Road drainage issues during heavy spring rain and snow melt. **Solution**: Redirect run-off from agricultural fields to ease the burden on roadside ditches.	No	No	Flood, Severe Storm	1, 2	Within 3 years	Village Public Works	FEMA HMGP, BridgeNY, Village Budget	Increase stormwater capacity; reduce flooding	$25,000+	High	SIP	PR, PP
2022-Village of Caledonia-007	Update Flood Damage Prevention Ordinance	**Problem**: The Village lacks an updated flood damage prevention ordinance. **Solution**: The Village will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Town Board	Village Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Village of Caledonia-008	NFIP Administrator Training	**Problem:** The floodplain administrator for the Village is in need of training and resources to understand the NFIP program and flooding in the Village.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Village Budget	Increase education and training on floods in the Village	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.												
2022-Village of Caledonia-009	Critical Facilities in Floodplain	**Problem**: There is one dam located in the 1% annual chance flood area and are susceptible to flood damages. The Village does not have jurisdiction over these facilities. **Solution**: The Village will conduct outreach to the facility owners/operators to inform them of their location in the floodplain and provide mitigation options to protect the structures from flood damage.	Yes	No	Flood	1, 2, 3	1 year	Code Enforcement	Village Budget	Education and outreach, protect structures from flood damage	Staff Time	Medium	LPR, EAP	PR, PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

NFIP *National Flood Insurance Program*
OEM *Office of Emergency Management*

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.5-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Village of Caledonia-001	Stormwater Flooding in the Village	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	Medium
2022-Village of Caledonia-002	Hazmat Concerns with Jones Chemicals	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	Medium
2022-Village of Caledonia-003	Spring Street Culvert	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	Medium
2022-Village of Caledonia-004	Pamela Way Flooding	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	High
2022-Village of Caledonia-005	Caledonia Commons Drainage	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	High
2022-Village of Caledonia-006	Graney Road Drainage	1	1	1	1	1	0	0	1	0	0	1	1	0	0	8	High
2022-Village of Caledonia-007	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High
2022-Village of Caledonia-008	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High
2022-Village of Caledonia-009	Critical Facilities in Floodplain	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.5.9 Action Worksheets

The following action worksheets have been developed by the Village of Caledonia to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Stormwater Flooding in the Village		
Project Number:	2022-Village of Caledonia-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Stormwater flooding throughout the Village		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct a feasibility study to identify areas of concern. Once identified, the Village will replace any undersized stormwater piping & replace any deteriorating culverts.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	20-year	**Estimated Benefits (losses avoided):**	Reduce flood concerns; increase stormwater capacity
Useful Life:	15 years	**Goals Met:**	1, 2
Estimated Cost:	$60,000+	**Mitigation Action Type:**	LPR, SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 2 years	**Potential Funding Sources:**	FEMA HMGP and FMA, Village Budget
Responsible Organization:	Public Works	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Upgrade and replace pipes and culverts	$60,000+	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Stormwater Flooding in the Village	
Project Number:	2022-Village of Caledonia-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	To be completed within 2 years
Agency Champion	0	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Spring Street Culvert		
Project Number:	2022-Village of Caledonia-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Spring Street Culvert that crosses the Spring Creek Headwaters is in need of upgrading.		
Action or Project Intended for Implementation			
Description of the Solution:	Three-sided concrete box culvert that would provide ample stream flow during flooding events. It would also provide a natural stream bottom for trout spawning and other critical stream life.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	20-year	**Estimated Benefits (losses avoided):**	Reduce flood concerns; increase culvert capacity
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$45,000+	**Mitigation Action Type:**	LPR, SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 2 years	**Potential Funding Sources:**	FEMA HMGP and FMA, BridgeNY, Village Budget
Responsible Organization:	Public Works	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Upgrade culverts	$45,000+	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of Avon-002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.6 TOWN OF CONESUS

This section presents the jurisdictional annex for the Town of Conesus. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of Conesus's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.6.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Conesus's hazard mitigation plan primary and alternate points of contact. The Town of Conesus followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Highway Department and Code Enforcement. The Town Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.6-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Donald W. Wester, Town Supervisor Address: Phone Number: 585-738-0753 Email: dwester@town.conesus.ny.us	Name/Title: Steve Martucio, Highway Superintendent Address: Phone Number: 585-346-5570 Email: highway@town.conesus.ny.us
NFIP Floodplain Administrator	
Name/Title: Ron Maxwell, Town of Conesus Code Office Address: Phone Number: 585-703-5653 Email: building&zoning@town.conesus.ny.us	

9.6.2 Municipal Profile

According to the U.S. Census Bureau, the Town has an area of 35.8 square miles, 32.9 square miles land and 2.9 square miles water. The Town of Conesus is bordered by the Towns of Canadice, Geneseo, Groveland, Livonia, Sparta, Springwater, and the County of Ontario. Conesus Lake, a Finger Lake, is located in the North Western area of the Town of Conesus.

According to the U.S. Census, the 2020 population for the Town of Conesus was 2,320, a 6.19 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 3.2 percent of the population is 5 years of age or younger and 20.2 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.6.3 Jurisdictional Capability Assessment and Integration

The Town of Conesus performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.6.3). The Town of Conesus's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Conesus. Section 6 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.6-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	New York State 2020 Building Code	State and Local	Town Code Office
How does this reduce risk? The Town administers and enforces the New York State Uniform Building Code to ensure all buildings and structures meet state and local requirements and ensures a safe community.					
Zoning/Land Use Code	Yes	No	Town of Conesus Flood Plan Law Zoning Chapter 155	Local	Town Code Office
How does this reduce risk? Protects the public health, safety, morals, and general welfare of residents to ensure all land is developed accordingly					
Subdivision Ordinance	Yes	No	Chapter 134 – Subdivision of Land	Local	Town Planning Board
How does this reduce risk? Any land subdivided in the Town must be done in such a manner that the land can be used safely for building purposes without danger to health or peril from fire, flood or other menace and that proper provisions shall be made for drainage, water supply, sewerage, natural features and other needed improvements.					
Site Plan Ordinance	Yes	No	Chapter 155 Zoning Code	Local and County	Town Planning Board
How does this reduce risk? The Town requires that the Code Enforcement Officer conduct site plan reviews prior to issuing building permits for construction of buildings					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Ordinance	Yes	Yes	Erosion sediment control law	Local	Town Code and Planning Office
How does this reduce risk? The purpose of this local regulation is to safeguard persons, protect property, prevent damage to the environment, including Conesus and Hemlock Lakes, as well as all bodies of water or watercourses in the Town of Conesus, and promote the public welfare by guiding and regulating the design, construction, and maintenance of any development or other activity which disturbs or breaks the topsoil or results in the movement of earth or land in the Conesus Lake and Hemlock Lake watersheds.					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	-	-	-	-
How does this reduce risk?					
Environmental Protection Ordinance	No	-	-	-	-
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Flood Plan Damage prevention law chapter 87. New York State Building Code 20202	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk? The ordinance requires that new construction and substantial improvements to have the lowest floor elevated two feet or more above the base flood elevation					
Wellhead Protection	No	-	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	-	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	-	-	-	-
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No			Town Office
How does this reduce risk? *Consider the following:* • *Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?* • *Does the future land use map clearly identify natural hazard areas?* • *Do the land use policies discourage development or redevelopment with natural hazard areas?* • *Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?*					
Capital Improvement Plan	No	-	-	-	-
How does this reduce risk?					
Disaster Debris Management Plan	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Floodplain Management or Watershed Plan	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Plan	Yes	No	Erosion sediment Chapter 79		Town Code Office/Town Planning Board
How does this reduce risk? Site Plan Review					
Open Space Plan	Yes	Yes	Erosion Control		Town Code Office/Planning Board
How does this reduce risk?					
Urban Water Management Plan	No	-	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	-	-	-	-
How does this reduce risk?					
Economic Development Plan	No	-	-	-	-
How does this reduce risk?					
Shoreline Management Plan	Yes	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	NY DEC and Town Code Office
How does this reduce risk? Flood Plan Permits					
Community Wildfire Protection Plan	No	-	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	-	-	-	-
How does this reduce risk?					
Transportation Plan	No	-	-	-	-
How does this reduce risk? *Consider the following:* • *Does the transportation plan limit access to hazard areas?* • *Is transportation policy used to guide growth to safe locations?* • *Are transportation systems designed to function under disaster conditions (e.g. evacuation)?*					
Agriculture Plan	No	-	-	-	-
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-	-
How does this reduce risk?					
Tourism Plan	No	-	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Response/Recovery Planning					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Emergency Operations Plan	Yes	Yes			Town Offices
How does this reduce risk? *Consider the following:* • *Does your CEMP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards?*					
Strategic Recovery Planning Report	No	-	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	-	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	-	-	-	-
How does this reduce risk?					
Public Health Plan	No	-	-	-	-
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Conesus to oversee and track development.

Table 9.6-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Conesus and their current responsibilities which contribute to hazard mitigation.

Table 9.6-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Planning Board
Zoning Board of Adjustments	Yes	The Zoning Board of Appeals considers applications for appeals of decisions made in the enforcement of local

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
		ordinances and laws. Their most common duty is to make determinations related to applications for area variances. In the granting of such variances the Zoning Board of Appeals strives to preserve and protect the character of the neighborhood and the health, safety, and welfare of the community. The Board, in the granting of variances, imposes reasonable conditions and restrictions as deemed necessary to minimize any adverse impact on the neighborhood or community.
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Parks Committee
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Highway Department - maintains highways owned by the Town of Conesus as well as Livingston County roads and New York State roads under winter snow removal agreement. Provide for a safe and efficient highway system.
Construction/Building/Code Enforcement Department	Yes	The Code Enforcement Officials oversee and administer day-to-day operations of the Department and review all applications submitted for regulatory applicability to the New York State Building Codes and the Town of Conesus Local Law(s) for the jurisdictional area of the Town of Conesus. The Code Enforcement Officers issue respective Building Permits, Demolition Permits, Certificates of Occupancy/Use and Compliance Certificates and monitor, inspect and approve construction site phases (footers, foundations, framing, plumbing, occupancy change/use, etc.)
Emergency Management/Public Safety Department	Yes	Livingston County
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Highway Department
Mutual aid agreements	Yes	Livingston County
Human Resources Manual	-	-
Other	-	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Town
Engineers or professionals trained in building or infrastructure construction practices	Yes	Town
Planners or engineers with an understanding of natural hazards	Yes	Town
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	N/Y	Town (N) Livingston County (Y)
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Emergency Manager	Yes	Livingston County
Grant writer(s)	No	-
Resilience Officer	No	-
Other	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Conesus.

Table 9.6-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Conesus.

Table 9.6-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	No	
Is hazard mitigation information available on your website?	Yes	The Town maintains a website that contains news and events, including hazard-related information as necessary.
Social media for hazard mitigation education and outreach	Yes	The Highway Department uses Facebook and posts about road closures and weather-related information
Citizen boards or commissions that address issues related to hazard mitigation	No	-

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning Systems / Services (mass notification system, outdoor warning signals)	No	-
Natural disaster/safety programs in place for schools	No	No schools in the Town of Conesus
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Conesus.

Table 9.6-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	NP	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	N/A	N/A
NYSDEC Climate Smart Community	NP	N/A	N/A
StormReady Certification	NP	N/A	N/A
Firewise Communities classification	NP	N/A	N/A
Other	NP	N/A	N/A

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.6-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.6.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.6-9. NFIP Summary

Town of Conesus	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Conesus	19	11	$19,018.22	N/A	N/A	10

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	FEMA flood maps-To Code officers knowledge there has not been any since 1972
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Not since 1972
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	0
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	yes
NFIP Compliance	
What local department is responsible for floodplain management?	Code Office
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No

Town of Conesus	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Conesus	19	11	$19,018.22	N/A	N/A	10

NFIP Topic	Comments
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	There has been updated training in the past from DEC office and NY Sate building codes
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	At permit review-survey of property is above base flood plan
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Based on plans submitted with building permit
What are the barriers to running an effective NFIP program in the community, if any?	NA
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Not in the last years
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law #1-2001
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Yes Use New York State 2020 Building Codes
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Town has site plan review for subdivision and commercial project. New York State Building Code Addresses Flood Mitigation
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Unknown at this time

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.6.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- NYS Route 15

Sheltering

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Conesus Fire House	Conesus 6073 South Livonia Rd. Fire Conesus NY 14435	30	No	Yes	Yes	County EMS	Kitchen
United Methodist Church	Route 15 South Livonia Rd. Conesus NY 14435	80	No	Yes	Yes through fire department	County EMS	Kitchen
Conlon-Mulvaney America Legion	6317 Marshall Rd. Conesus NY 14435	100	No	Yes	Yes	County EMS	Kitchen

Temporary Housing

The Town of Conesus has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Conesus did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.6.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.6-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.6-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	4	0	1	0	0	0	3	0	2	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	0	0	4	0	1	0	0	0	3	0	2	0	1	0
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or**		**Known Hazard Zone(s)***		**Description / Status of Development**					

			block and lot)		
Recent Major Development and Infrastructure from 2015 to Present					
None identified					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None identified					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.6.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Conesus's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Conesus has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.6-1. Town of Conesus Flood and Mine Subsidence Hazard Areas

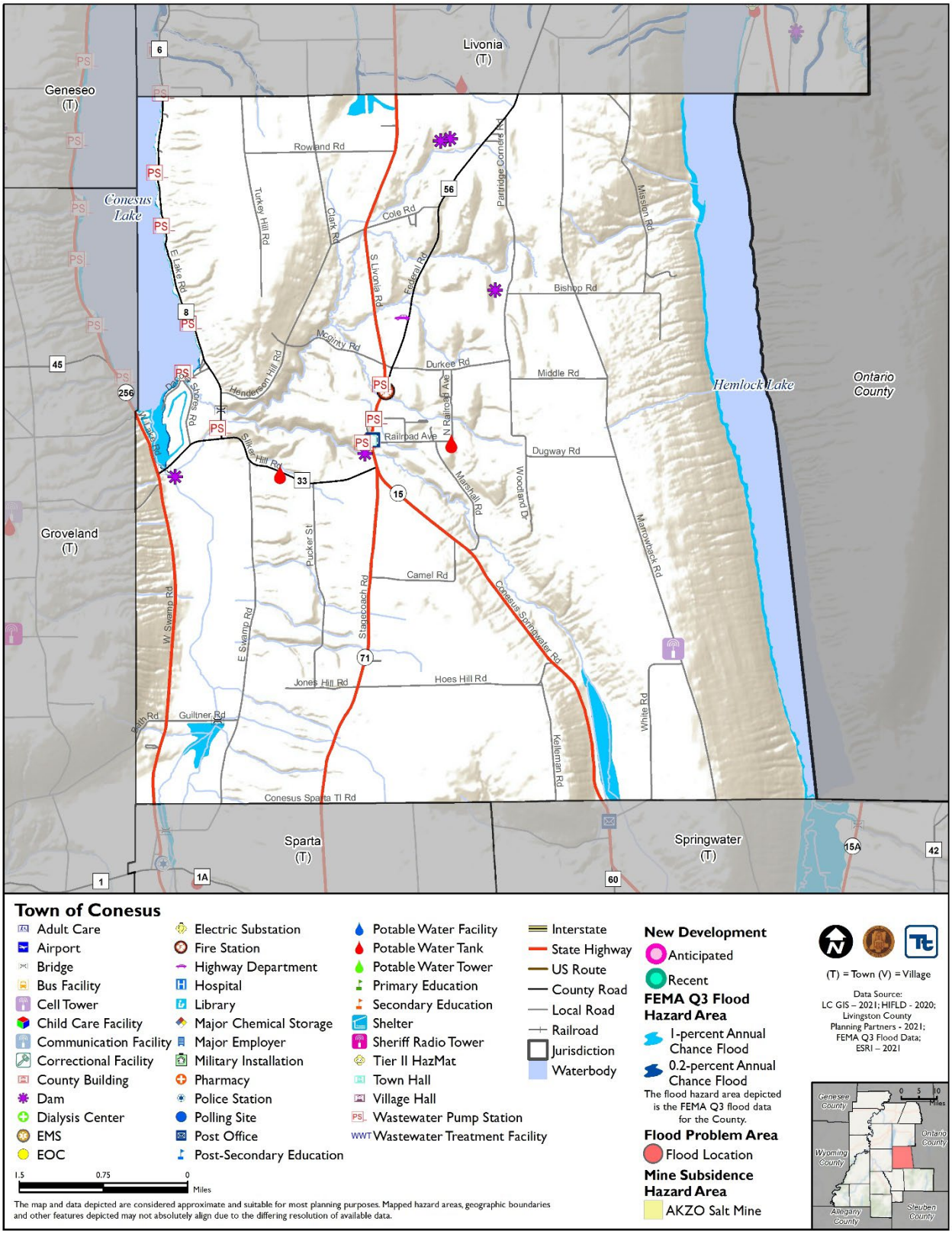


Figure 9.6-2. Town of Conesus Hazmat and Wildfire Hazard Areas

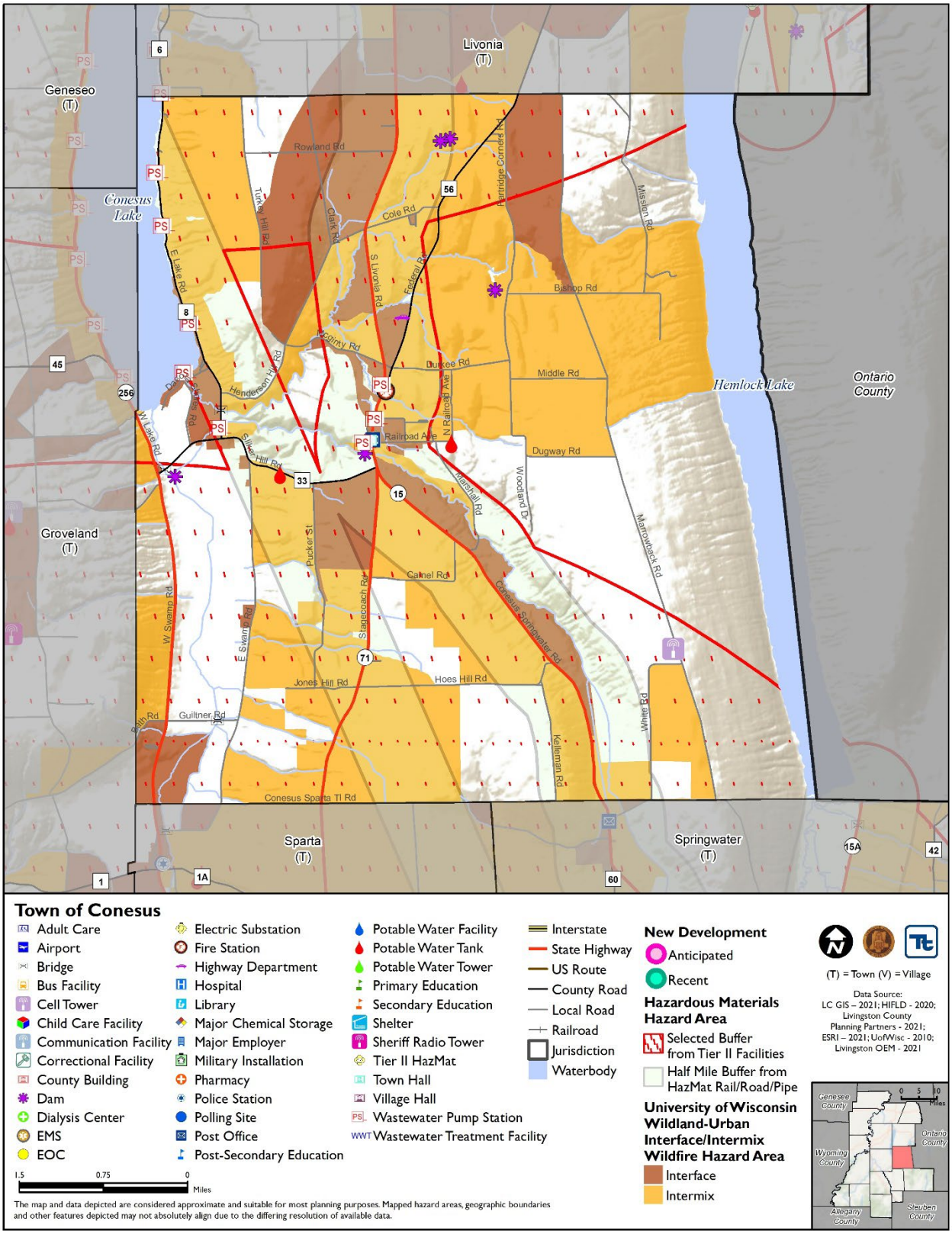
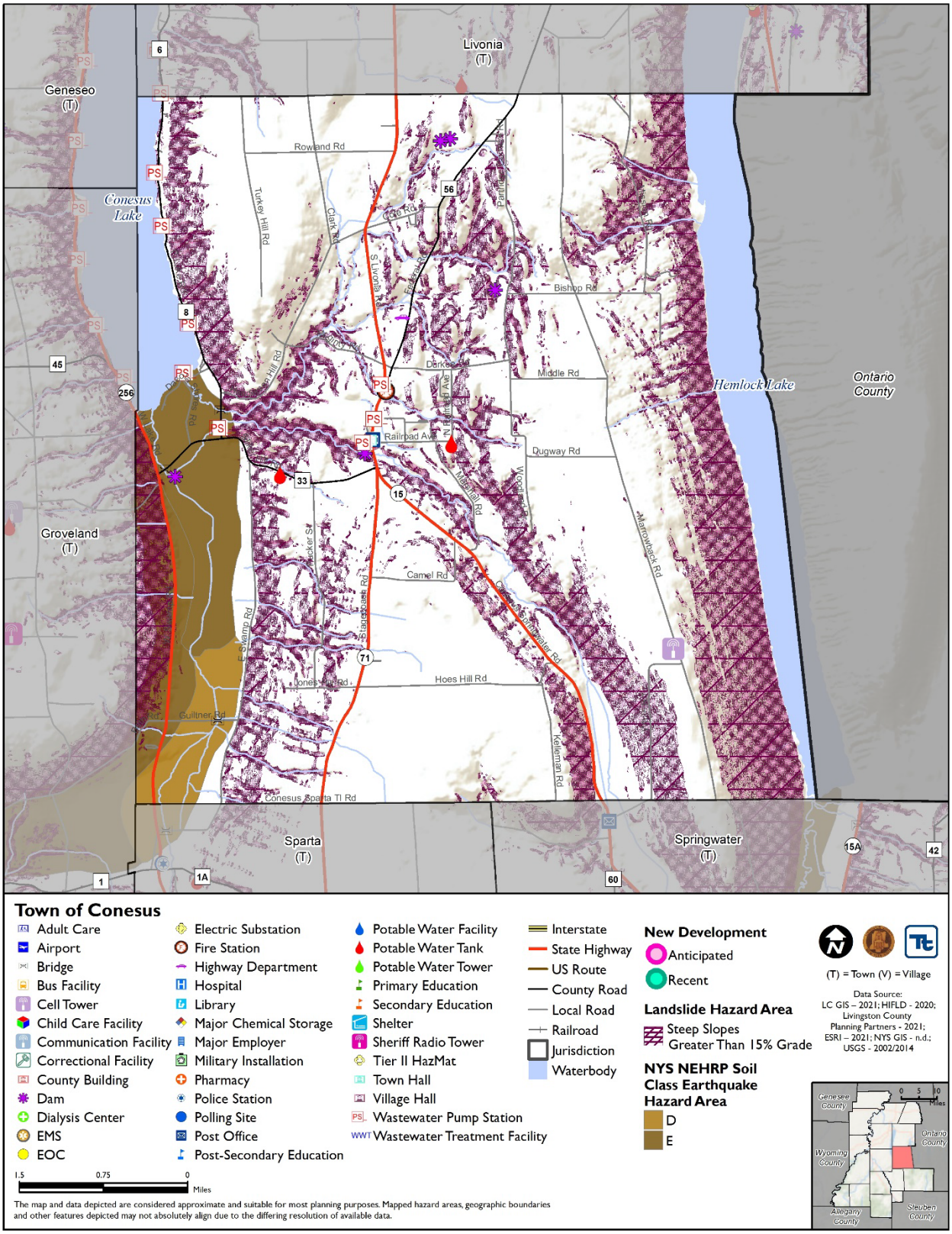


Figure 9.6-3. Town of Conesus Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Conesus's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.6-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.6-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Conesus's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Conesus. The Town of Conesus has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.4-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.6-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
No critical facilities in the floodplain				

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Conesus's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Conesus has identified the following vulnerabilities within their community:

- Dacola Shores – flooding
- Five steep slope dirt roads and unarmored ditches
- Steel crossover culverts – froze last winter and blew out in the storm 2014
- Dirt road shoulder erosion
- Stormwater management for North & South McMillan Creek

9.6.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.6-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TCo-1	Provide backup power generators for town hall.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. No power generator at or for town hall 2. 3.
TCo-2	Acquire new communications gear such as radios and walkie-talkies	All	None provided in the 2015 HMP	County Sheriff	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-3	Provide better communications for first responder units.	All	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-4	Set up a reverse emergency management call system to contact residents (Reverse 911).	All	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-5	Provide security provisions for telephone lines and power lines	All	None provided in the 2015 HMP	County Sheriff	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-6	Secure training funding to alleviate staffing issues for fire departments and EMTs.	Severe Storm	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-7	Enhance the emergency notification system by providing NOAA Weather Radio Receivers to critical facilities.	Flood	None provided in the 2015 HMP	County EMS	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-8	Introduce erosion controls/stream and bank stabilization measures	Flood	None provided in	County and Municipal	Ongoing Capability	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	along specific flood prone watercourse.		the 2015 HMP	Highway Departments			
TCo-9	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage. The higher relief in these towns makes this program a priority.	Flood	None provided in the 2015 HMP	County and Municipal Highway Departments	In Progress	1. 2. 3.	1. 2. 3.
TCo-10	Improve drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Earthquake	None provided in the 2015 HMP	County Planning	In Progress	1. 2. 3.	1. 2. 3.
TCo-11	Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, or distribution of information through local newspapers.	Earthquake	None provided in the 2015 HMP	County EMO	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-12	Implement the Dugway Ditching project, requiring 3,900 feet of ditching and re-armoring with gabion stone.	Flood	None provided in the 2015 HMP	SWCD	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-13	Implement the Conesus-Sparta Town Line Road Ditching project,	Flood	None provided in	SWCD	Ongoing Capability	1. 2.	1. 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	requiring 2,300 feet of ditching to recover from road washouts.		the 2015 HMP			3.	3.
TCo-14	Implement the Durkee Road Ditching project, requiring 1,000 feet of ditching and re-armoring	Flood	None provided in the 2015 HMP	SWCD	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-15	Implement the Kelleman Road Ditching project.	Flood, Severe Storm	None provided in the 2015 HMP	SWCD	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-16	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Invasive Species	None provided in the 2015 HMP	County Planning	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-17	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-18	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-19	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	repetitive loss properties should be a priority, when applicable.						
TCo-20	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The TCo-parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood	None provided in the 2015 HMP	Town Engineering Department	Ongoing Capability	1. 2. 3.	1. No appointed Engineer at this time 2. 3.
TCo-21	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All	None provided in the 2015 HMP	Town Supervisor's office	In Progress	1. 2. 3.	1. 2. 3.
TCo-22	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain	Flood	None provided in the 2015 HMP	FPA	Complete	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.						
TCo-23	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All	None provided in the 2015 HMP	Livingston County	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-24	Develop and implement a post-event damage assessment program, including the following elements:	All	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-25	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related	Flood	None provided in the 2015 HMP	FPA	Ongoing Capability	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Community Assistance Visit (CAV) initiative.						
TCo-26	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	Municipal Budget	No Progress	1. 2. 3.	1. 2. 3.
TCo-27	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	Municipal Budget	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-28	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood	None provided in the 2015 HMP	Local Budget	Complete	1. 2. 3.	1. 2. 3.
TCo-29	Work with County and power companies to identify roads within the Town considered “critical” would be the first priority for	Flood	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	clearing after an event involving downed power lines.						
TCo-30	Enhance or expand tree maintenance program and coordinate with utility companies.	Flood	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. 3.
TCo-31	Work with utility companies and developers to bury utility lines underground, wherever possible.	Flood, Wildfire	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.6-14, the Town of Conesus did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Conesus participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.6-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought		X								X
Earthquake		X								X
Flood	X	X			X	X		X		X
Hazardous Materials		X								X
Invasive Species		X								X
Landslide		X				X		X		X
Mine Subsidence		X								X
Pandemic		X								X
Severe Storm	X	X			X	X		X		X
Severe Winter Storm		X								X
Wildfire		X								X
Terrorism		X								X
Utility Failure		X								X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.6-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Conesus would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.6-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Conesus-001	Backup Power for Critical Facilities	**Problem**: The Town Hall and Highway Barn are lifelines for the community and are needed to operate before, during, and after storms. The facilities do not have backup power and cannot provide services to residents during a power outage. **Solution**: The Town will purchase and install two 18 Kw generators at each facility. This will provide continuity of operations and allow both facilities to operate and provide essential services to the community.	Yes	No	All	1, 2	Within 1 year	Town Supervisor, Town Board	FEMA HMGP, Town Budget	Continuity of operations	$100,000	High	SIP	ES
2022-Town of Conesus-002	Dacola Shores Flooding	**Problem**: DaCola Shores continues to be a flooding problem in the Town and results in property damage. **Solution**: The Town will complete a feasibility study to determine the best solution to alleviate flooding along DaCola Shores. Once the study is complete and solutions are identified, the Town will seek funding to complete the project.	No	No	Flood, Severe Storm	1, 2	Within 5 years	Highway Department	Town Budget for study; FEMA HMGP or BRIC for implementation	Reduce/ eliminate flooding; protect properties	To be determined	High	LPR, SIP	PR, PP
2022-Town of Conesus-003	Jones Hill Ditch Remediation	**Problem**: The road ditch on the north side of the road has eroded to a point it endangers the road. During periods of heavy rain, the stormwater carries dirt and numerous contaminates to the streams that outlet in Conesus Lake. **Solution**: Using heavy rip rap in the upper reaches of the ditch with	Yes	Yes	Flood, Severe Storm, Landslide	1, 2	6 months	Highway Department	NYSDEC Nonpoint Stormwater Grant, Town Budget	Reduce/ eliminate flooding; reduce sediment in lake	$400,000	High	SIP	PP, ES, NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		medium fill stone check dams to slow the flow of water and protect the ditch. Use medium fill with light fill check dams in the lower reach on both sides of the road to protect the ditches and curtail erosion.												
2022-Town of Conesus-004	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.6-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Conesus-001	Backup Power for Critical Facilities	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
2022-Town of Conesus-002	Dacola Shores Flooding	1	1	1	1	1	1	0	1	0	1	1	1	0	0	10	High
2022-Town of Conesus-003	Jones Hill Ditch Remediation	1	1	1	1	1	1	0	1	0	1	1	1	0	0	10	High
2022-Town of Conesus-004	NFIP Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.6.9 Action Worksheets

The following action worksheets have been developed by the Town of Conesus to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Jones Hill Ditch Remediation		
Project Number:	2022-Town of Conesus-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Landslide		
Description of the Problem:	The road ditch on the north side of the road has eroded to a point it endangers the road. During periods of heavy rain, the stormwater carries dirt and numerous contaminates to the streams that outlet in Conesus Lake.		
Action or Project Intended for Implementation			
Description of the Solution:	Using heavy rip rap in the upper reaches of the ditch with medium fill stone check dams to slow the flow of water and protect the ditch. Use medium fill with light fill check dams in the lower reach on both sides of the road to protect the ditches and curtail erosion.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	High	**Estimated Benefits (losses avoided):**	Reduce flood concerns; increase stormwater capacity
Useful Life:	50 years	**Goals Met:**	1, 2
Estimated Cost:	$400,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	NYSDEC Nonpoint Stormwater Grant, Town Budget
Responsible Organization:	Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Remediate ditch	$400,000	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Jones Hill Ditch Remediation	
Project Number:	2022-Town of Conesus-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm, Landslide
Timeline	1	To be completed within 6 months
Agency Champion	0	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Dacola Shores Flooding		
Project Number:	2022-Town of Conesus-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	DaCola Shores continues to be a flooding problem in the Town and results in property damage.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will complete a feasibility study to determine the best solution to alleviate flooding along DaCola Shores. Once the study is complete and solutions are identified, the Town will seek funding to complete the project.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	To be determined	**Estimated Benefits (losses avoided):**	Reduce/ eliminate flooding; protect properties
Useful Life:	To be determined	**Goals Met:**	1, 2
Estimated Cost:	To be determined	**Mitigation Action Type:**	LPR, SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 5 years	**Potential Funding Sources:**	Town Budget for study; FEMA HMGP or BRIC for implementation
Responsible Organization:	Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Complete study and implement project	TBD	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Dacola Shores Flooding	
Project Number:	2022-Town of Conesus-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	Reduce or eliminate flooding damage to properties
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	To be completed within 5 years
Agency Champion	0	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

9.7 VILLAGE OF DANSVILLE

This section presents the jurisdictional annex for the Village of Dansville. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Village of Dansville and who in the Village participated in the planning process; an assessment of the Village of Dansville's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.7.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Dansville's hazard mitigation plan primary and alternate points of contact. The Village of Dansville followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: Public Works and Building, Zoning, and Code Enforcement. The Mayor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Village of Dansville's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.7-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Peter Vogt, Mayor Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: (585) 335-5330 Email: pvogt@dansvilleny.us	Name/Title: Tammy Sylor-Malone Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: 585-335-6955 Email: tammysylor@yahoo.com
NFIP Floodplain Administrator	
Name/Title: Tammy Sylor-Malone Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: 585-335-6955 Email: tammysylor@yahoo.com	

9.7.2 Municipal Profile

The Village has an area of 2.4 square miles and is in a glacially formed valley, north of Stony Brook State Park. The Village is centrally located within the Town of North Dansville. According to the U.S. Census, the 2020 population for the Village of Dansville was 4,433, a 6.06 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.7 percent of the population is 5 years of age or younger and 15.1 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.7.3 Jurisdictional Capability Assessment and Integration

The Village of Dansville performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.7.3). The Village of Dansville's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Dansville. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.7-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	No	Yes		State and Local	CEO
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Chapter 330, Articles VI & VII	Local	CEO
How does this reduce risk? The purpose of this law is to encourage the most appropriate use of land throughout the village and to conserve the value of property, with due consideration for the character of the zones and their peculiar suitability for particular uses; all in accordance with a comprehensive plan designed to lessen congestion in the streets; to secure safety form fire, flood, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land, to avoid undo concentration of population, and to that end to regulate the height, design appearance, number of stories and size of buildings and other structures, and land for trade, industry, residence or other purposes; and the height, size and location of these uses within the limits of the Village.					
Subdivision Ordinance	Yes	No	Chapter 285	Local	CEO
How does this reduce risk?					
Site Plan Ordinance	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Ordinance	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Ordinance	No	-	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	-	-	-	-
How does this reduce risk?					
Environmental Protection Ordinance	No	-	-	-	-
How does this reduce risk?					
Flood Damage Prevention Ordinance	No	-	-	-	-
How does this reduce risk?					
Wellhead Protection	No	-	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	-	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Planning Documents					
Master Plan	YES	No	Outdated		CEO
How does this reduce risk?					
Capital Improvement Plan	YES	No	Draft Format		DPW Superintendent
How does this reduce risk?					
Disaster Debris Management Plan	No	-	-	-	-
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Plan	No	-	-	-	-
How does this reduce risk?					
Open Space Plan	No	-	-	-	-
How does this reduce risk?					
Urban Water Management Plan	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Habitat Conservation Plan	No	-	-	-	-
How does this reduce risk?					
Economic Development Plan	No	-	-	-	-
How does this reduce risk?					
Shoreline Management Plan	No	-	-	-	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	-	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	-	-	-	-
How does this reduce risk?					
Transportation Plan	No	-	-	-	-
How does this reduce risk?					
Agriculture Plan	No	-	-	-	-
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-	-
How does this reduce risk?					
Tourism Plan	No	-	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Response/Recovery Planning					
Emergency Operations Plan	No	-	-	-	-
How does this reduce risk?					
Strategic Recovery Planning Report	No	-	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	-	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	-	-	-	-
How does this reduce risk?					
Public Health Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Dansville to oversee and track development.

Table 9.7-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	NO	Currently use zoning law. A law was drafted in 2009 but never adopted.
Are permits tracked by hazard area? (For example, floodplain development permits.)	NO	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	NO	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Dansville and their current responsibilities which contribute to hazard mitigation.

Table 9.7-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	YES	Full complement of members.
Zoning Board of Adjustments	YES	Full complement of members.
Planning Department	NO	-
Mitigation Planning Committee	NO	-
Environmental Board/Commission	NO	-
Open Space Board/Committee	NO	-
Economic Development Commission/Committee	NO	-
Public Works/Highway Department	YES	Fully staff with excellent equipment
Construction/Building/Code Enforcement Department	YES	Need a clerk. Looking at bumping up full-time CEO with a part-time assistant.
Emergency Management/Public Safety Department	NO	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	NO	Nothing formal except for water filtration and waste water treatment plants.
Mutual aid agreements	NO	-
Human Resources Manual	NO	-
Other	NO	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	NO	-
Engineers or professionals trained in building or infrastructure construction practices	YES	Contract with MRB Group
Planners or engineers with an understanding of natural hazards	YES	Contract with MRB Group

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	NO	-
Professionals trained in conducting damage assessments	NO	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	YES	DPW
Scientist familiar with natural hazards	NO	-
Surveyor(s)	NO	-
Emergency Manager	NO	-
Grant writer(s)	YES	-
Resilience Officer	NO	-
Other (this could include stormwater engineer, environmental specialist, etc.)	YES	Contract with MRB Group

Fiscal Capability

The table below summarizes financial resources available to the Village of Dansville.

Table 9.7-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	YES
Capital improvements project funding	YES
Authority to levy taxes for specific purposes	NO
User fees for water, sewer, gas or electric service	YES
Impact fees for homebuyers or developers of new development/homes	NO
Stormwater utility fee	NO
Incur debt through general obligation bonds	YES
Incur debt through special tax bonds	NO
Incur debt through private activity bonds	NO
Withhold public expenditures in hazard-prone areas	YES
Other federal or state Funding Programs	YES
Open Space Acquisition funding programs	YES
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	YES

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Dansville.

Table 9.7-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	NO	-
Personnel skilled or trained in website development	NO	-
Is hazard mitigation information available on your website?	NO	-
Social media for hazard mitigation education and outreach	NO	-
Citizen boards or commissions that address issues related to hazard mitigation	NO	-
Other programs already in place that could be used to communicate hazard-related information	NO	-
Warning Systems / Services (mass notification system, outdoor warning signals)	NO	-
Natural disaster/safety programs in place for schools	NO	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Village of Dansville.

Table 9.7-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	YES	4	Completed earlier this year.
NYSDEC Climate Smart Community	No	N/A	N/A
StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other	No	N/A	N/A

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.7-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.7.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.7-9. NFIP Summary

Village of Dansville	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Dansville	60	19	$50,795.79	N/A	N/A	51

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	NO
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	NONE
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	NO
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Site inspection by CEO/NONE
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	NONE

Village of Dansville	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Dansville	60	19	$50,795.79	N/A	N/A	51

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Not accurate to where stormwater runoff is seen.
NFIP Compliance	
What local department is responsible for floodplain management?	Code Enforcement
Are any certified floodplain managers on staff in your jurisdiction?	Not Certified
Do you have access to resources to determine possible future flooding conditions from climate change?	NO
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Training is always needed. In person or online to complete certification.
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Site plan review & in-field inspection.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Site plan review & in-field inspection and square footage totals.
What are the barriers to running an effective NFIP program in the community, if any?	Staffing and money.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	None
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A - none
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 185 – Flood Damage Prevention, adopted March 9, 2010
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets the state minimum requirement of two feet above BFE for residential and non-residential new development/substantial improvements in the floodplain
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Code Enforcement Office, Planning Board & Zoning Board of Appeals
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source:

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.7.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Village of Dansville currently has no evacuation plan. Roads that lead out of the valley are SR36, 63, 256 and 436; local routes Sahrles Rd, Ossian Hill Road and Stones Falls Road; and I-390.

Sheltering

The Village of Dansville has not identified sites for potential shelter locations. In the event shelters are needed, the Village will work with the County to find suitable locations for sheltering.

Temporary Housing

The Village of Dansville has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Village will work with the County to find suitable locations.

Permanent Housing

While the Village of Dansville did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Village can utilize this analysis to identify potential locations.

9.7.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.7-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Village is not expected to impact vulnerability to hazards.

Table 9.7-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	1	1	0	0	1	0	1	0	0	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	1	0	2	0	0	0	0	0	0	0
Total Permits Issued	**0**	**0**	**1**	**1**	**1**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														

None identified
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years
None identified

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.7.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Dansville's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Dansville has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.7-1. Village of Dansville Flood and Mine Subsidence Hazard Areas

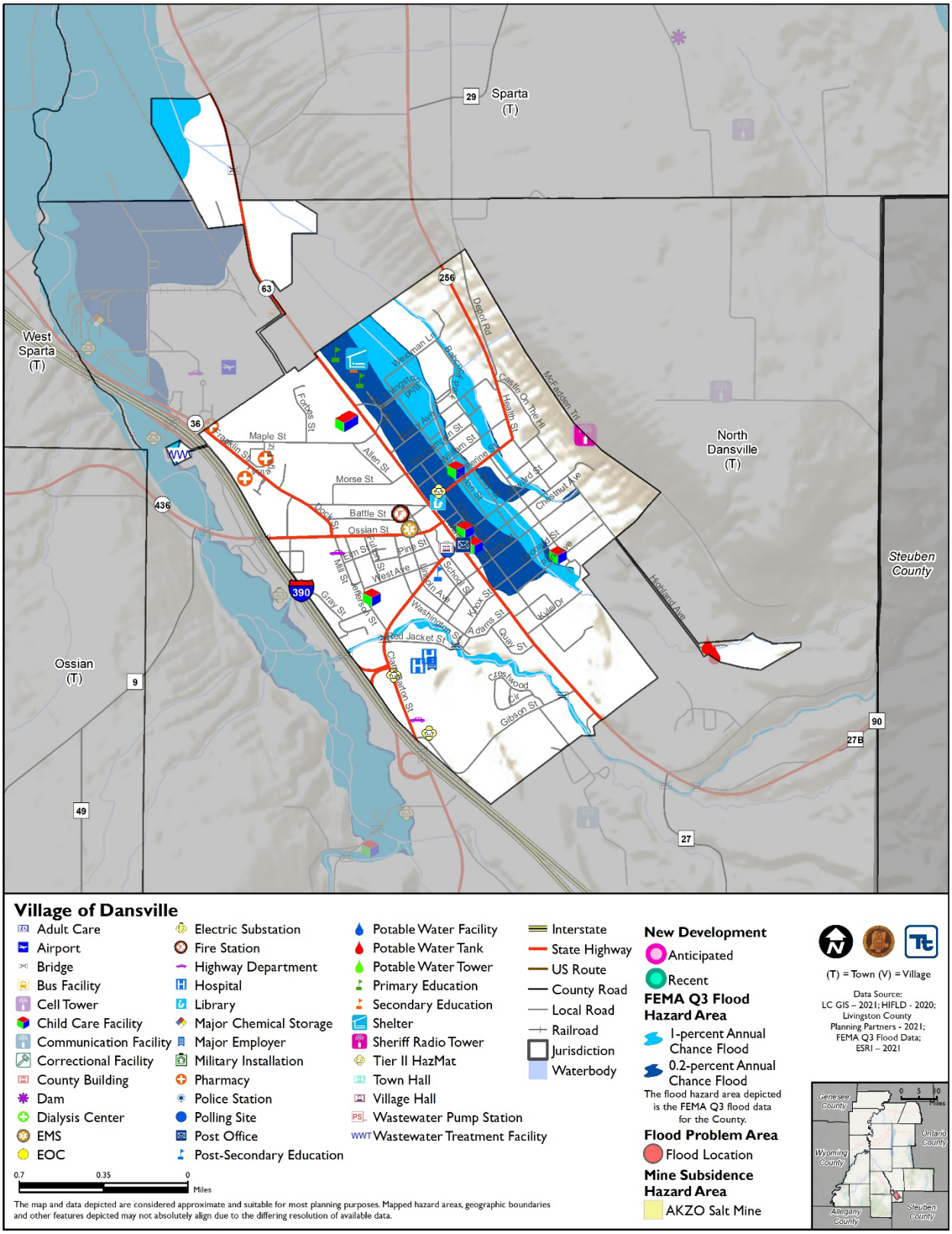


Figure 9.7-2. Village of Dansville Hazmat and Wildfire Hazard Areas

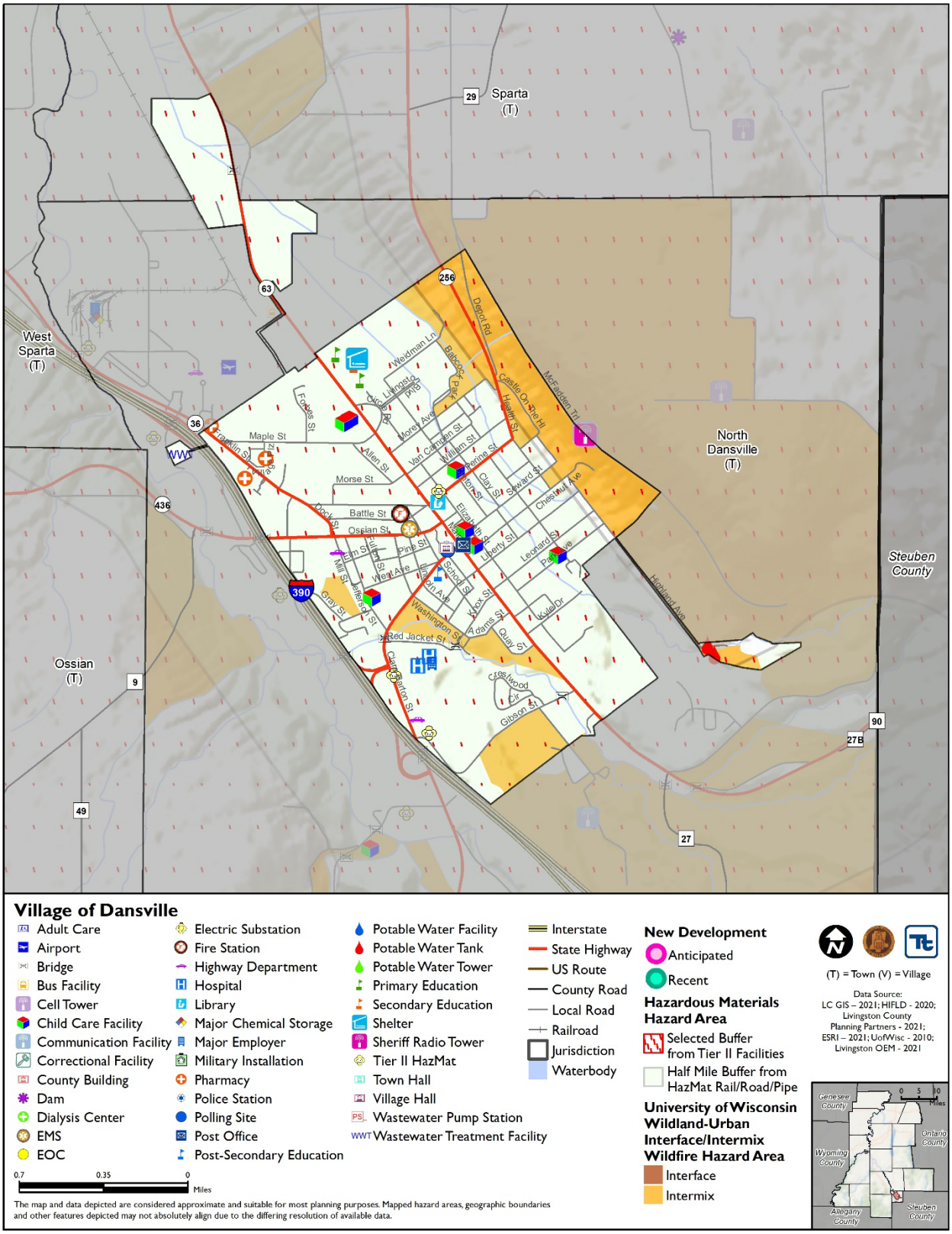
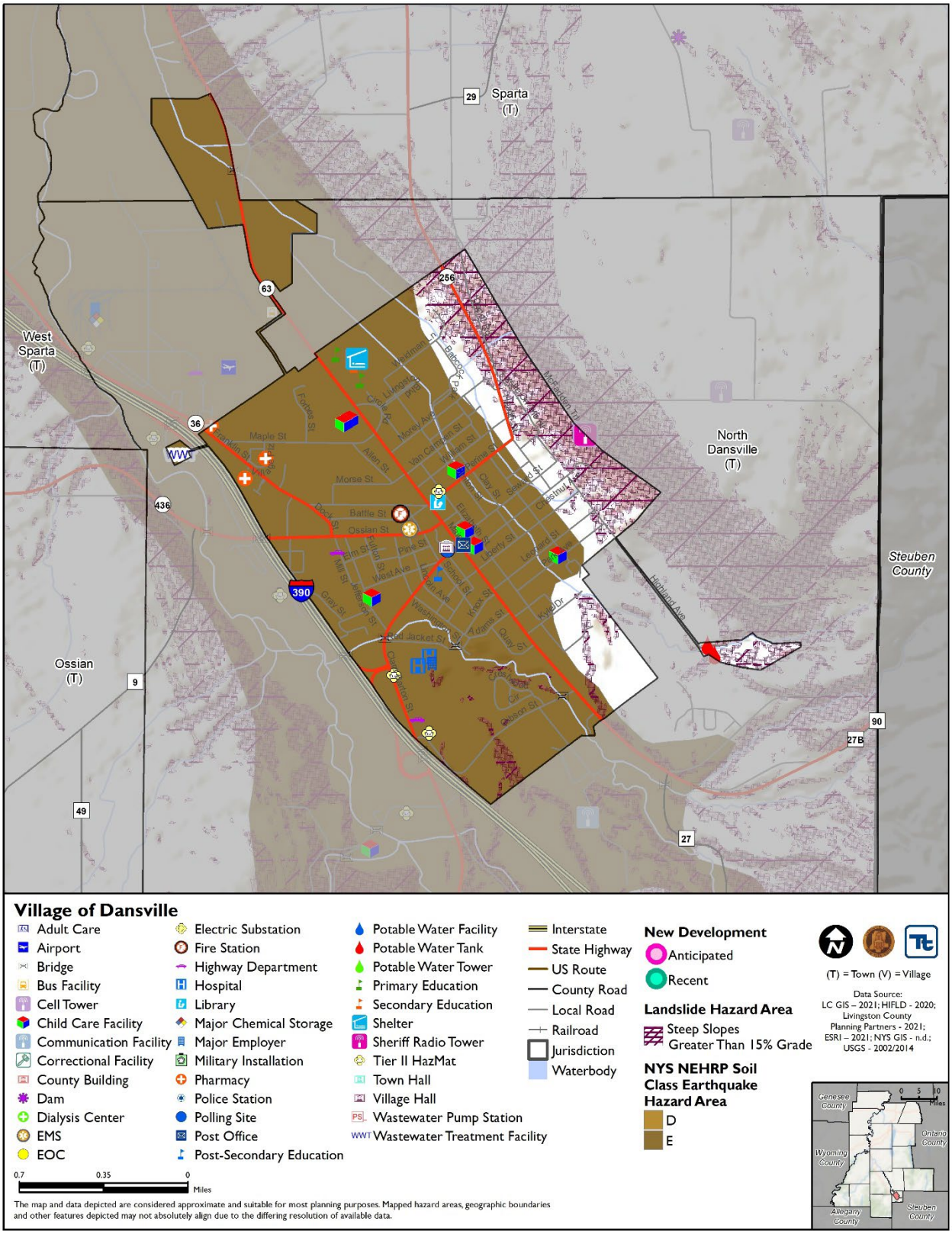


Figure 9.7-3. Village of Dansville Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Dansville's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.7-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.7-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Dansville's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Village of Dansville ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Dansville. The Village of Dansville has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.4-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.7-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
Dansville Children's Center	Child Care Facility	X	X	2022-Village of Dansville-005

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Dansville's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Dansville has identified the following vulnerabilities within their community:

- Two creeks east side of Village have flooding issues, damaged structures, and flooded roadways
- Stormwater management system flood on regular basis

9.7.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.7-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VD-1	Prepare people for shelter-in-place in their homes. Families should be encouraged to stockpile food and supplies for at least three days, if not longer.	All	None provided in the 2015 HMP	County Department of Health	No Progress	1. 2. 3.	1.Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-2	Secure funds to help with the All-Hazard Mitigation Plan updates and to conduct emergency response drills.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-3	Develop plans for evacuating pets.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-4	Continue distributing "File of Life" kits. As of February 2006, about 3500 of these have been handed out. These kits have been instrumental in saving lives.	All	None provided in the 2015 HMP	County Office for the Aging	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-5	Set up a "Welcome Wagon" program (based on former Conesus Lake program) to distribute information about disasters for new residents.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-6	Involve community groups and local nonprofit organizations (Boy/Girl Scouts, etc.) with information distribution programs.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-7	Develop public education programs that follow the "Education without panicking" concept.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VD-8	Support community programs to assist elderly and vulnerable populations during utility failures.	All	None provided in the 2015 HMP	County Office for the Aging	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-9	Address flooding issues through municipal Flood Prevention Ordinances, Flood Mitigation Plans and Sediment and Erosion Control Ordinances.	Flood	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-10	Build a diversion channel/canal to divert flood waters from the flood-prone village of Dansville.	Flood	None provided in the 2015 HMP	ACOE	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; the Village does not have jurisdiction over this project.
VD-11	Construct permanent storage facilities for vulnerable equipment & machinery that is not currently protected from harsh weather.	HazMat	None provided in the 2015 HMP	NYSDOT	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-12	Improve stormwater system through analysis, planning, and mitigation implementation.	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Unaware of any action to date. 2. - 3. Discontinue; this is a countywide action with the county being the responsible lead.
VD-13	Clear streambeds of debris and other impediments (specifically, two on the east side and one on the west side).	Flood, Severe Storm	None provided in the 2015 HMP	Village Planning	Ongoing Capability	1. 2. 3.	1.Currently addressing issue. 2. - 3. This is an ongoing capability for the Village.
VD-14	Assess and upgrade the stormwater system for higher capacity and greater efficiency.	Flood, Severe Storm	None provided in the 2015 HMP	Village Planning	Ongoing Capability	1. 2. 3.	1. Currently addressing issue. 2. - 3. This is an ongoing capability for the Village.
VD-15	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Unaware of any need in the Village. Discontinue. 2. 3.
VD-16	Conduct a hydrilla management analysis to determine whether chemical	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1.	1. Unaware of any need in the Village. Discontinue.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	treatments or the introduction of grass carp would be a more effective control measure.					2. 3.	2. 3.
VD-17	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Unaware of any need in the Village. Discontinue. 2. 3.
VD-18	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Village Engineering	In Progress	1. 2. 3.	1. Had surveyor and engineer review needs. DPW is working on creek bank reinforcement. 2. 3.
VD-19	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The TCo-parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Village Engineering	In Progress	1. 2. 3.	1. Had surveyor and engineer review needs. DPW is working on creek bank reinforcement. 2. 3.
VD-20	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All	None provided in the 2015 HMP	Village Supervisor's office	In Progress	1. 2. 3.	1. Developing plans. 2. 3.
VD-21	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. CEO trained and follows rules/guidance. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.						
VD-22	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. Hasn't been done in past. Unaware of program, but will more on it going forward. 2. 3.
VD-23	Develop and implement a post-event damage assessment program, including the following elements:	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. " 3.
VD-24	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. At the time of this plan update, the Village is not in the CRS program 2. 3.
VD-25	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. " 3.
VD-26	Designate a NFIP Floodplain Administrator (FPA), and other local	Flood	None provided in the 2015 HMP	NFIP FPA	In Progress	1.	1. Considering upgrading CEO's training to include this.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).					2. 3.	2. 3.
VD-27	Develop and maintain mapping of all natural hazard risk areas in the Village, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Will be looking at this using our GIS capability. 2. 3.
VD-28	Work with County and power companies to identify roads within the Village considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. Will get this up in the next year. 2. 3.
VD-29	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. " 3.
VD-30	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. " 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.7-14, the Village of Dansville did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Dansville participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.7-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought										
Earthquake										
Flood	X	X		X	X	X	X	X	X	
Hazardous Materials										
Invasive Species										
Landslide		X				X		X	X	
Mine Subsidence										
Pandemic										
Severe Storm		X				X		X	X	
Severe Winter Storm		X				X		X	X	
Wildfire										
Terrorism										
Utility Failure										

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.7-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Dansville would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.7-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Dansville-001	Mill Creek	**Problem**: Recent storm events, including torrential rains from the remnants of Tropical Storm Fred, caused significant erosion along about 200-300 feet of stream bank, mostly on the south side. This included water getting behind a corroding boilerplate retaining wall. The erosion resulted in several large trees being toppled, one falling on NYSEG high-tension power lines, causing a disruption of power in the Wayland area. The scouring power of the water and rock also threatened a village sewer line under the same stretch of creek bed that serves the Crestwood Circle subdivision. Erosion of the banks threatens housing, a golf course and a county bridge (Red Jacket St.). The scouring of the bed itself threatens the sewer line under a trout stream. **Solution**: The Village will apply for permits from the Department of Environmental Conservation and the Army Corps of Engineers to work on the stream. Easements will be obtained from property owners to allow Village employees to work on private property. Rip-rap rock will be placed in two or three places where the stream naturally scours the banks. This will protect private property, prevent stream bank trees from being undermined and reduce the threat to the county bridge about 200 feet downstream. Two or three weirs/barbs will be constructed in the stream to channel the water and build up the creek bottom, especially	No	No	Flood, Severe Storm, Severe Winter Storm, Landslide	1, 2	Within 3 years	Village DPW	FEMA FMA and HMGP, Village Budget	protect private property, prevent stream bank trees from being undermined and reduce the threat to the county bridge	$95,000	High	SIP	PP, NR, SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		where it flows over the sewer line, adding further layers of protection to the pipe.												
2022-Village of Dansville-002	Brewery Creek	**Problem**: Drain creek on eastern side of the village collects runoff water from at least three East Hill hillside creeks and from numerous street storm drains. During large storm events, the creek swells to capacity and deposits debris and silt along its course, but especially between Wilmot and William streets. Over the years this has resulted in the creek bed being nearly raised to the level of bordering yards. The flow has also undermined and caused a stone retaining wall off Wilmot St. to collapse in part. The remnants of Tropical Storm Fred in mid-August 2021 resulted in the flooding of two home basements on Cottage St (#64 & 66). and a yard off Perine St. (#65). If the creek's bed is not deepened, a major storm, and certainly a 100-year one, will cause serious flooding to at least a dozen properties and possibly impact a dozen more. **Solution**: The current plan is for the Village to obtain easements from property owners along the creek between Wilmot and William streets that will allow Village employees to work on private property. Permits will need to be obtained from the Department of Environmental Conservation, and possibly the Army Corps of Engineers. The Village's Department of Public Works will then dig out the creek bed during dry	No	No	Flood, Severe Storm, Severe Winter Storm, Landslide	1, 2	Within 3 years	Village DPW	FEMA FMA and HMGP, Village Budget	Reduce flooding, stabilize creek	$25,000	Medium	SIP	PP, NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		weather when the creek has minimal to no flow. The retaining wall off Wilmot will be removed as well. Approximately 531 feet of 36-inch pipe will be placed in the lowered bed and covered. All work will be performed by the Village of Dansville Department of Public Works.												
2022-Village of Dansville-003	NFIP Administrator Training	**Problem:** The floodplain administrator for the Village is in need of training and resources to understand the NFIP program and flooding in the Village. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Village Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR
2022-Village of Dansville-004	Floodprone Properties	**Problem**: There are 60 policies and 19 paid claims in the Village. 51 of the flood policies are located in the floodplain. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to 60 floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the Village.	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Village Board	Village Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Dansville-005	Critical Facilities in Floodplain	**Problem**: There is one child care facility located in the 1% annual chance flood area and are susceptible to flood damages. The Village does not have jurisdiction over these facilities. **Solution**: The Village will conduct outreach to the facility owners/operators to inform them of their location in the floodplain and provide mitigation options to protect the structures from flood damage.	Yes	No	Flood	1, 2, 3	1 year	Code Enforcement	Village Budget	Education and outreach, protect structures from flood damage	Staff Time	Medium	LPR, EAP	PR, PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*

- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.7-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Village of Dansville-001	Mill Creek	1	1	1	1	1	0	0	1	1	1	1	1	0	0	10	High
2022-Village of Dansville-002	Brewery Creek	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
2022-Village of Dansville-003	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High
2022-Village of Dansville-004	Floodprone Properties	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium
2022-Village of Dansville-005	Critical Facilities in Floodplain	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.7.9 Action Worksheets

The following action worksheets have been developed by the Village of Dansville to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Mill Creek		
Project Number:	2022-Village of Dansville-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm, Landslide		
Description of the Problem:	Recent storm events, including torrential rains from the remnants of Tropical Storm Fred, caused significant erosion along about 200-300 feet of stream bank, mostly on the south side. This included water getting behind a corroding boilerplate retaining wall. The erosion resulted in several large trees being toppled, one falling on NYSEG high-tension power lines, causing a disruption of power in the Wayland area. The scouring power of the water and rock also threatened a village sewer line under the same stretch of creek bed that serves the Crestwood Circle subdivision. Erosion of the banks threatens housing, a golf course and a county bridge (Red Jacket St.). The scouring of the bed itself threatens the sewer line under a trout stream.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will apply for permits from the Department of Environmental Conservation and the Army Corps of Engineers to work on the stream. Easements will be obtained from property owners to allow Village employees to work on private property. Rip-rap rock will be placed in two or three places where the stream naturally scours the banks. This will protect private property, prevent stream bank trees from being undermined and reduce the threat to the county bridge about 200 feet downstream. Two or three weirs/barbs will be constructed in the stream to channel the water and build up the creek bottom, especially where it flows over the sewer line, adding further layers of protection to the pipe.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100- and 500-year event	**Estimated Benefits (losses avoided):**	protect private property, prevent stream bank trees from being undermined and reduce the threat to the county bridge
Useful Life:	25+ years	**Goals Met:**	1, 2
Estimated Cost:	$95,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	3 years	**Potential Funding Sources:**	FEMA FMA and HMGP, Village Budget
Responsible Organization:	DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate properties in the area	$1 million+	Stream issues continue; not all properties flood; costly
	Repair creek bank	$95,000	Selected project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Mill Creek	
Project Number:	2022-Village of Dansville-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	To be completed within 3 years
Agency Champion	0	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Brewery Creek		
Project Number:	2022-Village of Dansville-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm, Landslide		
Description of the Problem:	Drain creek on eastern side of the village collects runoff water from at least three East Hill hillside creeks and from numerous street storm drains. During large storm events, the creek swells to capacity and deposits debris and silt along its course, but especially between Wilmot and William streets. Over the years this has resulted in the creek bed being nearly raised to the level of bordering yards. The flow has also undermined and caused a stone retaining wall off Wilmot St. to collapse in part. The remnants of Tropical Storm Fred in mid-August 2021 resulted in the flooding of two home basements on Cottage St (#64 & 66). and a yard off Perine St. (#65). If the creek's bed is not deepened, a major storm, and certainly a 100-year one, will cause serious flooding to at least a dozen properties and possibly impact a dozen more.		
Action or Project Intended for Implementation			
Description of the Solution:	The current plan is for the Village to obtain easements from property owners along the creek between Wilmot and William streets that will allow Village employees to work on private property. Permits will need to be obtained from the Department of Environmental Conservation, and possibly the Army Corps of Engineers. The Village's Department of Public Works will then dig out the creek bed during dry weather when the creek has minimal to no flow. The retaining wall off Wilmot will be removed as well. Approximately 531 feet of 36-inch pipe will be placed in the lowered bed and covered. All work will be performed by the Village of Dansville Department of Public Works.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100- and 500-year event	**Estimated Benefits (losses avoided):**	Reduce flooding, stabilize creek
Useful Life:	25+ years	**Goals Met:**	1, 2
Estimated Cost:	$25,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	3 years	**Potential Funding Sources:**	FEMA FMA and HMGP, Village Budget
Responsible Organization:	DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate properties in the area	$1 million+	Stream issues continue; not all properties flood; costly
	Repair creek bank	$25,000	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Brewery Creek	
Project Number:	2022-Village of Dansville-002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents in the floodprone areas
Property Protection	1	Reduce or eliminate flood damage to buildings in this area
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	0	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	To be completed within 3 years
Agency Champion	0	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	

9.8 TOWN OF GENESEO

This section presents the jurisdictional annex for the Town of Geneseo. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of Geneseo's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.8.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Geneseo's hazard mitigation plan primary and alternate points of contact. The Town of Geneseo followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Town Clerk, Supervisor, and Highway Department. The Town Clerk represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.8-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Sarah Wright, Town Clerk Address: 4630 Millennium Drive, Geneseo, NY 14454 Phone Number: 585-991-5010 Email: townclerk@geneseony.org	Name/Title: Will Wadsworth, Town Supervisor Address: 4630 Millennium Drive, Geneseo, NY 14454 Phone Number: 585-991-5005 Email: will@geneseony.org
NFIP Floodplain Administrator	
Name/Title: Will Wadsworth, Town Supervisor Address: 4630 Millennium Drive, Geneseo, NY 14454 Phone Number: 585-991-5005 Email: will@geneseony.org	

9.8.2 Municipal Profile

The Town has an area of 45.2 square miles, 44.0 square miles of land, and 1.2 square miles of water. The Town of Geneseo is bordered by the Towns of Avon, Conesus, Groveland, Leicester, Livonia, and York. Conesus Lake. a Finger Lake, is located to the south east in the Town of Geneseo. The Town of Geneseo is one of the central most town in Livingston County and only 25 miles from downtown Rochester.

According to the U.S. Census, the 2020 population for the Town of Geneseo was 2,660, a 8.48 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 2.6 percent of the population is 5 years of age or younger and 12.3 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.8.3 Jurisdictional Capability Assessment and Integration

The Town of Geneseo performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.8.3). The Town of Geneseo's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Geneseo. Section 6 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.8-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	2020	State and Local	Code Enforcement
How does this reduce risk? Prevents questions regarding regulations in the municipality					
Zoning/Land Use Code	Yes	No	Chapter 106 (Zoning) 2020	Local	Planning Board
How does this reduce risk? The Zoning Law is adopted to promote and protect the public health, safety and general welfare. The Zoning Law is intended to implement the goals and objectives of the Town of Geneseo 2008 Comprehensive Master Plan Update					
Subdivision Ordinance	Yes	No	Chapter 93 (Subdivision of Land) 1977	Local	Planning Board
How does this reduce risk? These regulations have been adopted for the purpose of providing for the future growth and development of the Town and for the purpose of affording adequate facilities for the housing, transportation, distribution, comfort, convenience, safety, health and welfare of the population of the Town.					
Site Plan Ordinance	No	No	Article 52 of Chapter 106 (Zoning)	Local and County	Planning
How does this reduce risk? The intent of the site plan review process is to determine compliance with the objectives of this chapter while also preserving and enhancing the character of a neighborhood, achieving compatibility with adjacent development, mitigating potentially negative impacts on traffic, parking, drainage and similar environmental concerns, improving the overall visual and aesthetic quality of the Town, and increasing the					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
capability of the Zoning Law to adapt to a variety of unique circumstances. It is the further intent of this section to ensure the optimum overall conservation, protection, preservation, development and use of natural and man-related resources of the Town through this process.					
Stormwater Management Ordinance	Yes	Yes	Chapter 101 (Water); May 26, 2011	Local	Water Superintendent
How does this reduce risk? Purpose of the chapter is to protect the public potable water supply of the Town of Geneseo rom possibility of contamination by isolating within its customers' internal distribution system(s) or its customers' private water system(s) such contaminations or pollutants which could backflow into the public water system and to comply with the requirements of the NYS Sanitary Code 5-131.					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No	-	-	-
How does this reduce risk?					
Environmental Protection Ordinance	Yes	Yes	Chapter 101 (Water); May 26, 2011	Local	Water Superintendent
How does this reduce risk? Purpose of the chapter is to protect the public potable water supply of the Town of Geneseo rom possibility of contamination by isolating within its customers' internal distribution system(s) or its customers' private water system(s) such contaminations or pollutants which could backflow into the public water system and to comply with the requirements of the NYS Sanitary Code 5-131.					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 62 (Flood Damage Prevention); May 10, 2001	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk? It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas; requires new development or substantial improvements in the floodplain to be elevated at least two feet above the BFE					
Wellhead Protection	No	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	Yes	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	2010		
How does this reduce risk?					
Capital Improvement Plan	No	No	-	-	-
How does this reduce risk?					
Disaster Debris Management Plan	No	No	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Floodplain Management or Watershed Plan	No	No	-	-	-
How does this reduce risk?					
Stormwater Management Plan	No	No	-	-	-
How does this reduce risk? Site Plan Review					
Open Space Plan	No	Yes	-	-	-
How does this reduce risk?					
Urban Water Management Plan	No	No	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	No	-	-	-
How does this reduce risk?					
Economic Development Plan	No	No	-	-	-
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	No	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	No	-	-	-
How does this reduce risk?					
Transportation Plan	No	No	-	-	-
How does this reduce risk?					
Agriculture Plan	Yes	No	2019		Planning Board
How does this reduce risk? Farmland Protection					
Climate Action/ Resiliency/Sustainability Plan	No	No	-	-	-
How does this reduce risk?					
Tourism Plan	No	No	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	No	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	-	Local	-
How does this reduce risk?					
Strategic Recovery Planning Report	No	No	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Post-Disaster Recovery Plan	Yes	Yes	-	Local	-
How does this reduce risk? Part of the EOP					
Continuity of Operations Plan	Yes	Yes	-	Local	-
How does this reduce risk? Part of the EOP					
Public Health Plan	Yes	Yes	-	Local	-
How does this reduce risk? Part of the EOP					
Other	No	-	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Geneseo to oversee and track development.

Table 9.8-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	-
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	Yes	Gateway

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Geneseo and their current responsibilities which contribute to hazard mitigation.

Table 9.8-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Town Planning Board
Zoning Board of Adjustments	Yes	Town Zoning Board of Appeals
Planning Department	No	Shared with County
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Highway Department
Construction/Building/Code Enforcement Department	Yes	Code Enforcement Office

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The highway department is responsible for maintaining approximately 40 miles of town roads. These responsibilities include snow removal and ice control, paving and maintenance of roads, signage, roadway markings, drainage, tree and brush cutting and removal within the Towns right of way, roadside mowing and disposal of dead deer on roadsides. The town highway department also operates the town Recycling Center/Transfer Station located on Warner Road and is responsible for maintenance of Long Point Park on Conesus Lake.
Mutual aid agreements	No	-
Human Resources Manual	Yes	-
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Zoning Boards
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Zoning Boards
Planners or engineers with an understanding of natural hazards	Yes	Planning and Zoning Boards
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Geneseo.

Table 9.8-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Geneseo.

Table 9.8-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	County
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	Yes	County
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Sheriffs Dept
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Geneseo.

Table 9.8-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	N/A	N/A

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
NYSDEC Climate Smart Community	No	N/A	N/A
StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other	No	N/A	N/A

Note:
N/A Not applicable
NP Not participating
- Unavailable

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.8-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.8.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.8-9. NFIP Summary

Town of Geneseo	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Geneseo	25	6	$46,151.98	N/A	N/A	25

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Yes, Yes
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Yes, 0
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Sight Visit, 0
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	0, 0
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Code Office
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes, Flood Maps
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit Review
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Review Plans
What are the barriers to running an effective NFIP program in the community, if any?	Funding
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 62; May 10, 2011

Town of Geneseo	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Geneseo	25	6	$46,151.98	N/A	N/A	25

NFIP Topic	Comments
What is the date that your flood damage prevention ordinance was last amended?	
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Yes meets the minimum
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.8.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- NYS Route 39 & 63
- US Route 20A
- Interstate 390

Sheltering

The Town of Geneseo has not identified sites for potential shelter locations. In the event shelters are needed, the Town will work with the County to find suitable locations for sheltering.

Temporary Housing

The Town of Geneseo has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Geneseo did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.8.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.8-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.8-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	4	0	3	0	5	0	4	0	3	0	3	0	2	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total Permits Issued	4	0	3	0	6	0	4	0	3	0	3	0	2	0

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
Hammocks	Res	17	Hammocks Drive	None	Completed
Gateway	Comm	1	Gateway Drive	None	Construction
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None identified					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.8.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Geneseo's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Geneseo has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.8-1. Town of Geneseo Flood and Mine Subsidence Hazard Areas

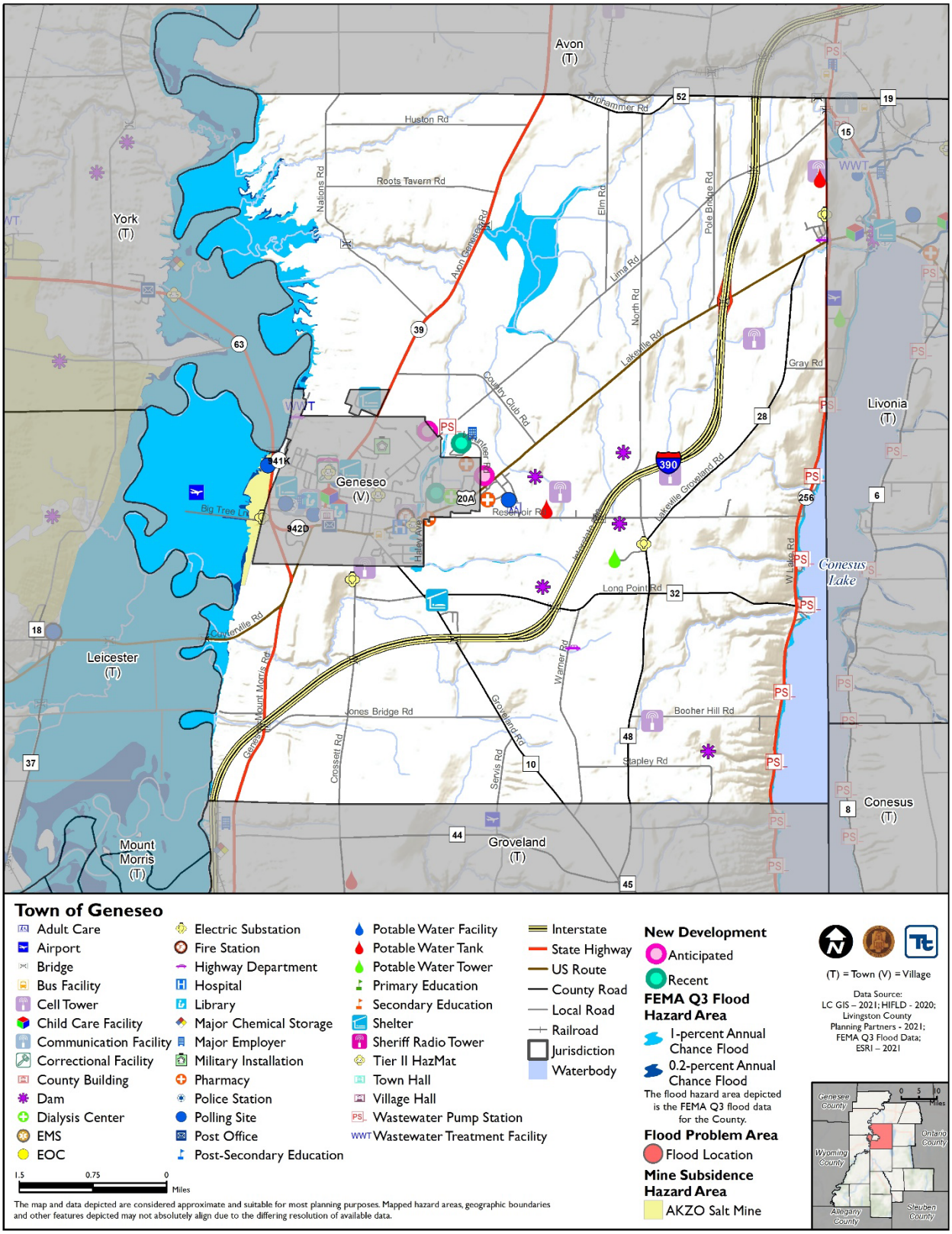


Figure 9.8-2. Town of Geneseo Hazmat and Wildfire Hazard Areas

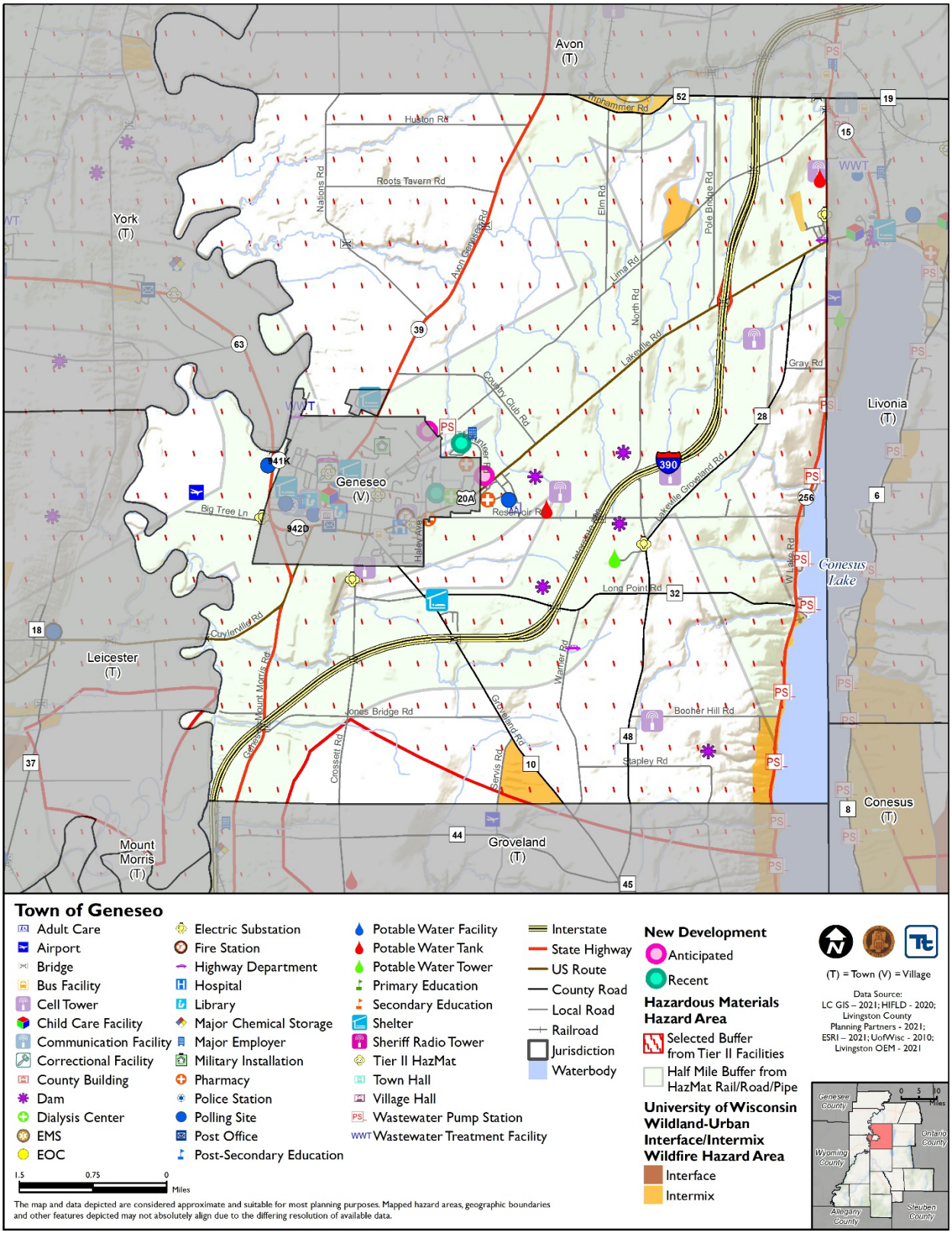
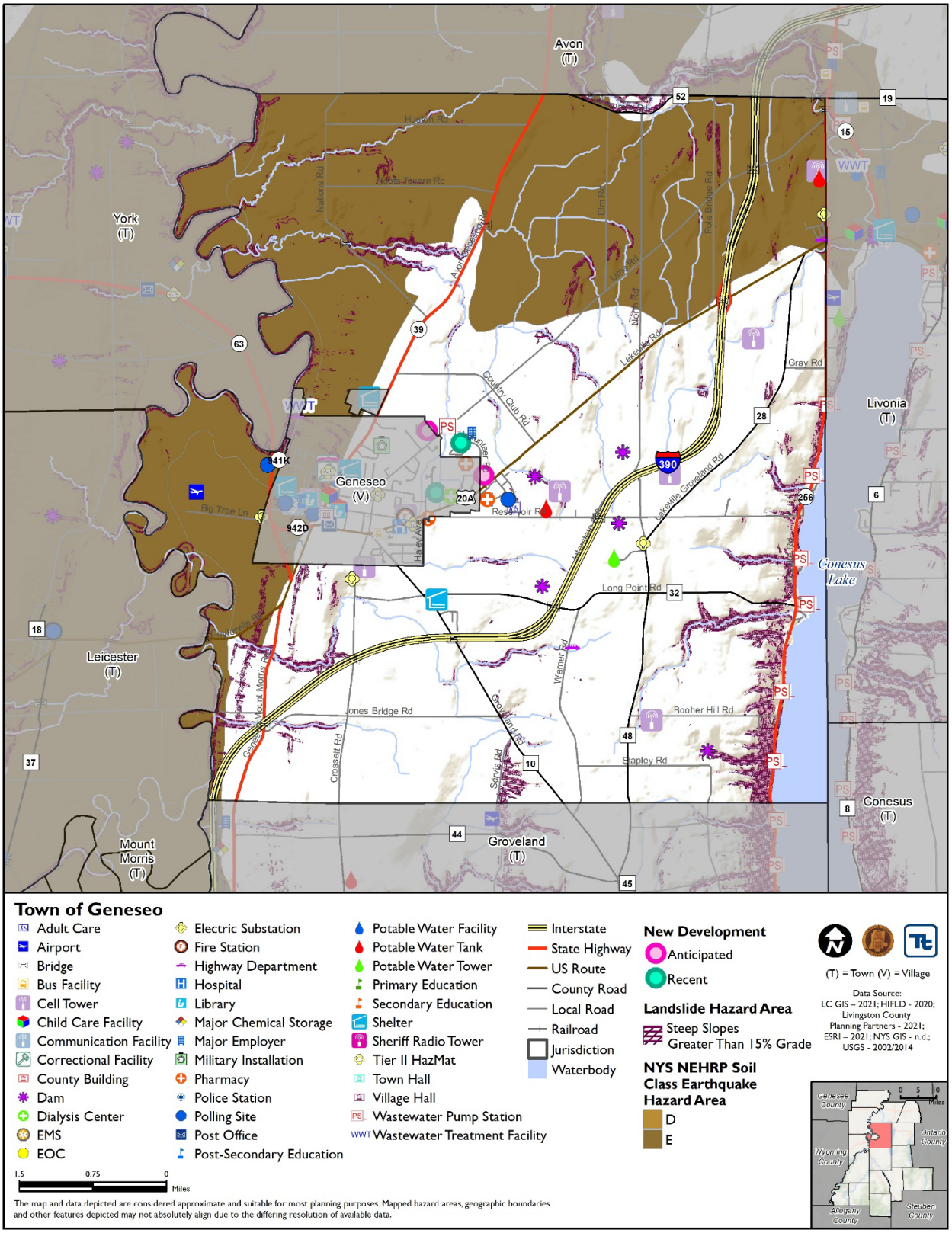


Figure 9.8-3. Town of Geneseo Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Geneseo's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.8-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.8-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Declared?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic (DR 3434 and 4480)	Yes	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages.

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Geneseo's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Geneseo. The Town of Geneseo has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.8-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Medium	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.8-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
5345 Long Point Pk	Police Station	X	X	2022-Town of Geneseo-005
4637 Westwood Dr	Wastewater Pump Station	X	X	2022-Town of Geneseo-009
5346 North Point Dr	Wastewater Pump Station	X	X	2022-Town of Geneseo-009
5113 West Lake Rd	Wastewater Pump Station	X	X	2022-Town of Geneseo-001
Unnamed	Airport	X	X	2022-Town of Geneseo-009

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Geneseo's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Geneseo has identified the following vulnerabilities within their community:

- Storm water management system flooded basement of Town/Village Building destroying public records and patrol car.
- Flooding in low lying areas on Lima Road affecting housing (Jaycox Creek)
- Flooding of residential property on West Lake along Conesus Lake, due to water run-off from water shed, and debris.

Specific areas of concern based on resident response to the Livingston County Hazard Mitigation Citizen survey include:

- Genesee river specially Main Street Avon. Flats RD Groveland known for flooding
- Episodic flooding of farmland along Caneseraga and Keshequa Creeks in Sonyea area. Flats road is commonly inundated following heavy snowmelt or rains
- Power goes out often for unknown reasons North Rd Geneseo
- No municipal water supply on Groveland Road near Servis Road intersection in Geneseo. If power is lost, people also lose access to water. There is municipal water on either side of the hill, but there is a significant gap in between.

9.8.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.8-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TG-1	Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the event of a disaster. These town-wide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-2	Address the frequency of power outages in the southern part of the county.	All	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-3	Provide back-up power generators for highway department/DPW garages and related installations	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. 2. 3.
TG-4	Stockpile several mobile generators for distribution around town	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-5	Acquire new communications gear such as radios and walkie-talkies	All	None provided in the 2015 HMP	County Sheriff	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-6	Maintain a mobile command unit that can be quickly dispatched to the scene of a major accident (HAZMAT) or incident	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
							mitigation strategy for the plan update.
TG-7	Provide better communications for First Responder units	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-8	Establish a formal emergency operations center (or a mobile county operated unit) for communications in town. Stockpile supplies/equipment in center.	All	None provided in the 2015 HMP	Municipalities	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-9	Establish mutual aid agreements with neighboring counties for their assistance in addressing county wide disasters.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-10	Prepare a list of private contractors to assist with recovery efforts in case public services are overwhelmed/disabled.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-11	Set up a reverse emergency management call system to contact residents (Reverse 911)	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-12	Institute an annual survey of HAZMAT truck traffic on major routes	Transportation Accidents	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-13	Continue distributing "File of Life" kits.	All	None provided in the 2015 HMP	County Office for the Aging	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
							mitigation strategy for the plan update.
TG-14	Secure funding to alleviate staffing issues for fire departments and EMTs	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-15	Secure training funds for EMS, fire dept., and police	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-16	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.	Flood	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-17	Build new cross-over sluices to increase water flow/drainage along East Lake Road and West Lake Road near Conesus Lake.	Flood	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Install new larger culvert to the lake across West Lake Road; install a force main in ditch areas with a drop inlets in appropriate locations 3. -
TG-18	Improve drainage capabilities of developed areas. Specifically, study at run-off problems from parking lots, large buildings, and other impermeable surfaces that cause flooding.	Flood	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-19	Carry out general infrastructure, signage, traffic control, and lighting upgrades to Route 63. These improvements should be aimed specifically at reducing the number of accidents involving HAZMAT trucks.	Transportation accidents and hazmat	None provided in the 2015 HMP	County Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TG-20	Clean and armor all ditches on Town roads with a slope greater than 3%.	All	None provided in the 2015 HMP	County and Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-21	Enlarge crossover pipes on Lima Road (Jaycox Creek).		None provided in the 2015 HMP		No Progress	1. 2. 3.	1. Discontinue 2. - 3. -
TG-22	Conduct stream management in water shed along Conesus Lake.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-23	Conduct streambank remediation	Flood, severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-24	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-25	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-26	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TG-27	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, wildfire, winter storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-28	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-29	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-30	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Town's mitigation strategy for the plan update.
TG-31	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if	Flood	None provided in	Town FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.		the 2015 HMP				3. This is an ongoing capability in the Town.
TG-32	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	Town FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-33	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-34	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process,).	Flood, wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-35	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Flood, Severe Storm, wildfire, winter storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.
TG-36	Enhance or expand tree maintenance program and coordinate with utility companies.	Flood, Severe Storm, wildfire, winter storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Town.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.8-14, the Town of Geneseo did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Geneseo participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.8-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought		X				X				X
Earthquake		X				X				X
Flood	X	X		X	X	X	X		X	X
Hazardous Materials		X				X				X
Invasive Species		X				X				X
Landslide		X				X				X
Mine Subsidence		X				X				X
Pandemic		X				X				X
Severe Storm		X	X			X		X	X	X
Severe Winter Storm		X	X			X		X	X	X
Wildfire		X	X			X		X		X
Terrorism		X				X				X
Utility Failure		X				X				X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.8-16 summarizes the comprehensive-range of specific mitigation initiatives the Town of Geneseo would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.8-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Geneseo-001	Booher Hill Road	**Problem**: Booher Hill Road's steep incline heading East to Conesus Lake **Solution**: Install new larger culvert to the lake across West Lake Road. Install a force main in ditch areas with drop inlets in appropriate locations.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2	1 year	Highway Department	Town Budget, CHIPs	Increase capacity, reduce flooding and runoff	$350,000	High	SIP	PP, SP
2022-Town of Geneseo-002	Reservoir Road Pump Station	**Problem**: Reservoir Road Pump Station – no generator is at this location and this pump station services over 75% of the Town of Geneseo's water customers. **Solution**: Install a standby generator, 400 AMP Service, 3 Phase, 50 KW generator at the Reservoir Road pump station. During a power outage, the pump will be able to operate and provide potable water to residents.	Yes	No	All	1, 2	1 year	Highway Department	Town Budget, FEMA HMGP	Prevent loss of power; continuity of operations	$85,000	High	SIP	PP, ES
2022-Town of Geneseo-003	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR
2022-Town of Geneseo-004	Jones Bridge Road	**Problem:** During times of heavy rainfall large volumes of water erode the edge of Jones Bridge Road. The town has placed rock along the edge of the road to stop undermining the road several times. It is a problem that happens often. **Solution:** Remove many trees, set creek ditch back from the road and provide an	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Highway Department	Town Budget, CHIPs, FEMA HMGP	Increase capacity, reduce flooding and runoff	$20,000+	Medium	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		overflow bank on each side of the creek and armor with stone fill.												
2022-Town of Geneseo-005	Long Point Park Flooding	**Problem:** Stormwater flooding in this area leads to flooding of basements of town and village buildings, including public records and police vehicles. **Solution:** Install under drainage and catch basins and grade area to drop inlets. This will provide additional stormwater management	Yes	No	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Highway Department	Town Budget, CHIPs, FEMA HMGP	Increase capacity, reduce flooding and runoff	$20,000+	Medium	SIP	PP, SP
2022-Town of Geneseo-006	Road Crossing Culvert	**Problem:** Road Crossing Culvert in front of 4564 Reservoir Road is a 36-inch pipe and during heavy rain water backs up to the property. **Solution:** Replace culvert with a 48-inch diameter pipe.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Highway Department	Town Budget, CHIPs, FEMA HMGP	Increase capacity, reduce flooding and runoff	$20,000+	Medium	SIP	PP, SP
2022-Town of Geneseo-007	Warner Road	**Problem:** Warner Road – 1000 feet South of 5107 Warner Rd. **Solution:** Excavate larger ditch and armor with stone fill and place a retention pond before entering road ditch.	No	No	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Highway Department	Town Budget, CHIPs, FEMA HMGP	Increase capacity, reduce flooding and runoff	$20,000+	Medium	SIP	PP, SP
2022-Town of Geneseo-008	Tree Maintenance Program	**Problem:** Large trees along side of 4260 North Road area is always shaded and creates a slippery road. During wind storms branches and trees are falling creating an unsafe driving area. **Solution:** The Town will develop a vegetation management program that will include routine inspections in municipal rights-of-way, identify trees that are in need of trimming or removal, and conduct the trimming and removal. This will help reduce or eliminate infrastructure damage, road closures, and power outages during severe storm	Yes	No	Severe Storm, Severe Winter Storm, Wildfire	1, 2	1 year	Highway Department	HMGP, CHIPs, Town Budget	Reduction in fallen trees; reduction in power outages and damages	$5,000	Medium	NSP	PP, NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		or severe winter storm events. Additionally, the Town will work with the utility companies to clear and/or maintain trees along the utility lines.												
2022-Town of Geneseo-009	Critical Facilities in Floodplain	**Problem**: There are two pump stations and an airport located in the 1% annual chance flood area and are susceptible to flood damages. The Town does not have jurisdiction over these facilities. **Solution**: The Town will conduct outreach to the facility owners/operators to inform them of their location in the floodplain and provide mitigation options to protect the structures from flood damage.	Yes	No	Flood	1, 2, 3	1 year	Code Enforcement	Town Budget	Education and outreach, protect structures from flood damage	Staff Time	Medium	LPR, EAP	PR, PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*

- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.8-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Geneseo-001	Booher Hill Road	1	1	1	1	1	0	0	1	0	1	1	1	0	0	9	High
2022-Town of Geneseo-002	Reservoir Road Pump Station	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
2022-Town of Geneseo-003	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High
2022-Town of Geneseo-004	Jones Bridge Road	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
2022-Town of Geneseo-005	Long Point Park Flooding	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium
2022-Town of Geneseo-006	Road Crossing Culvert	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
2022-Town of Geneseo-007	Warner Road	1	1	1	1	0	0	1	1	0	0	1	1	0	0	8	Medium
2022-Town of Geneseo-008	Tree Maintenance Program	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
2022-Town of Geneseo-009	Critical Facilities in Floodplain	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.8.9 Action Worksheets

The following action worksheets have been developed by the Town of Geneseo to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	2022-Town of Geneseo-001		
Project Number:	Booher Hill Road		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm		
Description of the Problem:	Booher Hill Road's steep incline heading East to Conesus Lake		
Action or Project Intended for Implementation			
Description of the Solution:	Install new larger culvert to the lake across West Lake Road. Install a force main in ditch areas with drop inlets in appropriate locations.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	5 year stormwater event	**Estimated Benefits (losses avoided):**	Increase capacity, reduce flooding and runoff
Useful Life:	20 years	**Goals Met:**	1, 2
Estimated Cost:	$350,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	Town Budget, CHIPs
Responsible Organization:	Town of Geneseo, Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate roadway	$500,000	Costly and may not solve problem
	Relocate roadway	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	2022-Town of Geneseo-001	
Project Number:	Booher Hill Road	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect people from flood damage
Property Protection	1	Protect structures from flood damage
Cost-Effectiveness	1	
Technical	1	
Political	1	There is political support for this project
Legal	0	
Fiscal	0	Need grant funding
Environmental	1	
Social	0	
Administrative	1	There is staff available to complete project
Multi-Hazard	1	Flood, Severe Storm, Severe Winter Storm
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	2022-Town of Geneseo-002		
Project Number:	Reservoir Road Pump Station		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	Reservoir Road Pump Station – no generator is at this location and this pump station services over 75% of the Town of Geneseo's water customers		
Action or Project Intended for Implementation			
Description of the Solution:	Install a standby generator, 400 AMP Service, 3 Phase, 50 KW generator at the Reservoir Road pump station. During a power outage, the pump will be able to operate and provide potable water to residents.		
Is this project related to a Critical Facility?	Yes ☒ No ☐		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐ No ☒		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Prevent Power Loss	**Estimated Benefits (losses avoided):**	Prevent loss of power; continuity of operations
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$85,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town of Geneseo, Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard mitigation; capital improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	2022-Town of Geneseo-002	
Project Number:	Reservoir Road Pump Station	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Provides potable water for residents during power outages
Property Protection	1	Protect pump station and allows to operate during power outages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need grant funding for project
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Within 1 year
Agency Champion	0	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.9 VILLAGE OF GENESEO

This section presents the jurisdictional annex for the Village of Geneseo. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Village participated in the planning process; an assessment of the Village of Geneseo's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.9.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Geneseo's hazard mitigation plan primary and alternate points of contact. The Village of Geneseo followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: Village Clerk, Code Enforcement, and Public Works. The Village Clerk represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.9-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Aprile S. Mack, Village Clerk / Treasurer Address: 119 Main St., Geneseo, NY 14454 Phone Number: 585-243-1177 ext 102 Email: amack@geneseony.org	Name/Title: Margaret Duff, Mayor Address: 119 Main St., Geneseo, NY 14454 Phone Number: 585-243-1177 ext 103 Email: mduff@geneseony.org
NFIP Floodplain Administrator	
Name/Title: Craig Wadsworth, Code Enforcement Officer Address: 119 Main St., Geneseo, NY 14454 Phone Number: 585-243-1177 ext 104 Email: cwadsworth@geneseony.org	

9.9.2 Municipal Profile

According to the U.S. Census Bureau, the Village has an area of 2.79 square miles, all land. The Genesee River defines the western town line, and Conesus Lake defines the eastern town line. Interstate 390 and U.S. Route 20A pass through the town. New York State Route 39 and New York State Route 63 are two important north-south highways passing through the village, and New York State Route 256 is a north-south route along the shore of Conesus Lake.

According to the U.S. Census, the 2020 population for the Village of Geneseo was 7,574, a 5.69 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 15.5 percent of the population is 5 years of age or younger and 7.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.9.3 Jurisdictional Capability Assessment and Integration

The Village of Geneseo performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.9.3). The Village of Geneseo's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Geneseo. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.9-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Chapter 61 of Village Code Last Updated: 05/28/2009	State and Local	Village Board
How does this reduce risk? This chapter provides for the administration and enforcement of the New York State Uniform Fire Prevention and Building Code (the Uniform Code) and the State Energy Conservation Construction Code (the Energy Code) in the Village of Geneseo.					
Zoning/Land Use Code	Yes	No	Chapter 130 of Village Code; Last Updated: 09/14/2020	Local	Village Board
How does this reduce risk? The intent of this chapter is to encourage appropriate and orderly physical development; to promote public health, safety, convenience and general welfare; to classify, designate and regulate the location and use of buildings, structures and land for mixed-use, residential, commercial, industrial or other uses in appropriate places; and, for said purpose, to divide into districts of such number, shape and area as may deemed best suited to carry out these regulations and provide for their enforcement.					
Subdivision Ordinance	Yes	No	Article XIII of Chapter 130 of Village Code; Last Updated: 09/14/2020	Local	Village Board
How does this reduce risk? The Planning Board of the Village of Geneseo, New York, has the power and authority to approve plans for the subdivision of land. This article has been adopted for the purpose of providing for the future growth and development of the Village and for the purpose of affording adequate facilities for the housing, transportation, distribution, comfort, convenience, safety, health and welfare of the population of the Village.					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Site Plan Ordinance	Yes	No	Article XIV of Chapter 130 of Village Code; Last Updated: 09/14/2020	Local and County	Village Board
How does this reduce risk? The purposes of site plan review are to: • Promote those qualities in the environment which retain or bring quality to life as well as material value to the community. • Foster the attractiveness and functional utility of the community as a place to live and work. • Preserve the character and quality of our heritage by maintaining the integrity or those areas which have a discernible character or are of special historic significance. • Protect existing investments in the area. • Encourage, where appropriate, a mix of uses within permissible use zones. • Raise the level of community expectations for the quality of its environment.					
Stormwater Management Plan	Yes	Yes		Local	Village Board
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 65 of Village Code Last Updated: 09/14/2020	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk? It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas; requires new development or substantial improvements in the floodplain to be elevated at least two feet above the BFE					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Plan	Yes	Yes			Village Board
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Comprehensive Plan	Yes	No	In process of being updated now.		Village Board
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	See Above	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	N/A	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	N/A	No			
How does this reduce risk?					
Community Forest Management Plan	N/A	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other – Alternatives to Improve Circulation, Parking, Safety and Aesthetics Route 39/North Street. Court Street Corridor	Yes	No	2009	Local	Village Board
NYS Route 20A Comprehensive Access Management Plan	Yes	No	2007	Local	Village Board
Response/Recovery Planning					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Emergency Operations Plan	Yes	Yes	2018	Local	Village Board
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Geneseo to oversee and track development.

Table 9.9-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Planning Board / Code Enforcement Officer
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Geneseo and their current responsibilities which contribute to hazard mitigation.

Table 9.9-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Planning Board
Zoning Board of Adjustments	Yes	Zoning Board of Appeals
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Department of Public Works
Construction/Building/Code Enforcement Department	Yes	Building and Zoning Departments primary job is to ensure that building and structures in the Village of Geneseo meet the NYS Uniform Fire Prevention and Building Codes. Furthermore, the inspector enforces the Zoning Codes (rules/regulations), and stays abreast of new laws and regulations through training to promote or enhance public safety.
Emergency Management/Public Safety Department	Yes	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Street maintenance; park maintenance; sidewalk maintenance; sanitary & storm sewer maintenance; water main installation & repair; and tree trimming & planting
Mutual aid agreements	Yes	Neighboring communities
Human Resources Manual	Yes	-
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Zoning Boards
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Zoning Boards
Planners or engineers with an understanding of natural hazards	Yes	Planning and Zoning Boards
Staff with expertise or training in benefit/cost analysis	Yes	Code Enforcement
Professionals trained in conducting damage assessments	Yes	Code Enforcement
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	-

Fiscal Capability

The table below summarizes financial resources available to the Village of Geneseo.

Table 9.9-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Capital improvements project funding	No
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Geneseo.

Table 9.9-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Website / USPS Mailings
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Village Board
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning Systems / Services (mass notification system, outdoor warning signals)	No	-
Natural disaster/safety programs in place for schools	N/A	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Village of Geneseo.

Table 9.9-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	N/A	N/A
NYSDEC Climate Smart Community	No	N/A	N/A
StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other	No	N/A	N/A

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.9-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.9.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.9-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Geneseo	3	0	0	N/A	N/A	1

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Jaycox Creek from Indian Meadows north through the north west corner of the Village of Geneseo.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	Unknown
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	No – they overstate
NFIP Compliance	
What local department is responsible for floodplain management?	
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	NYS Building Code “Level of Alteration” guidelines
What are the barriers to running an effective NFIP program in the community, if any?	None
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	None

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Geneseo	3	0	0	N/A	N/A	1

NFIP Topic	Comments
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 65 of the Village Code – Adopted by the Village Board on 07/25/1988 as Local Law #1 of 1988. Amended in its entirety on 09/09/1996 by Local Law No 4 of 1996.
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets our needs.
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No.
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source: FEMA - Q3 Data; Livingston County HMP 2014
Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.9.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- NYS Route 39 & 63
- US Route 20A
- Interstate 390

Sheltering

The Village of Geneseo has not identified sites for potential shelter locations. In the event shelters are needed, the Village will work with the County to find suitable locations for sheltering.

Temporary Housing

The Village of Geneseo has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Village will work with the County to find suitable locations.

Permanent Housing

While the Village of Geneseo did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Village can utilize this analysis to identify potential locations.

9.9.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.9-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Village is not expected to impact vulnerability to hazards.

Table 9.9-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	2	0	1	0	2	0	0	0	4	0	4	0	1	0
Multi-Family	1	0	0	0	6	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total Permits Issued	**3**	**0**	**1**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**4**	**0**	**1**	**0**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
Steeplechase Phase 2	Res	11/11	Steeplechase	None	One remaining
DePaul Apartments	Res	60/6	Mustang Circle	None	Complete
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Steeplechase Phase 3	Res	13/13	Steeplechase	None	Subdivision Review in Process

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.9.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Geneseo's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Geneseo has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.9-1. Village of Geneseo Flood and Mine Subsidence Hazard Areas

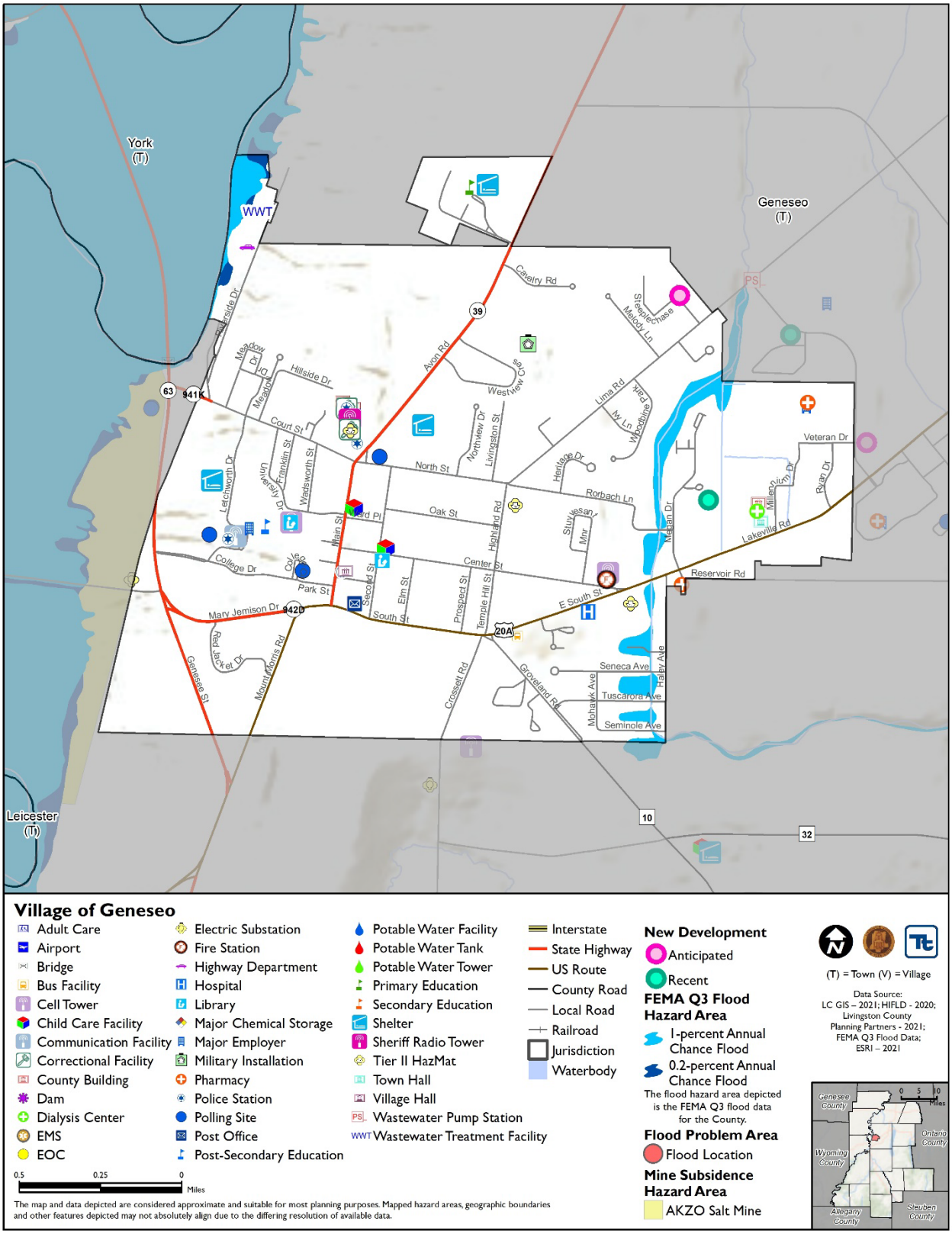
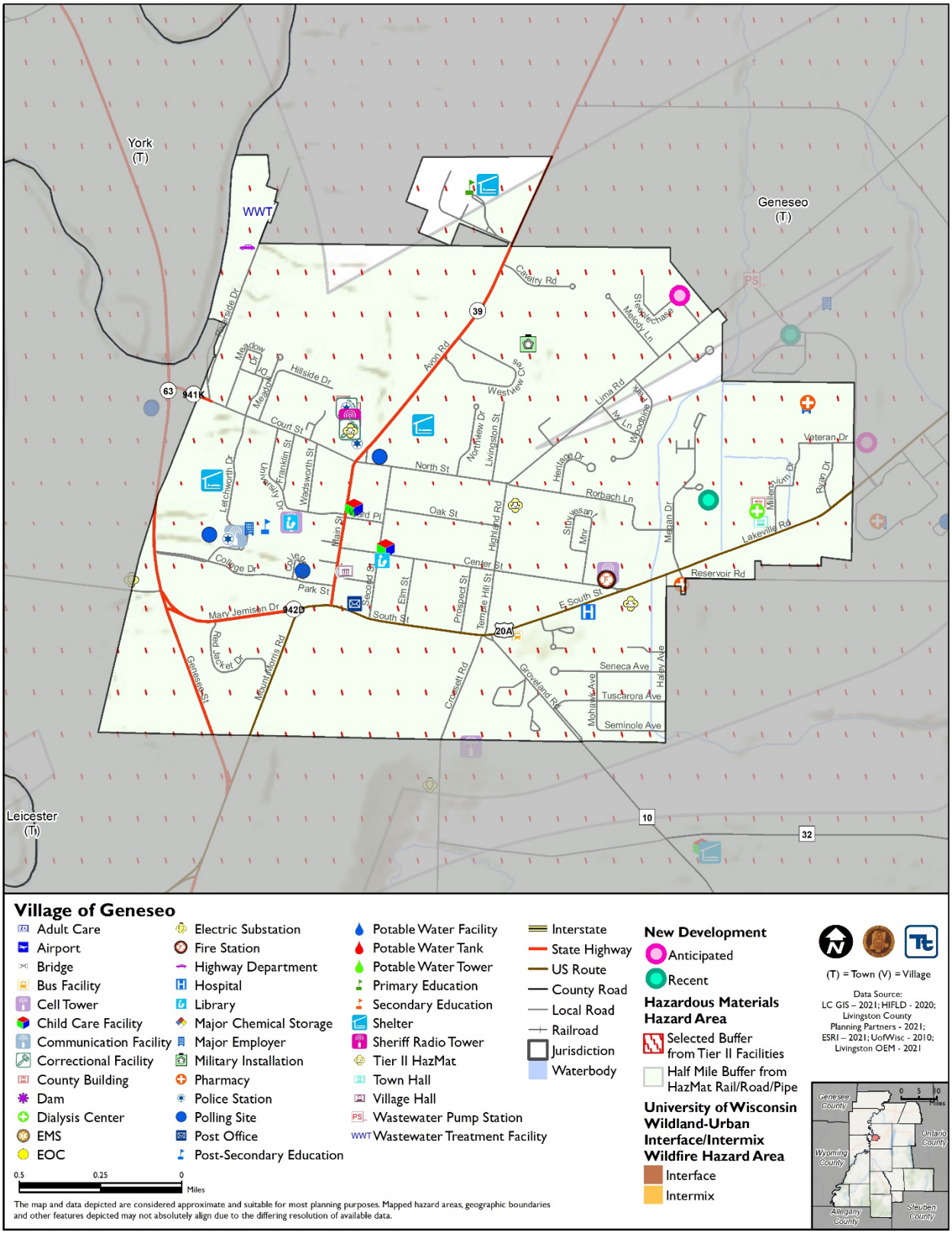


Figure 9.9-2. Village of Geneseo Hazmat and Wildfire Hazard Areas



Village of Geneseo

- Adult Care
- Airport
- Bridge
- Bus Facility
- Cell Tower
- Child Care Facility
- Communication Facility
- Correctional Facility
- County Building
- Dam
- Dialysis Center
- EMS
- EOC
- Electric Substation
- Fire Station
- Highway Department
- Hospital
- Library
- Major Chemical Storage
- Major Employer
- Military Installation
- Pharmacy
- Police Station
- Polling Site
- Post Office
- Post-Secondary Education
- Potable Water Facility
- Potable Water Tank
- Potable Water Tower
- Primary Education
- Secondary Education
- Shelter
- Sheriff Radio Tower
- Tier II HazMat
- Town Hall
- Village Hall
- Wastewater Pump Station
- WWT Wastewater Treatment Facility
- Interstate
- State Highway
- US Route
- County Road
- Local Road
- Railroad
- Jurisdiction
- Waterbody

0.5 0.25 0 Miles

The map and data depicted are considered approximate and suitable for most planning purposes. Mapped hazard areas, geographic boundaries and other features depicted may not absolutely align due to the differing resolution of available data.

New Development
- Anticipated
- Recent

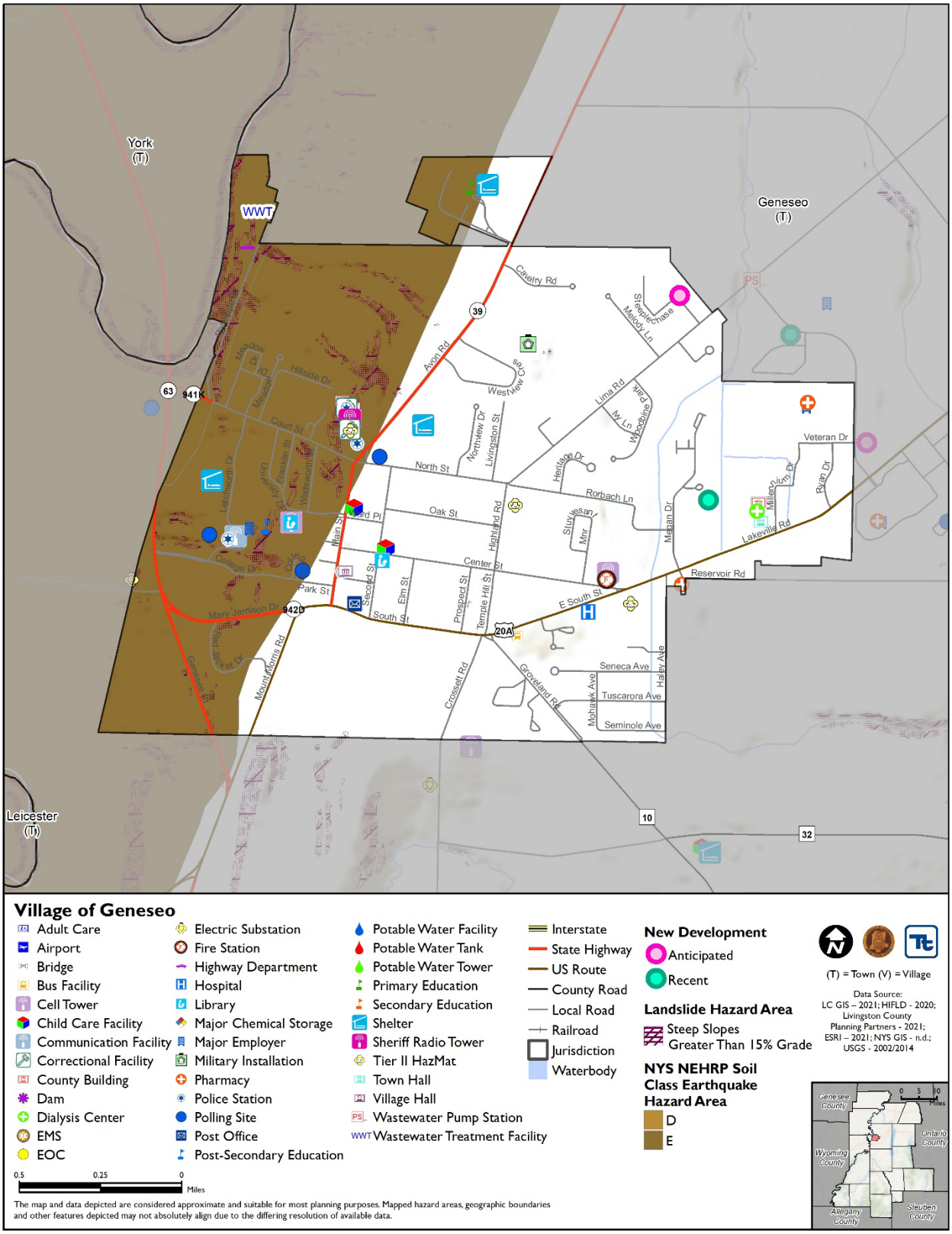
Hazardous Materials Hazard Area
- Selected Buffer from Tier II Facilities
- Half Mile Buffer from HazMat Rail/Road/Pipe

University of Wisconsin Wildland-Urban Interface/Intermix Wildfire Hazard Area
- Interface
- Intermix

(T) = Town (V) = Village

Data Source:
LC GIS – 2021; HIFLD - 2020; Livingston County Planning Partners - 2021; ESRI – 2021; UofWisc - 2010; Livingston OEM - 2021

Figure 9.9-3. Village of Geneseo Earthquake and Landslide Hazard Areas



Village of Geneseo

- Adult Care
- Airport
- Bridge
- Bus Facility
- Cell Tower
- Child Care Facility
- Communication Facility
- Correctional Facility
- County Building
- Dam
- Dialysis Center
- EMS
- EOC
- Electric Substation
- Fire Station
- Highway Department
- Hospital
- Library
- Major Chemical Storage
- Major Employer
- Military Installation
- Pharmacy
- Police Station
- Polling Site
- Post Office
- Post-Secondary Education
- Potable Water Facility
- Potable Water Tank
- Potable Water Tower
- Primary Education
- Secondary Education
- Shelter
- Sheriff Radio Tower
- Tier II HazMat
- Town Hall
- Village Hall
- Wastewater Pump Station
- Wastewater Treatment Facility
- Interstate
- State Highway
- US Route
- County Road
- Local Road
- Railroad
- Jurisdiction
- Waterbody

New Development
- Anticipated
- Recent

Landslide Hazard Area
- Steep Slopes Greater Than 15% Grade

NYS NEHRP Soil Class Earthquake Hazard Area
- D
- E

(T) = Town (V) = Village

Data Source: LC GIS – 2021; HIFLD - 2020; Livingston County Planning Partners - 2021; ESRI – 2021; NYS GIS - n.d.; USGS - 2002/2014

0.5 0.25 0 Miles

The map and data depicted are considered approximate and suitable for most planning purposes. Mapped hazard areas, geographic boundaries and other features depicted may not absolutely align due to the differing resolution of available data.

Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Geneseo's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.9-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.9-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Included?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic (DR 3434 and 4480)	Yes	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Geneseo's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Geneseo. The Village of Geneseo has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.9-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	Medium

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.9-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
No critical facilities in the floodplain				

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Geneseo's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Geneseo has identified the following vulnerabilities within their community:

- Stormwater flooding
- All village facilities need backup power
- Water and wastewater plants need backup power
- Jaycox Creek approaching capacity of culverts
- Indian Meadows – possible elevation
- Aging infrastructure in the Village

9.9.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.9-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VG-1	Complete Jaycox Creek stream channel clearing project in the Indian Meadows Housing Development.	Flood	None provided in the 2015 HMP	Village DPW	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-2	Complete Jaycox Creek box culvert replacement project in the Indian Meadows Housing Development.	Flood	None provided in the 2015 HMP	Village DPW	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-3	Identify and conduct flood control and mitigation actions to minimize flooding issue for Jaycox Creek along Lima Road	Flood	None provided in the 2015 HMP	Village Planning & Zoning Boards	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-4	Establish reserves of spare parts, tires, etc. for emergency/official vehicles.	All	None provided in the 2015 HMP	County Sheriff	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Village's mitigation strategy for the plan update.
VG-5	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Village's mitigation strategy for the plan update.
VG-6	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Village's mitigation strategy for the plan update.
VG-7	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Village's mitigation strategy for the plan update.
VG-8	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation	Flood, Severe Storm,	None provided in the 2015 HMP	Village Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Wildfire, Winter Storm					3. This is an ongoing capability in the Village.
VG-9	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Village Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-10	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Village Superintendent's Office	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-11	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-12	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. Discontinue 2. – 3. This is a county action and will not be included in the Village's mitigation strategy for the plan update.
VG-13	Begin the process to promote or adopt higher regulatory and zoning standards to	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	manage flood hazard risk; specifically through [examples]:					3.	3. This is an ongoing capability in the Village.
VG-14	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-15	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered in the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-16	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-17	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-18	Develop and maintain mapping of all natural hazard risk areas in the Village, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-19	Work with County and power companies to identify roads within the Village considered "critical" would be the first	Severe Storm; Severe	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	priority for clearing after an event involving downed power lines.	Winter Storm				3.	3. This is an ongoing capability in the Village.
VG-20	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.
VG-21	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability in the Village.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is presented in Table 9.9-14, the Village of Geneseo did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Geneseo participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.9-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought		X				X				X
Earthquake		X				X				X
Flood	X	X	X		X	X		X	X	X
Hazardous Materials	X	X		X	X	X		X		X
Invasive Species		X				X				X
Landslide		X				X				X
Mine Subsidence		X				X				X
Pandemic		X				X				X
Severe Storm		X	X			X		X	X	X
Severe Winter Storm		X	X			X		X	X	X
Wildfire		X				X				X
Terrorism		X				X				X
Utility Failure		X				X				X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.9-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Geneseo would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.9-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2021-Village of Geneseo-001	Jaycox Creek Stormwater Improvements	**Problem**: Stormwater flooding in the area of Jaycox Creek is a concern due to the undersized culverts and combined sewer systems. **Solution**: The Village will increase drainage and separation of storm and sanitary sewers. Additionally, the Village will continue cleaning of Jaycox Creek.	No	Yes	Flood, Severe Storm, Severe Winter Storm	1, 2	1 year	Village DPW	Local Budget, CHIPs, FEMA HMGP	Increase capacity of system; reduce flooding; increase water quality	$100,000+	Medium	SIP, NSP	PP, SP, NR
2021-Village of Geneseo-002	Critical Facility Generators	**Problem**: There are several critical facilities in the Village that do not have backup power. This impacts their capabilities of operating during power outages and providing essential services to the residents. **Solution**: Prioritize the facilities based on need for backup power. Once prioritized, the Village will begin purchasing and install generators at each of the facilities.	Yes	No	All	1, 2	3 years	Village DPW, Village Board	Local Budget, FEMA HMGP	Continuity of operations	$70,000/ generator	High	SIP	ES, PP
2021-Village of Geneseo-003	Village wide Infrastructure Improvement	**Problem**: Aging infrastructure throughout the Village. **Solution**: Conduct a feasibility study to determine the status of the infrastructure and identify actions needed to upgrade and upsize the systems. This will include upsizing stormwater piping and culverts.	No	No	Flood, Severe Storm	1, 2	3 years	Village DPW, Village Board	HMGP, Local Budget	Reduction in flood risk	$50,000+	Medium	SIP	PP, SP
2021-Village of Geneseo-004	Second Street/ Oak Street Rehabilitation	**Problem:** Property flooding during significant rain events in the area of Second Street and Oak Street. **Solution:** Increased capacity of storm sewer and removal of storm water in sanitary sewer system.	Yes	No	Flood, Severe Storm, Severe Winter Storm	1, 2	8 months	Village DPW, Village Board	Local Budget, WQIP	Property damage reduction; increase capacity	$3 million	High	SIP	PP, SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2021-Village of Geneseo-005	Conesus Lake Protection Plan	**Problem:** Recreational fireworks around Conesus Lake is causing contamination of drinking water in the area. **Solution:** Implement procedures to reduce fireworks in the area of the lake and put a plan in place to clean the water of contaminants.	No	Yes	Hazardous Materials	1, 2	1 month	State and Local Health Departments, CLA	Local Budget, Watershed Officials	Improve water quality	TBD	High	LPR, EAP	PR, NR
2021-Village of Geneseo-006	Floodprone Properties	**Problem**: There are 3 policies. One of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to 3 floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the Village.	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Village Board	Village Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI
2021-Village of Geneseo-007	NFIP Administrator Training	**Problem:** The floodplain administrator for the Village is in need of training and resources to understand the NFIP program and flooding in the Village. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Village Budget	Increase education and training on floods in the Village	Staff time	High	LPR	PR

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.9-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2021-Village of Geneseo-001	Jaycox Creek Stormwater Improvements	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
2021-Village of Geneseo-002	Critical Facility Generators	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2021-Village of Geneseo-003	Village wide Infrastructure Improvement	1	1	1	1	1	0	0	0	0	1	1	1	0	0	8	Medium
2021-Village of Geneseo-004	Second Street/ Oak Street Rehabilitation	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2021-Village of Geneseo-005	Conesus Lake Protection Plan	1	1	1	1	1	0	0	1	0	1	0	1	1	0	9	High
2021-Village of Geneseo-006	Floodprone Properties	1	1	1	1	0	0	1	0	0	1	0	1	0	0	7	Medium
2021-Village of Geneseo-007	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.9.9 Action Worksheets

The following action worksheets have been developed by the Village of Geneseo to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Second Street/Oak Street Rehabilitation		
Project Number:	2021-Village of Geneseo-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Storm		
Description of the Problem:	Property flooding during significant rain events in the area of Second Street and Oak Street.		
Action or Project Intended for Implementation			
Description of the Solution:	Increased capacity of storm sewer and removal of storm water in sanitary sewer system.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Property damage reduced
Useful Life:	50-100 years	**Goals Met:**	1, 2
Estimated Cost:	$3 million	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	12 months from funding
Estimated Time Required for Project Implementation:	8 months	**Potential Funding Sources:**	Local Budget, WQIP
Responsible Organization:	Village DPW, Village Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Replace entire stormwater system	$10 million+	Costly; entire system does not need to be replaced
	Elevate roadways	$1 million+	Costly; not feasible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Second Street/Oak Street Rehabilitation	
Project Number:	2021-Village of Geneseo-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	Increases capacity; replaces aging infrastructure
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm, Winter Storm
Timeline	1	To be completed within 8 months
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet				
Project Name:	Conesus Lake Protection Plan			
Project Number:	2021-Village of Geneseo-005			
Risk / Vulnerability				
Hazard(s) of Concern:	Hazardous Materials			
Description of the Problem:	Recreational fireworks around Conesus Lake is causing contamination of drinking water in the area.			
Action or Project Intended for Implementation				
Description of the Solution:	Implement procedures to reduce fireworks in the area of the lake and put a plan in place to clean the water of contaminants.			
Is this project related to a Critical Facility?	Yes ☐	No ☒		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	High	**Estimated Benefits (losses avoided):**	Improve water quality	
Useful Life:	TBD	**Goals Met:**	1, 2	
Estimated Cost:	TBD	**Mitigation Action Type:**	LPR, EAP	
Plan for Implementation				
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months	
Estimated Time Required for Project Implementation:	1 month	**Potential Funding Sources:**	Local Budget, Watershed Officials	
Responsible Organization:	State and Local Health Departments, CLA	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement	

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install water treatment equipment around entire lake	$1 million+	Costly; not all sections need treatment
	Prohibit fireworks	$0	Can be difficult to enforce; people will still use fireworks

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Conesus Lake Protection Plan	
Project Number:	2021-Village of Geneseo-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Improve water quality for potable water
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	Political support to implement
Legal	0	
Fiscal	0	Need funding to complete project
Environmental	1	Increase water quality; benefits environment
Social	0	
Administrative	1	
Multi-Hazard	0	Hazardous Materials
Timeline	1	To be completed within 1 month
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.10 TOWN OF GROVELAND

This section presents the jurisdictional annex for the Town of Groveland. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Groveland and who in the Town participated in the planning process; an assessment of the Town of Groveland's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.10.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Groveland's hazard mitigation plan primary and alternate points of contact. The Town of Groveland followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Code Enforcement, Highway Department, and Town Clerk. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Groveland's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.10-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: William Devine, Acting Supervisor Address: 4955 Aten Road, Groveland, NY 14462 Phone Number: 585-447-0184 Email: supervisor@grovelandny.org	Name/Title: Kimberly Burgess, Town Clerk Address: 4955 Aten Road, Groveland, NY 14462 Phone Number: 585-243-1750 Email: townclerk@grovelandny.org
NFIP Floodplain Administrator	
Name/Title: Ronald Maxwell, Code Enforcement Officer Address: 4955 Aten Road, Groveland, NY 14462 Phone Number: 585-447-1358 Email: codeenforcement@grovelandny.org	

9.10.2 Municipal Profile

According to the United States Census Bureau, the town has an area of 39.9 square miles, 39.10 square miles of land and 0.7 square mile (1.85%) of water. The Town of Groveland is bordered by the Towns of Conesus, Geneseo, Livonia, Mount Morris, Sparta, and West Sparta. A portion of Conesus Lake, a Finger Lake, is located in the north eastern corner of the Town. The Town of Groveland is central to Livingston County.

According to the U.S. Census, the 2020 population for the Town of Groveland was 2,316, a 28.72 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 2.6 percent of the population is 5 years of age or younger and 6.4 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.10.3 Jurisdictional Capability Assessment and Integration

The Town of Groveland performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.10.3). The Town of Groveland's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Groveland. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.10-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Local Law #1 of 2007	State and Local	CEO
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Currently under review	Local	CEO/ PB/ZBA
How does this reduce risk?					
Subdivision Ordinance	YES	No	12-27-1988	Local	Planning Board
How does this reduce risk?					
Site Plan Ordinance	Yes	No	-	Local and County	Planning Board
How does this reduce risk? Goes through site plan review					
Stormwater Management Ordinance	Yes	Yes	NYS DEC Erosion Control Law #2 2007	Local	DEC/ CEO PB
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	Yes	No	NYS Building Code	Local	CEO
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Regulates rebuilding Town local/ flood control law					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	Yes	No	Local Zoning Law	Local	CEP/ PB
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes	NYS SEQR regulates	Local	PB
How does this reduce risk? ***Consider the following:*** • *Are environmental systems that protect development from hazards identified and mapped?* • *Do environmental policies maintain and restore protective ecosystems?* • *Do the ordinances prohibit development within, of filling of, wetlands, floodways, and floodplains?* • *Do environmental policies provide incentives to development that is located outside protective ecosystems?*					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Local Law No. 2 of 2000	Federal, State, County and Local	CEO
How does this reduce risk? Promote public health, safety and general welfare, and to minimize public and private losses due to flooding; Code enforcement officer identified as the local administrator of the code; code requires new development and substantial improvements in the floodplain to have their lowest floor elevated two feet or more above the base flood elevation					
Wellhead Protection	No	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	Yes	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Planning Documents					
Comprehensive Plan	Yes	No	Farmland Protection Plan	Local	CEO PB Town Board
How does this reduce risk? Guides growth and development and addresses future growth in the community					
Capital Improvement Plan	No	No	-	-	-
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Plan	No	No	-	-	-
How does this reduce risk?					
Open Space Plan	No	-	-	-	-

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Urban Water Management Plan	No	-	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	-	-	-	-
How does this reduce risk?					
Economic Development Plan	No	-	-	-	-
How does this reduce risk?					
Shoreline Management Plan	N/A	-	-	-	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	-	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	-	-	-	-
How does this reduce risk?					
Transportation Plan	No	-	-	-	-
How does this reduce risk?					
Agriculture Plan	Yes	No	Farmland Protection Plan	Local	CEO/ PB/ Town Board
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-	-
How does this reduce risk?					
Tourism Plan	No	-	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	-	-	-	-
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes		Local	Town Board
How does this reduce risk? ***Consider the following:*** • *Does your CEMP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards?*					
Strategic Recovery Planning Report	No	-	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery Plan	No	-	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Public Health Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Groveland to oversee and track development.

Table 9.10-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Planning Board is responsible for site plan review and review of subdivisions
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Flood Plain permit unless a letter of map amendment is received for the property(LOMA)
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	Follow NYS Building Code Requirements

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Groveland and their current responsibilities which contribute to hazard mitigation.

Table 9.10-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	The Groveland Planning Board is comprised of five members appointed by the Town Board for a five year term. Their responsibilities include reviewing and approving applications for subdivision plans and commercial site plans and issuing specific conditional use permits. Educational training per year and specific meeting attendance is required of all board members.
Zoning Board of Adjustments	Yes	The Groveland Zoning Board of Appeals is comprised of five members appointed by the Town board for a five year term. Their responsibilities include issuing specific conditional use permits, interpreting decisions of administration officials, and hearing area and use variance applications. Educational training per year and specific meeting attendance is required of all board members.
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Public Works/Highway Department	Yes	
Construction/Building/Code Enforcement Department	Yes	
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	DPW Handles for Town
Mutual aid agreements	Yes	Liv Co Ambulance/ Dansville Ambulance
Human Resources Manual	No	-
Other	Yes	Employee Handbook
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contracted as needed
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Groveland.

Table 9.10-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Groveland.

Table 9.10-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Town Website
Personnel skilled or trained in website development	Yes	Town Clerk can update website from outside Town Offices
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning Systems / Services (mass notification system, outdoor warning signals)	No	-
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Groveland.

Table 9.10-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
NYSDEC Climate Smart Community	No	-	-
StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other	No	-	-

Note:

N/A *Not applicable*

NP *Not participating*

- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.10-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*

Moderate *Capacity may exist; but is not used or could use some improvement*

Weak *Capacity does not exist or could use substantial improvement*

9.10.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.10-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Groveland	5	3	$3,997.59	N/A	N/A	2

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Conesus Lake and Canaseraga Creek The town does not keep a list of properties damaged by flood events

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Groveland	5	3	$3,997.59	N/A	N/A	2

NFIP Topic	Comments
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	None while employed as Code Officer to date
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None while employed as Code Officer to date
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	CEO
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Unavailable
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Training has been updated
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	One of two ways over 50% of area of building of value of structure
What are the barriers to running an effective NFIP program in the community, if any?	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	NYS DEC reviewed records 2016
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	#2-2000
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets the minimum requirements

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Groveland	5	3	$3,997.59	N/A	N/A	2

NFIP Topic	Comments
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	NYS Building Code and ZBA- variance required
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Yes

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.10.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

N/A- Livingston County Office of Emergency Management would be Town's guidance for this as there is no policy in place currently.

Sheltering

The Town of Groveland has not identified sites for potential shelter locations. In the event shelters are needed, the Town will work with the County to find suitable locations for sheltering.

Temporary Housing

The Town of Groveland has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Groveland did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.10.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern.

Table 9.10-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New development in the Town does not impact the Town's vulnerability, but proposed development of solar farms will help reduce vulnerability to utility failures and the natural hazards that cause them.

Table 9.10-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
None identified					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Solar Farm	Commercial	To be determined	Lattimer Road and Bailey Road	None	Proposed location
Solar Farm	Commercial	To be determined	6842 Groveland Hill Road	None	Proposed location
Solar Farm	Commercial	To be determined	Abele Road and Route 63/Mount Morris Geneseo Road	None	Proposed location

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.10.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Groveland's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Groveland has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.10-1. Town of Groveland Flood and Mine Subsidence Hazard Areas

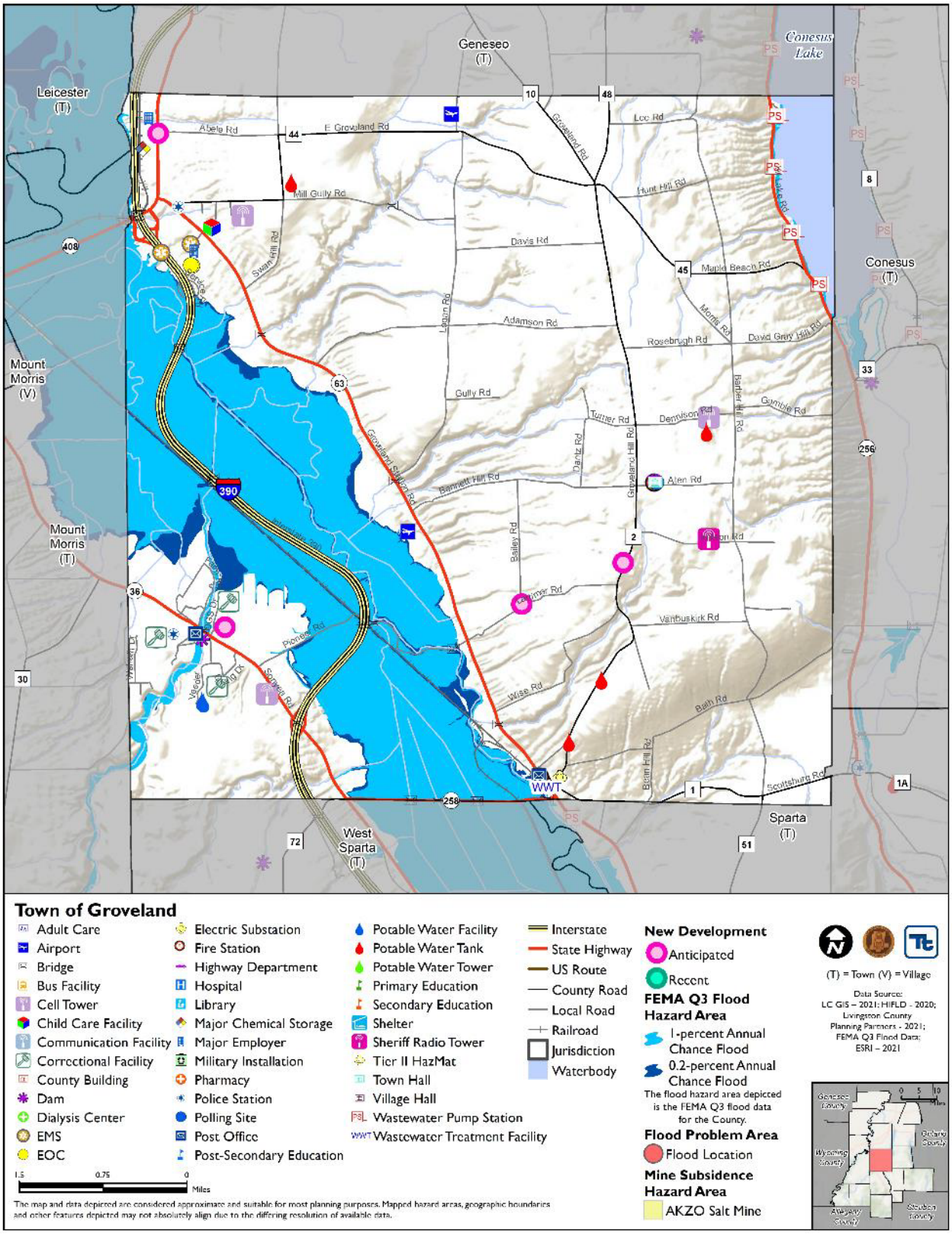


Figure 9.10-2. Town of Groveland Hazmat and Wildfire Hazard Areas

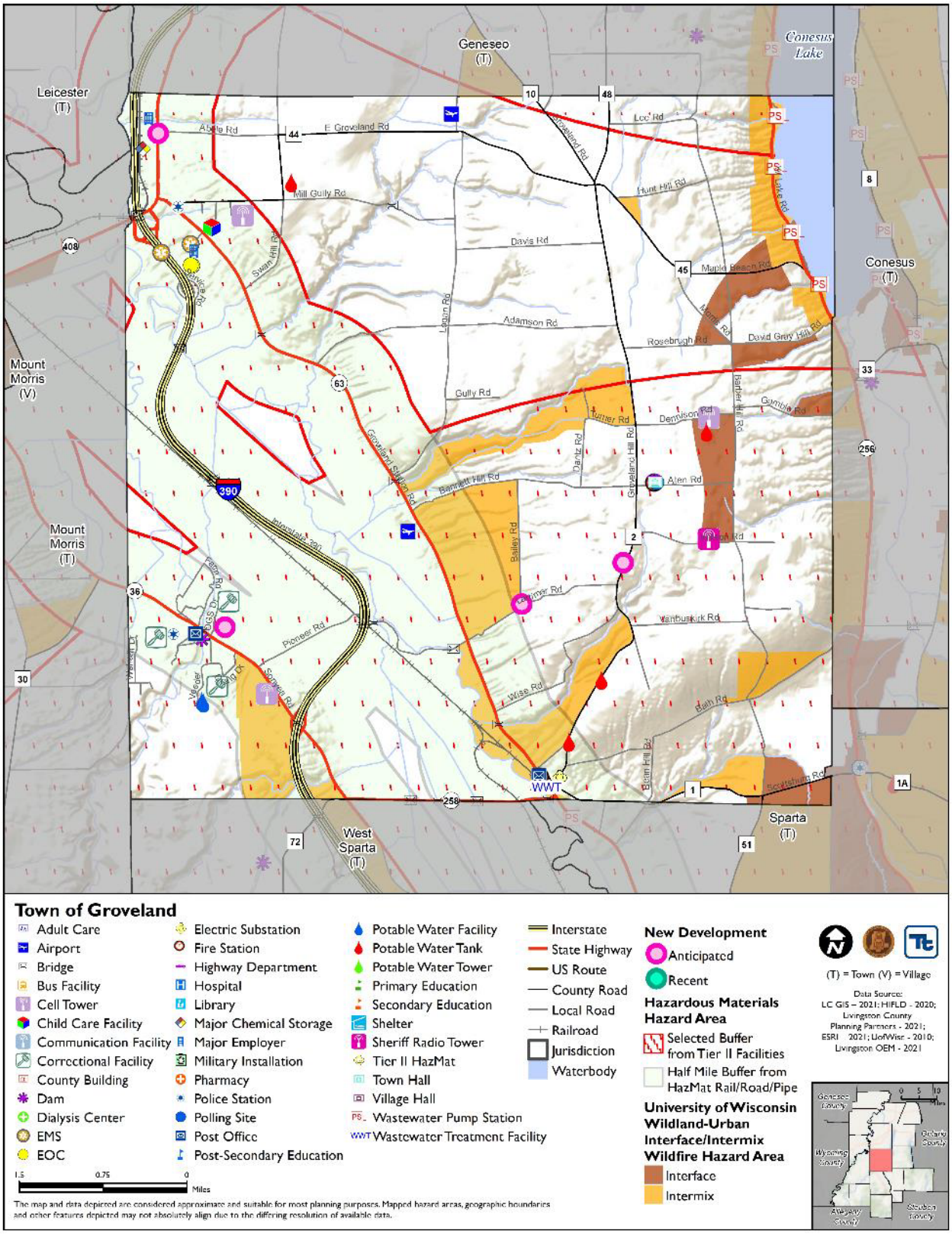
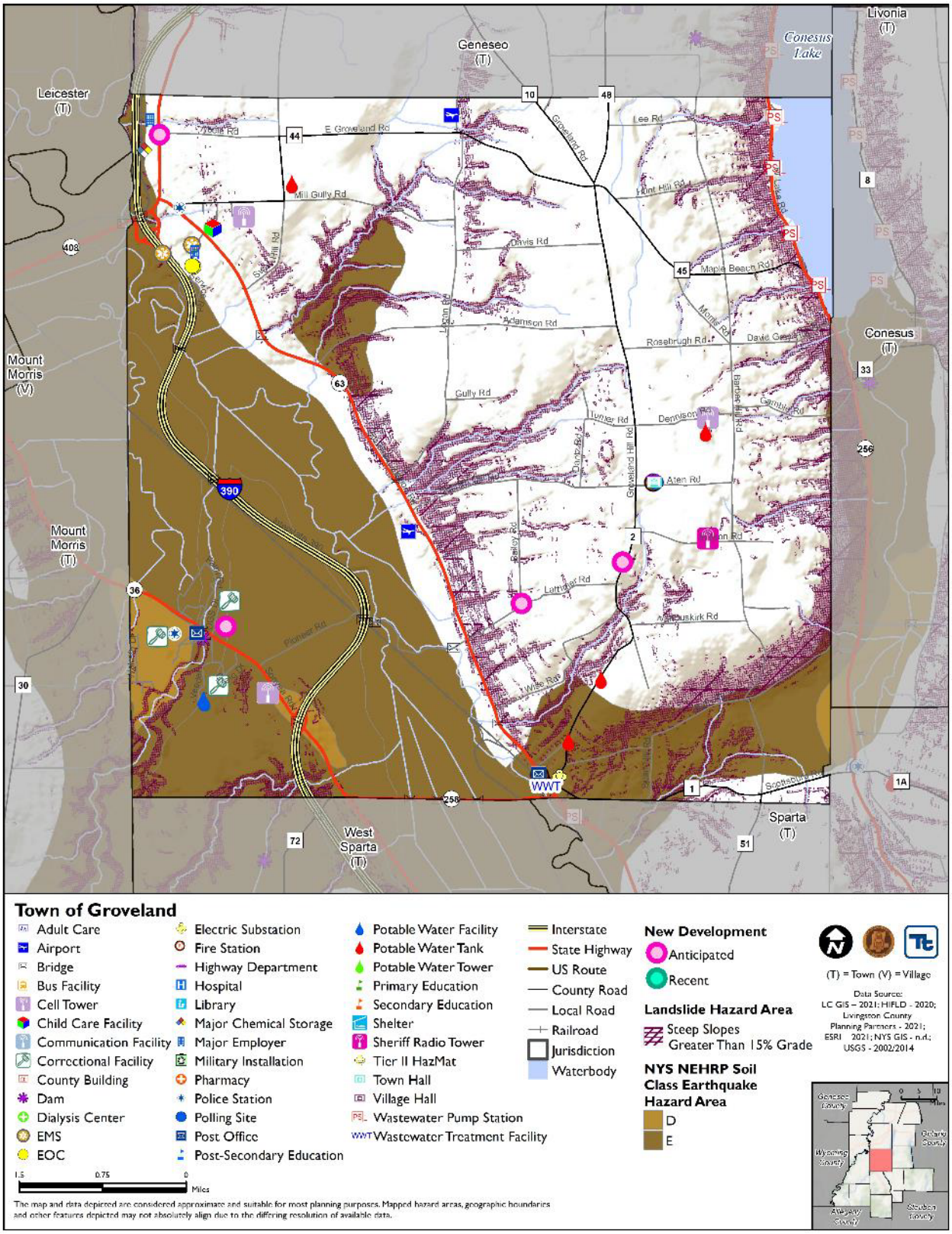


Figure 9.10-3. Town of Groveland Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Groveland's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.10-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.10-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages

Notes:
EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Groveland's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Groveland ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Groveland. The Town of Groveland has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.10-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Medium	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	Medium

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.10-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
CRAIG COLONY DAM	Dam	X	X	
Not available	Wastewater Pump Station	X	X	

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Groveland's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Groveland has identified the following vulnerabilities within their community:

- Flooding of State Route 258- Flats Road annually
- American Rock Salt mine

9.10.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.10-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TGr-1	Establish local emergency shelters/coordination centers.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-2	Establish a formal emergency operations center (or a mobile county operated unit) for communications in town. Stockpile supplies and equipment in the center.	All	None provided in the 2015 HMP	Municipality	Ongoing Capability	1. 2. 3.	1. 2.Utilize County OEM & Town's EOP 3.
TGr-3	Establish mutual aid agreements with neighboring counties for their assistance in addressing county wide disasters.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-4	Stockpile Emergency Supplies/Equipment	All	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-5	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-6	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-7	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TGr-8	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. 2.As needed 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	properties should be a priority, when applicable.						
TGr-9	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. 2.As needed 3.
TGr-10	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing Capability	1. 2. 3.	1. 2. Use of Town Website & Liv Co OEM to assist 3.
TGr-11	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. Require Flood Plain Permits 3.
TGr-12	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-13	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TGr-14	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-15	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-16	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-17	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-18	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-19	Work with County and power companies to identify roads within the Town considered “critical” would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TGr-20	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TGr-21	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Groveland has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2015 HMP:

- Proposing to install a large scale solar farm with the Town of Groveland as the lead for the project

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Groveland participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.10-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X	X			X	X				X
Earthquake	X	X			X	X				X
Flood	X	X			X	X	X		X	X
Hazardous Materials	X	X			X	X				X
Invasive Species	X	X			X	X				X
Landslide	X	X			X	X				X
Mine Subsidence	X	X			X	X				X
Pandemic	X	X			X	X				X
Severe Storm	X	X			X	X			X	X
Severe Winter Storm	X	X			X	X				X
Wildfire	X	X			X	X				X
Terrorism	X	X			X	X				X
Utility Failure	X	X			X	X				X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.10-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Groveland would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.10-16. Summary of Prioritization of Actions

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Groveland-001	Minimum Staffing	**Problem**: The Town has minimum staff to assist during a large event. **Solution**: The Town will develop inter-municipal agreements to have shared services and staff when needed during larger events.	No	No	All	All	Ongoing	Town Board	Local Budget	Increase capabilities; continuity of operations	Staff Time	Medium	LPR	PR
2022-Town of Groveland-002	Town Hall Generator	**Problem**: The current generator at the town hall is old and not reliable. Without proper backup power, the facility cannot function properly and provide essential services to the community. **Solution**: Purchase and install a permanent generator at the town hall. This provide continuity of operations to the municipal departments.	Yes	No	All	1, 2	3 years	Town Board	Local Budget, FEMA HMGP	Continuity of operations	$30,000	High	SIP	ES, PP
2022-Town of Groveland-003	Barber Hill Culvert	**Problem**: The culvert located on Barber Hill is undersized and cannot handle excess water after a heavy rain event. This leads to flooding in and around the area. **Solution**: The Highway Department will determine the proper size culvert to install. Once identified, the Department will replace the existing culvert with a new, upsized culvert to increase capacity and reduce flooding.	No	No	Flood, Severe Storm	1, 2	6 months	Town Highway Department	Local Budget, FEMA HMGP	Reduction in flood risk	$50,000	High	SIP	PP, SP
2022-Town of Groveland-004	Floodprone Properties	**Problem**: There are 5 flood policies in the Town. Two of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to 5 floodprone property owners and provide information on mitigation	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Village Board	Village Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Town.												
2022-Town of Groveland-005	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Village. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR
2022-Town of Groveland-006	Critical Facilities in the Floodplain	**Problem**: There is one dam located and a wastewater pump station in the 1% annual chance flood area and are susceptible to flood damages. The Village does not have jurisdiction over these facilities. **Solution**: The Village will conduct outreach to the facility owners/operators to inform them of their location in the floodplain and provide mitigation options to protect the structures from flood damage.	Yes	No	Flood	1, 2, 3	1 year	Code Enforcement	Village Budget	Education and outreach, protect structures from flood damage	Staff Time	Medium	LPR, EAP	PR, PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV Community Assistance Visit

CRS Community Rating System

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program

HMGP Hazard Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*
BRIC	*Building Resilient Infrastructure and Communities Program*

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.10-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Groveland-001	Minimum Staffing	1	1	1	1	0	0	1	0	0	0	1	1	0	0	7	Medium
2022-Town of Groveland-002	Town Hall Generator	1	1	1	1	1	1	0	0	0	1	1	1	1	0	10	High
2022-Town of Groveland-003	Barber Hill Culvert	1	1	1	1	1	1	0	1	0	1	1	1	0	0	10	High
2022-Town of Groveland-004	Floodprone Properties	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
2022-Town of Groveland-005	NFIP Administrator Training	1	1	1	1	0	1	1	0	0	1	1	1	0	0	9	High
2022-Town of Groveland-006	Critical Facilities in the Floodplain	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.10.9 Action Worksheets

The following action worksheets have been developed by the Town of Groveland to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet				
Project Name:	Town Hall Generator			
Project Number:	2022-Town of Groveland-002			
Risk / Vulnerability				
Hazard(s) of Concern:	All			
Description of the Problem:	The current generator at the town hall is old and not reliable. Without proper backup power, the facility cannot function properly and provide essential services to the community.			
Action or Project Intended for Implementation				
Description of the Solution:	Purchase and install a permanent generator at the town hall. This provide continuity of operations to the municipal departments.			
Is this project related to a Critical Facility?	Yes ☒	No ☐		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Continuity of operations	
Useful Life:	10 years	**Goals Met:**	1, 2	
Estimated Cost:	$30,000	**Mitigation Action Type:**	SIP	
Plan for Implementation				
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months from funding	
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Local Budget, FEMA HMGP	
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement	
Three Alternatives Considered (including No Action)				
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**	
	No Action	$0	Problem continues.	
	Install solar panels	$50,000	Weather dependent; may not be able to power entire building	
	Install wind turbine	$50,000+	Weather dependent; needs space to install; maintenance	
Progress Report (for plan maintenance)				
Date of Status Report:				
Report of Progress:				
Update Evaluation of the Problem and/or Solution:				

Evaluation and Prioritization		
Project Name:	Town Hall Generator	
Project Number:	2022-Town of Groveland-002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	Continuity of operations
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	0	
Social	0	
Administrative	0	The Town has the capabilities to complete this project
Multi-Hazard	1	All
Timeline	1	To be completed within 6 months
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Barber Hill Culvert		
Project Number:	2022-Town of Groveland-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The culvert located on Barber Hill is undersized and cannot handle excess water after a heavy rain event. This leads to flooding in and around the area.		
Action or Project Intended for Implementation			
Description of the Solution:	The Highway Department will determine the proper size culvert to install. Once identified, the Department will replace the existing culvert with a new, upsized culvert to increase capacity and reduce flooding.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Reduction in flood risk
Useful Life:	50-100 years	**Goals Met:**	1, 2
Estimated Cost:	$3 million	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months from funding
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Local Budget, FEMA HMGP
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Replace entire stormwater system	$10 million+	Costly; entire system does not need to be replaced
	Elevate roadways	$1 million+	Costly; not feasible

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Barber Hill Culvert	
Project Number:	2022-Town of Groveland-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Reduces flood damages to residents in the area
Property Protection	1	Increases capacity
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	1	
Social	0	
Administrative	1	The Town has the capabilities to complete this project
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	To be completed within 6 months
Agency Champion	0	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	

9.11 TOWN OF LEICESTER

This section presents the jurisdictional annex for the Town of Leicester. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Leicester and who in the Town participated in the planning process; an assessment of the Town of Leicester's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.11.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Leicester's hazard mitigation plan primary and alternate points of contact. The Town of Leicester followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Code Enforcement. The Town Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Leicester's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.11-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: David Fanaro, Town Supervisor Address: 132 Main Street, Leicester, NY 14481 Phone Number: 585-202-6794 Email: Supervisor@townofleicester.org	Name/Title: Shawn Grasby Address: 132 Main Street, Leicester, NY 14481 Phone Number: 585-519-6289 Email: Codeofficer@townofleicester.org
NFIP Floodplain Administrator	
Name/Title: Address: Phone Number: Email:	

9.11.2 Municipal Profile

According to the U.S. Census Bureau, the Town has an area of 33.5 square miles – 33.5 square miles of land and 0.03 percent water. The Town of Leicester shares a border with the Towns of Covington, Castile, Geneseo, Groveland, Mount Morris, York, and the Counties of Genesee and Wyoming.

According to the U.S. Census, the 2020 population for the Town of Leicester was 1,642, a 5.2 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 3.4 percent of the population is 5 years of age or younger and 17 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.11.3 Jurisdictional Capability Assessment and Integration

The Town of Leicester performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.11.3). The Town of Leicester's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Leicester. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.11-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Local Law 4-2007	State and Local	Code Officer
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Local Law 2-2020	Local	Planning
How does this reduce risk? •					
Subdivision Ordinance	yes	No	Local Law 2-2020	Local	Planning
How does this reduce risk? •					
Site Plan Ordinance	Yes	No	Local Law 2-2020	Local and County	Planning
How does this reduce risk?					
Stormwater Management Ordinance	N	Yes		Local	
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	N	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	n	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	N	Yes			
How does this reduce risk? •					
Flood Damage Prevention Ordinance	N	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)		Federal, State, County and Local	
How does this reduce risk?					
Wellhead Protection	N	No			
How does this reduce risk?					
Emergency Management Ordinance	N	Yes			
How does this reduce risk?					
Climate Change Ordinance	N	No			
How does this reduce risk?					
Other	N	-			
Planning Documents					
Master Plan	N	No			
How does this reduce risk? •					
Capital Improvement Plan	Y	No	Rt 36 Water Dist	County	Town
How does this reduce risk?					
Disaster Debris Management Plan	N	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	N	No			
How does this reduce risk?					
Stormwater Management Plan	N	No			
How does this reduce risk?					
Open Space Plan	N	Yes			
How does this reduce risk?					
Urban Water Management Plan	N	No			
How does this reduce risk?					
Habitat Conservation Plan	N	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Economic Development Plan	N	No			
How does this reduce risk?					
Shoreline Management Plan	N	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	N	No			
How does this reduce risk?					
Community Forest Management Plan	N	No			
How does this reduce risk?					
Transportation Plan	N	No			
How does this reduce risk? •					
Agriculture Plan	N	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	N	No			
How does this reduce risk?					
Tourism Plan	N	No			
How does this reduce risk?					
Business/ Downtown Development Plan	N	No			
How does this reduce risk?					
Other	N				
Response/Recovery Planning					
Emergency Operations Plan	Y	Yes		County	Livingston County
How does this reduce risk? •					
Strategic Recovery Planning Report	N	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	N	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	N	No			
How does this reduce risk?					
Continuity of Operations Plan	N	No			
How does this reduce risk?					
Public Health Plan	N	No			
How does this reduce risk?					
Other	N	-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Leicester to oversee and track development.

Table 9.11-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Y	Code Enforcement Officer
Are permits tracked by hazard area? (For example, floodplain development permits.)	N	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	N	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Leicester and their current responsibilities which contribute to hazard mitigation.

Table 9.11-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Y	Planning Board
Zoning Board of Adjustments	Y	Zoning Board of Appeals
Planning Department	Y	Livingston County
Mitigation Planning Committee	N	-
Environmental Board/Commission	N	-
Open Space Board/Committee	N	-
Economic Development Commission/Committee	N	-
Public Works/Highway Department	Y	Highway Superintendent, Russell Page
Construction/Building/Code Enforcement Department	Y	Code Enforcement Officer, Shawn Grasby
Emergency Management/Public Safety Department	Y	Livingston County
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	N	-
Mutual aid agreements	N	-
Human Resources Manual	N	-
Other	N	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Y	Clark Patterson
Engineers or professionals trained in building or infrastructure construction practices	y	Clark Patterson
Planners or engineers with an understanding of natural hazards	Y	Clark Patterson
Staff with expertise or training in benefit/cost analysis	N	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Professionals trained in conducting damage assessments	Y	Clark Patterson
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	N	Livingston County
Scientist familiar with natural hazards	N	-
Surveyor(s)	Y	Livingston County
Emergency Manager	Y	Livingston County
Grant writer(s)	Y	-
Resilience Officer	N	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Y	Clark Patterson

Fiscal Capability

The table below summarizes financial resources available to the Town of Leicester.

Table 9.11-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Leicester.

Table 9.11-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	-

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	Yes	Livingston County
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Livingston County
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Leicester.

Table 9.11-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	N/A	N/A
NYSDEC Climate Smart Community	No	N/A	N/A
StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other	No	N/A	N/A

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.11-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.11.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.11-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Leicester	13	5	$31,666.94	0	N/A	12

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Genesee Valley, Yes
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Yes, 0
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	-
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Yes, 0
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	0,0

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Leicester	13	5	$31,666.94	0	N/A	12

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Code Officer
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes, Floodplain, and Floodway
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	-
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Major Events
What are the barriers to running an effective NFIP program in the community, if any?	Funding
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2020
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	-
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Yes
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Yes

Source: FEMA - Q3 Data; Livingston County HMP 2014

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.11.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the main roads in and out of the community as evacuation routes if needed.

Sheltering

The Town of Leicester has not identified sites for potential shelter locations. In the event shelters are needed, the Town will work with the County to find suitable locations for sheltering.

Temporary Housing

The Town of Leicester has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Leicester did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.11.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.11-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.11-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	1	0	0	0	0	0	1	0	0	0	2	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**1**	**0**

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**

Recent Major Development and Infrastructure from 2015 to Present
None
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years
None

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.11.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Leicester's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Leicester has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.11-1. Town of Leicester Flood and Mine Subsidence Hazard Areas

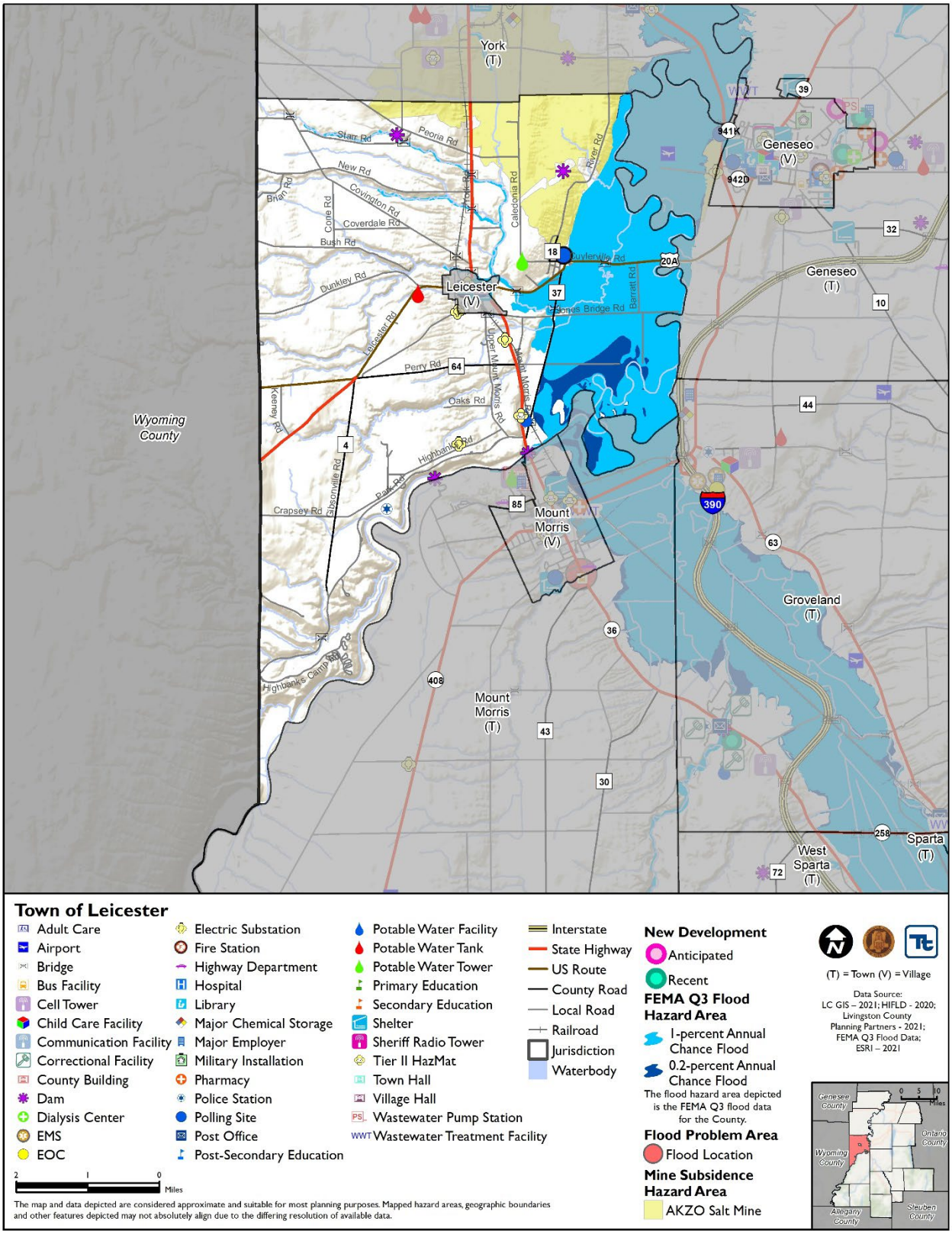


Figure 9.11-2. Town of Leicester Hazmat and Wildfire Hazard Areas

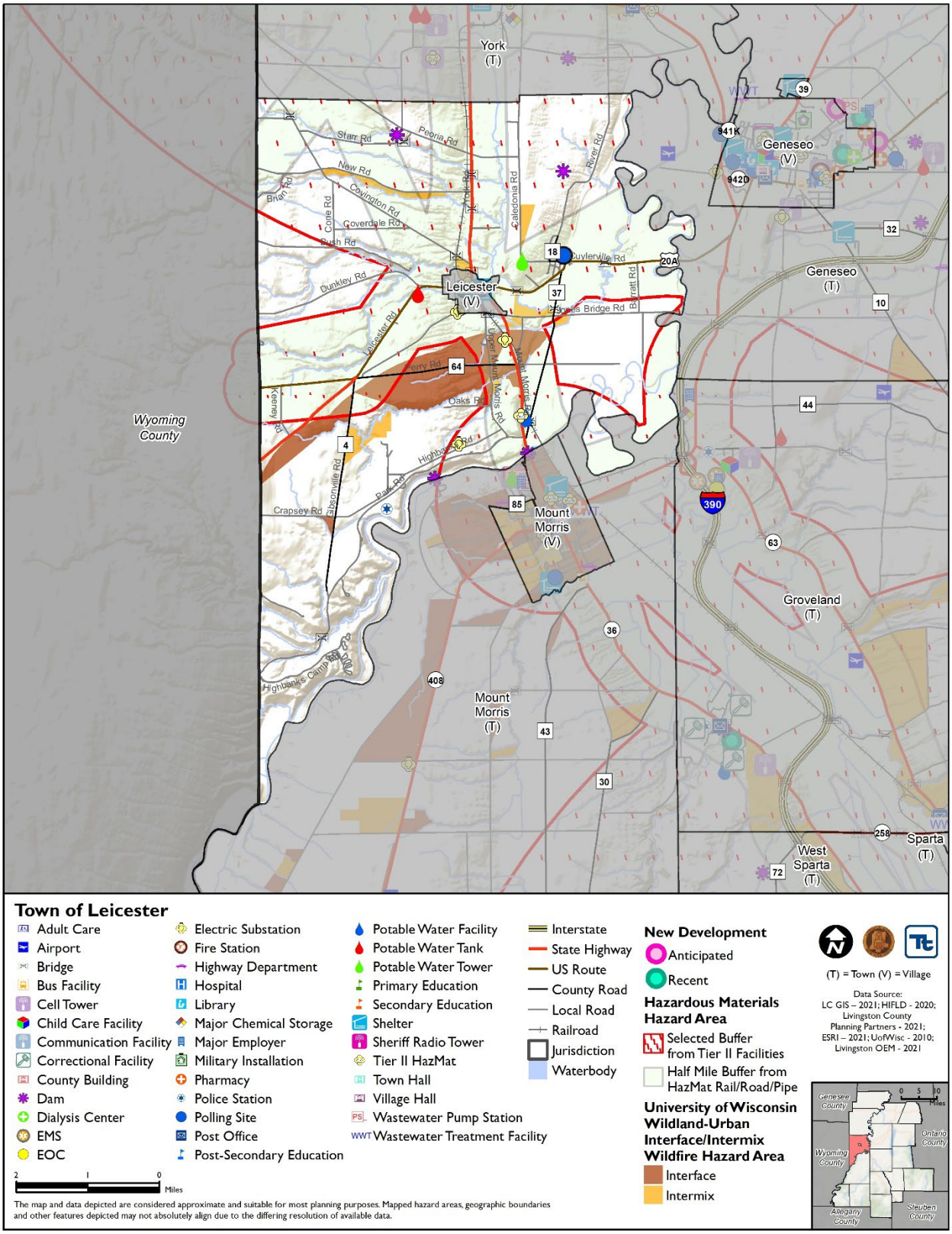
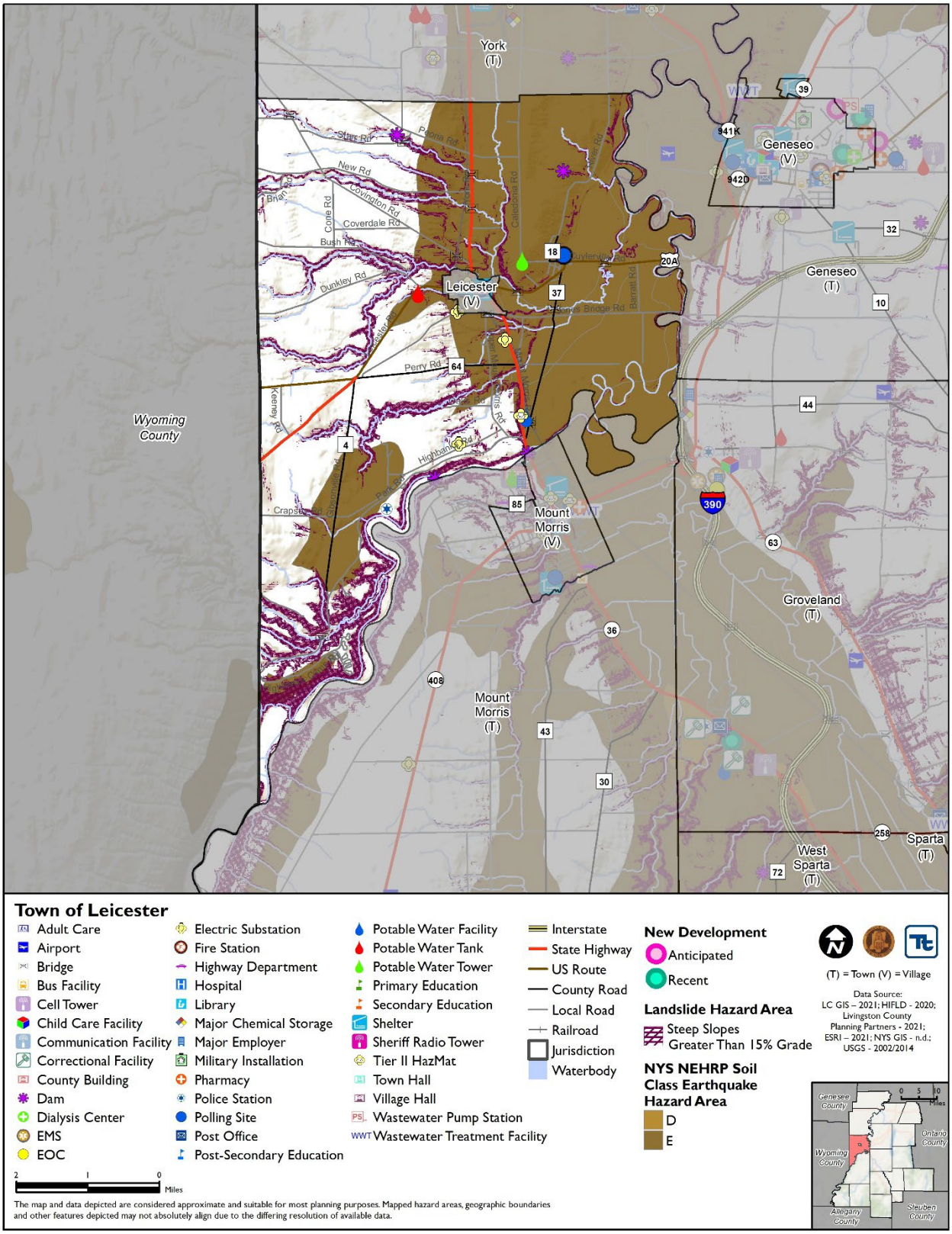


Figure 9.11-3. Town of Leicester Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Leicester's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.11-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.11-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Declared?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic (DR 3434 and 4480)	Yes	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Leicester's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Leicester ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Leicester. The Town of Leicester has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.11-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Medium	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.11-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
None in the floodplain				

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Leicester's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Leicester has identified the following vulnerabilities within their community:

- Town Hall and Highway Building no backup generator, River Road Flooding and Beards Creek, New Trailor Park & Argenna Park has a single point entry and exit that may experience evacuation issues and also at Starr Park.
- The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town.
- There are 13 flood policies in the Town. 12 of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages.
- The Town lacks an updated flood damage prevention ordinance.

Specific areas of concern based on resident response to the Livingston County Hazard Mitigation Citizen survey include:

- Lack of ground structural integrity from American Rock Salt mine blasting has caused and is causing subsidence. Outdated water purification systems for our local water sources (Mt. Morris in particular). Livingston County 911 system works improperly all the time, dispatchers and first responders routinely deal with system failures. We routinely deal with power outages all over the region.

9.11.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.11-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	**Next Steps** 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TL-1	Investigate and implement mitigation and flood control activities on River Road, which floods annually.	Flood	None provided in the 2015 HMP	Town Planning	Choose an item.	1. 2. 3.	1. 2. 3.
TL-2	Provide Back-up power generators for town halls	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Purchase and install generator for the Town hall 3. -
TL-3	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-4	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-5	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-6	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-7	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition, relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	**Next Steps** 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TL-8	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-9	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-10	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-11	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-12	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-13	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered in the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-14	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	**Next Steps** 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TL-15	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. As needed 3.
TL-16	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-17	· Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-18	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy
TL-19	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a countywide action; therefore, the Town will not include in their mitigation strategy

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is in the table above, the Town of Leicester did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Leicester participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.11-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought		X								X
Earthquake		X								X
Flood	X	X			X	X	X		X	X
Hazardous Materials		X								X
Invasive Species		X								X
Landslide		X								X
Mine Subsidence		X								X
Pandemic		X								X
Severe Storm		X								X
Severe Winter Storm		X								X
Wildfire		X								X
Terrorism		X								X
Utility Failure		X								X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.11-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Leicester would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.11-16. Summary of Prioritization of Actions

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Leicester-001	Town Hall Generator	**Problem**: Town Hall does not have a source of backup power. Without proper backup power, the facility cannot function properly and provide essential services to the community. **Solution**: Purchase and install a permanent generator at the Town hall. This provide continuity of operations to the municipal departments.	Yes	No	All	1, 2	3 years	Town Board	Local Budget, FEMA HMGP	Continuity of operations; provide essential services to the community	$30,000	High	SIP	ES, PP
2022-Town of Leicester-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on floods in the Town	Staff time	High	LPR	PR
2022-Town of Leicester-003	Floodprone Properties	**Problem**: There are 13 flood policies in the Town. 12 of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to 13 floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Town Board	Town Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Town.												
2022-Town of Leicester-004	Update Flood Damage Prevention Ordinance	**Problem**: The Town lacks an updated flood damage prevention ordinance. **Solution**: The Town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Town Board	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*

- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.11-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Leicester-001	Town Hall Generator	1	1	1	1	1	0	0	0	0	1	1	1	1	0	9	High
2022-Town of Leicester-002	NFIP Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	1	0	10	High
2022-Town of Leicester-003	Floodprone Properties	1	1	1	1	1	0	0	0	0	1	0	1	1	0	8	Medium
2022-Town of Leicester-004	Update Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	1	0	10	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.11.9 Action Worksheets

The following action worksheets have been developed by the Town of Leicester to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Town Hall Generator		
Project Number:	2022-Town of Leicester-001		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	Town Hall does not have a source of backup power. Without proper backup power, the facility cannot function properly and provide essential services to the community.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a permanent generator at the Town hall. This provide continuity of operations to the municipal departments.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Continuity of operations; provide essential services to the community
Useful Life:	25 years	**Goals Met:**	1, 2
Estimated Cost:	$30,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	Town Budget, FEMA HMGP
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$10,000+	Weather dependent, may not be best solution for long-term outages
	Install generator	$20,000+	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Town Hall Generator	
Project Number:	2022-Town of Leicester-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	There is political support for this projects
Legal	0	
Fiscal	0	Need funding to purchase and install generator
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	To be completed within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Floodprone Properties		
Project Number:	2022-Town of Leicester-003		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	There are 13 flood policies in the Town. 12 of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct outreach to 13 floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Town.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Eliminates flood damage to homes, informs public of mitigation options
Useful Life:	N/A	**Goals Met:**	1, 2, 3
Estimated Cost:	Staff Time	**Mitigation Action Type:**	LPR, SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Town Budget for outreach; FEMA FMA or HMGP for mitigation
Responsible Organization:	NFIP Floodplain Administrator, Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties	$1 million+	Loss tax base; not all residents will move
	Install flood walls	$50,000+	Can be costly; might not be necessary
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Floodprone Properties	
Project Number:	2022-Town of Leicester-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents from flooding
Property Protection	1	Protect structures from flooding
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding
Environmental	0	
Social	0	
Administrative	1	The Town has the ability to complete project
Multi-Hazard	0	Flood
Timeline	1	To be completed within 1 year
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	

9.12 VILLAGE OF LEICESTER

This section presents the jurisdictional annex for the Village of Leicester. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Village participated in the planning process; an assessment of the Village of Leicester's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.12.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Leicester's hazard mitigation plan primary and alternate points of contact. The Village of Leicester followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: Planning Board, Code Enforcement, and Clerk. The Mayor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.12-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Barry Briffa, Village Mayor Address: 52 South Parkway, P.O.Box 203 Leicester, NY 14481 Phone Number: (585)382-3699 Email: clerk@villageofleicester.org	Name/Title: Kristie DeGraff, Village Clerk /Treasurer Address: 52 South Parkway, P.O.Box 203 Leicester, NY 14481 Phone Number: (585)382-3699 Email: clerk@villageofleicester.org
NFIP Floodplain Administrator	
Name/Title: Dan Christiano, Planning Board Chairman Address: 52 South Parkway, P.O.Box 203 Leicester, NY 14481 Phone Number: (512)470-1060 Email: dpchrist8170@gmail.com	

9.12.2 Municipal Profile

According to the U.S. Census Bureau, the Village has an area of 0.4 square mile, all land. The Village of Leicester shares a border with the Town of Leicester, and is located in the western central area of Livingston County. According to the U.S. Census, the 2020 population for the Village of Leicester was 440, a 5.98 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.9 percent of the population is 5 years of age or younger and 16 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.12.3 Jurisdictional Capability Assessment and Integration

The Village of Leicester performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.12.3). The Village of Leicester's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Leicester. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.12-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	§190-5 Village Code (12/15/2003)	State and Local	Code Enforcement
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	§190.20-29 Village Code (12/15/2003)	Local	Code Enforcement/Zoning
How does this reduce risk? Provides for orderly development to secure safety from flood and to facilitate the adequate provision of sewer/sewerage and to promote the health, safety or general welfare of the public.					
Subdivision Ordinance	No	No		Local	
How does this reduce risk?					
Site Plan Ordinance	Yes	No	§190-30-35 Village Code (12/15/2003)	Local and County	Zoning Board Planning Board
How does this reduce risk?					
Stormwater Management Ordinance	Yes	Yes	§103 Village Code (12/15/2003)	Local	
How does this reduce risk? Finds potential and/or actual damages from flooding and erosion that may be a problem to residents; damages may include destruction or loss of private/public housing, damage to public facilities (public/private owned), & injury to/loss of human life					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	Yes	Yes	§190-19 Village Code (12/15/2003)	Local	Code Enforcement
How does this reduce risk? Reviews SEQR regulations to ensure compliance					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	§103.1-20 Village Code (12-15-2003)	Federal, State, County and Local	Code Enforcement/Zoning
How does this reduce risk? Finds potential and/or actual damages from flooding and erosion that may be a problem to residents; damages may include destruction or loss of private/public housing, damage to public facilities (public/private owned), & injury to/loss of human life.					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	Yes	Yes	Emergency Response Plan for Village (11/2/2017)	Local	Board
How does this reduce risk? Properly identify potential emergencies (natural/other) and address how to handle such emergencies with the public.					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	No	No			
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	N/A	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Livingston County Emergency Comprehensive Operations Plan (June 2005)	County	County/Village Board
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)		Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Leicester to oversee and track development.

Table 9.12-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Code Enforcement Officer issues building permits
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	All permits issued have been for renovation, pool/shed/etc
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Leicester and their current responsibilities which contribute to hazard mitigation.

Table 9.12-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	No	Town of Leicester oversees
Zoning Board of Adjustments	Yes	Board of 5 members + Secretary
Planning Department	No	Town of Leicester oversees
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	One (1) Village Water Operator
Construction/Building/Code Enforcement Department	Yes	Intermunicipal Agreement with Town of Leicester for Highway
Emergency Management/Public Safety Department	Yes	Part-time Village Code Enforcement Officer
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	-
Mutual aid agreements	Yes	One (1) Part-time Village Maintenance Worker
Human Resources Manual	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Village Contracted Engineering Firm
Engineers or professionals trained in building or infrastructure construction practices	Yes	Village Contracted Engineering Firm
Planners or engineers with an understanding of natural hazards	Yes	Village Contracted Engineering Firm
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	-
Grant writer(s)	Yes, Livingston County Staff	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Village of Leicester.

Table 9.12-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	Yes – Board oversees - with approval
Authority to levy taxes for specific purposes	Yes – Board oversees - with approval
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes – state programs
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Potential grants

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Leicester.

Table 9.12-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Clerk/Treasurer and/or Mayor
Personnel skilled or trained in website development	Yes	Clerk-Treasurer is web designer
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	Yes	Village has Facebook page, Website
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Livingston County can send robocall notification
Natural disaster/safety programs in place for schools	N/A	-
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Village of Leicester.

Table 9.12-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	NP	NP
Building Code Effectiveness Grading Schedule (BCEGS)	NP	NP	NP
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	NP	NP
NYSDEC Climate Smart Community	NP	NP	NP
StormReady Certification	NP	NP	NP
Firewise Communities classification	NP	NP	NP
Other	NP	NP	NP

Note:

N/A *Not applicable*

NP *Not participating*

- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words,

it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.12-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.12.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.12-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Leicester	1	0	$0.00	0	N/A	0

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Jones Bridge Road Drainage area at Pleasant St (Zone C) No
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No None
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	The Board Reviews;

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Leicester	1	0	$0.00	0	N/A	0

NFIP Topic	Comments
	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Town of Leicester/County of Livingston
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes. Newly appointed. No experience
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Code enforcement officer is tasked with determining the level an improvement would be quantified as
What are the barriers to running an effective NFIP program in the community, if any?	Staffing
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 103 unknown
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	No
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your jurisdiction participate in CRS?	No

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Leicester	1	0	$0.00	0	N/A	0

NFIP Topic	Comments
• If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	

Source: FEMA - Q3 Data; Livingston County HMP 2014
Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.12.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- Route 20A, Route 36

Sheltering

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Community Building	3 Mt Morris Rd	100		Yes	Yes	N/A	
Country Inn Suites Hotel	130 N Main St Mt Morris NY 14510	60	Yes	Yes	No	N/A	Restaurant

Temporary Housing

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Village Park	25 South Parkway	Water/Electric	25	Park	
Scorsone Property	Route 36/Market St	Water & electric but no hookup	50	Vacant Land	Private Property needs to be obtained

Permanent Housing

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Scorsone Property	Route 36/Market St	Water, electric, gas	4	Vacant land	Private property needs to be purchased

9.12.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.12-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. With no new or proposed development, there are no impacts to vulnerability.

Table 9.12-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
None					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.12.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Leicester's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Leicester has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.12-1. Village of Leicester Flood and Mine Subsidence Hazard Areas

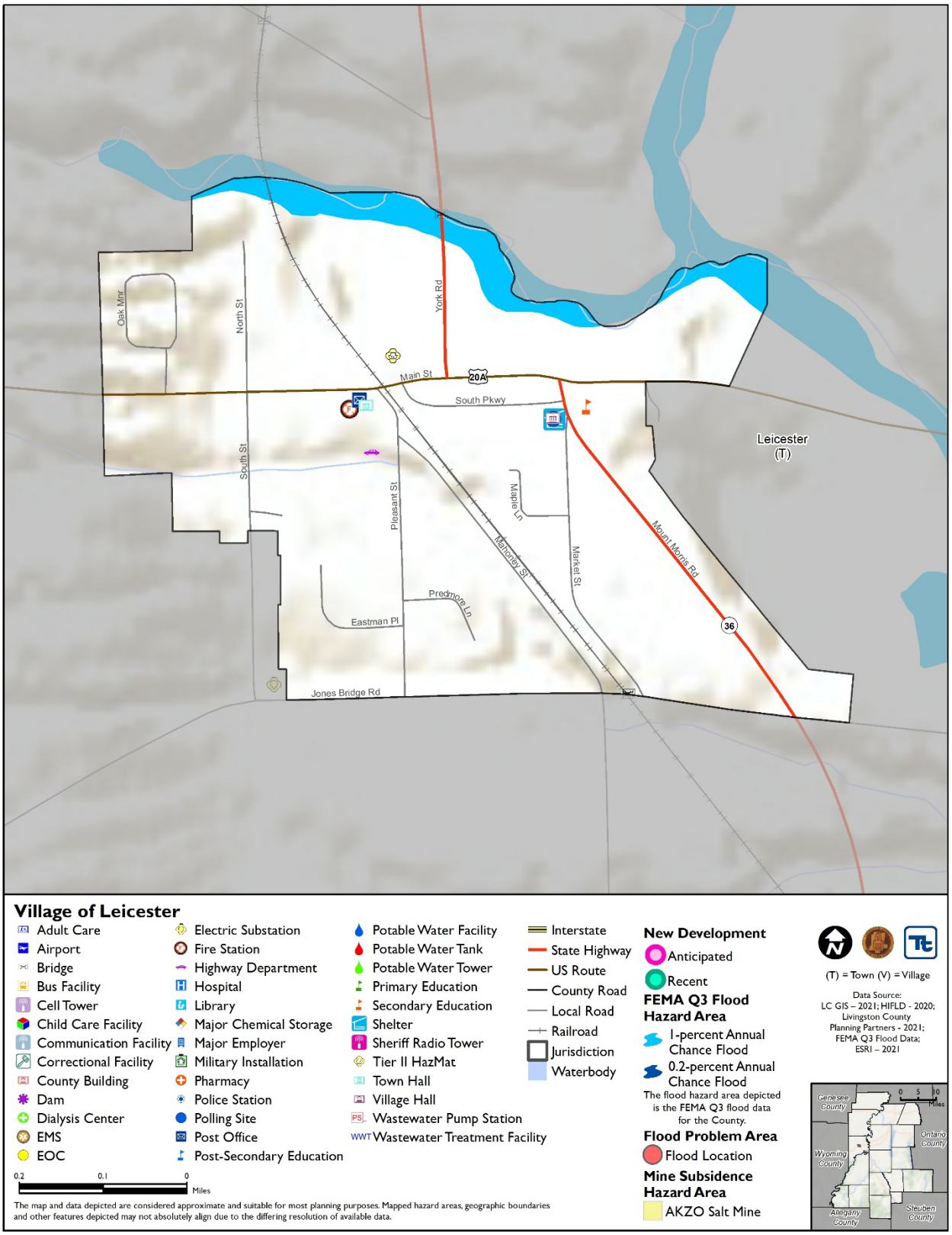
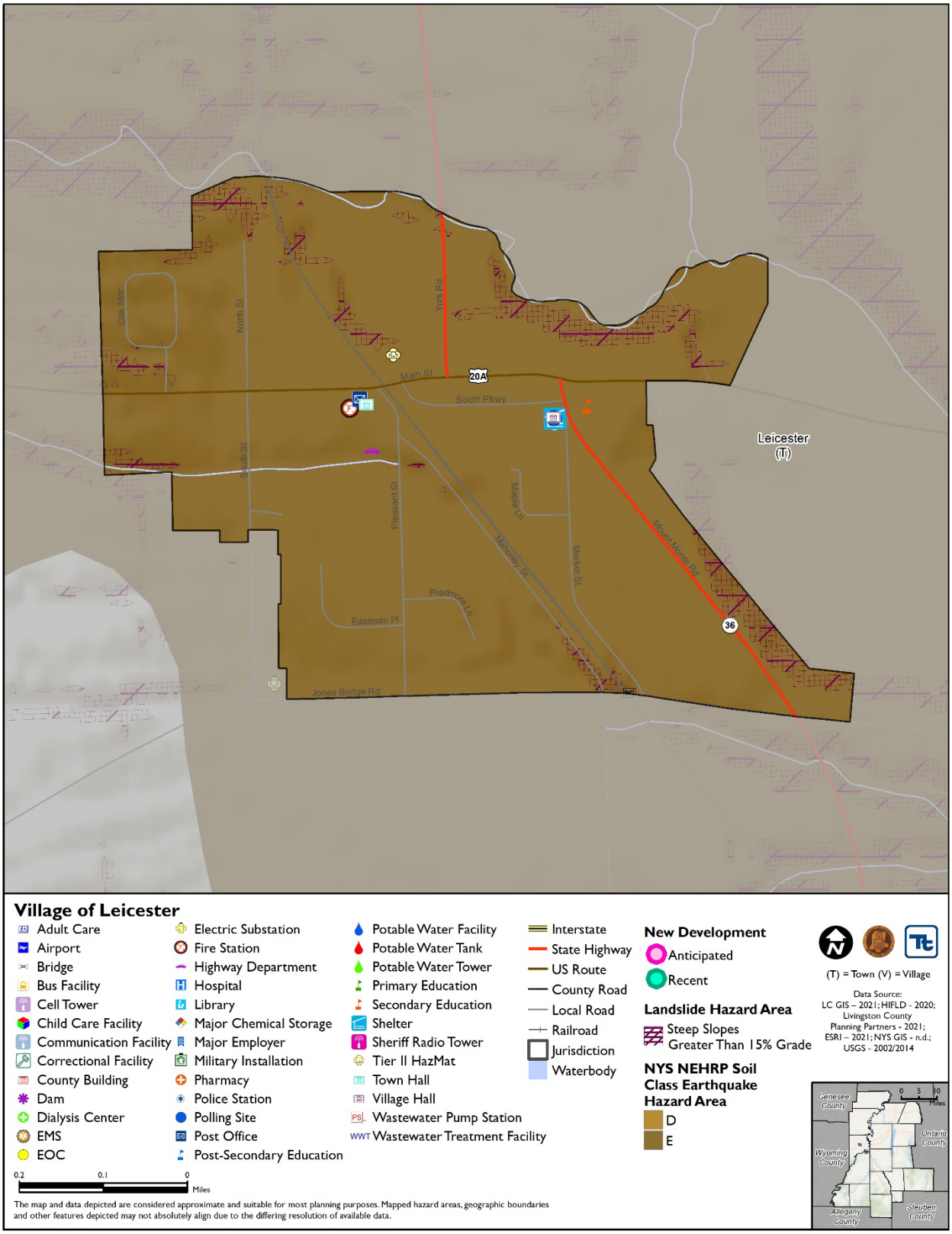


Figure 9.12-2. Village of Leicester Hazmat and Wildfire Hazard Areas



Figure 9.12-3. Village of Leicester Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Leicester's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.12-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.12-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	Tree damage, increased cost to Village for pick up/removal
8/27/2020	Flash Flood	-	Jones Bridge Rd drainage overflows – Road closure
1/12/2020	Flood	-	Jones Bridge Rd drainage overflows
11/1/2019	Flood	-	Jones Bridge Rd drainage overflows
10/15/2019	Flood	-	Jones Bridge Rd drainage overflows – Road closure
10/27/2019	Flood	-	Jones Bridge Rd drainage overflows
9/21/2018	Lightning	-	Pole & Tree struck in Village park – Road Closure
4/4/2018	Blizzard	-	Higher expenses for plowing/snow removal
7/20/2017	Tornado	-	
3/8/2017	High Wind	-	Tree damage, increased cost to Village for pick up/removal
9/9/2015	Thunderstorm Wind	-	Tree damage, increased cost to Village for pick up/removal

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Leicester's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Leicester. The Village of Leicester has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village agreed with the calculated rankings.

Table 9.12-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.12-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
None in the floodplain				

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Leicester's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Leicester has identified the following vulnerabilities within their community:

- The Village is working with the Town (as this drainage line starts in the Town then exits back to the Town) in addressing the drainage issues along Jones Bridge Road. The drainage system can no longer withstand the water coming down from Jones Bridge Road into the Village and is overflowing the ditches, flooding Village resident's yards and causing road flooding/closures. The two main intersections affected with subpar crossover pipes are Pleasant Street and at Mahoney Rd/Upper Mt Morris Rd. There is one single exit tunnel under the Railroad tracks (Railroad property) that takes all the water from this side of the Village.

9.12.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.12-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VL-1	Investigate and implement mitigation and flood control activities on River Road, which floods annually.	Flood	None provided in the 2015 HMP	Town Planning	No Progress	1. 2. 3.	1.Town Project – Does Not Involve Village 2. 3.
VL-2	Provide Back-up power generators for town halls	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-3	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-4	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-5	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-6	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-7	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition, relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VL-8	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-9	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. 3.
VL-10	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. 2. 3.
VL-11	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. 2. 3.
VL-12	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. 2. 3.
VL-13	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered in the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. 3.
VL-14	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success 1. Cost 2. Level of Protection 3. Damages Avoided; Evidence of Success	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	needed. This is a part of the process of joining CRS (above initiative).						
VL-15	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPAEngi	Ongoing Capability	1. 2. 3.	1. 2. 3.
VL-16	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-17	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-18	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.
VL-19	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Town Project – Does Not Involve Village 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Village of Leicester has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2015 HMP:

- The Village is working with the Town (as this drainage line starts in the Town then exits back to the Town) in addressing the drainage issues along Jones Bridge Road. The drainage system can no longer withstand the water coming down from Jones Bridge Road into the Village and is overflowing the ditches, flooding Village resident's yards and causing road flooding/closures. The two main intersections affected with subpar crossover pipes are Pleasant Street and at Mahoney Rd/Upper Mt Morris Rd. There is one single exit tunnel under the Railroad tracks (Railroad property) that takes all the water from this side of the Village.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Leicester participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.12-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought										
Earthquake										
Flood	X	X			X	X	X		X	
Hazardous Materials										
Invasive Species										
Landslide										
Mine Subsidence										
Pandemic										
Severe Storm										
Severe Winter Storm										
Wildfire										
Terrorism										
Utility Failure										

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.12-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Leicester would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.12-16. Summary of Prioritization of Actions

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Leicester-001	NFIP Administrator Training	**Problem:** The floodplain administrator for the Village is in need of training and resources to understand the NFIP program and flooding in the Village. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Village Budget	Increase education and training on floods in the Village	Staff time	High	LPR	PR
2022-Village of Leicester-002	Floodprone Properties	**Problem**: There is 1 flood policies in the Village. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to the floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Village.	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Village Board	Village Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI
2022-Village of Leicester-003	Update Flood Damage Prevention Ordinance	**Problem**: The Village lacks an updated flood damage prevention ordinance.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Village Board	Village Budget	Meeting state and federal standards	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The Village will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.												

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*

- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.12-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Village of Leicester-001	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	1	0	9	High
2022-Village of Leicester-002	Floodprone Properties	1	1	1	1	1	0	0	0	0	1	0	1	1	0	8	Medium
2022-Village of Leicester-003	Update Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	1	0	10	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.12.9 Action Worksheets

The following action worksheets have been developed by the Village of Leicester to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Floodprone Properties		
Project Number:	2022-Village of Leicester-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	There is 1 flood policies in the Village. Due to their location, the properties are prone to flooding and flood damages.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct outreach to the floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Village.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Eliminates flood damage to homes, informs public of mitigation options
Useful Life:	N/A	**Goals Met:**	1, 2, 3
Estimated Cost:	Staff Time	**Mitigation Action Type:**	LPR, SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Village Budget for outreach; FEMA FMA or HMGP for mitigation
Responsible Organization:	NFIP Floodplain Administrator, Village Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties	$200,000+	Loss tax base; not all residents will move
	Install flood walls	$50,000+	Can be costly; might not be necessary

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Floodprone Properties	
Project Number:	2022-Village of Leicester-002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protect residents from flooding
Property Protection	1	Protect structures from flooding
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	0	Need funding
Environmental	0	
Social	0	
Administrative	1	The Village has the ability to complete project
Multi-Hazard	0	Flood
Timeline	1	To be completed within 1 year
Agency Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	NFIP Administrator Training		
Project Number:	2022-Village of Leicester-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The floodplain administrator for the Village is in need of training and resources to understand the NFIP program and flooding in the Village.		
Action or Project Intended for Implementation			
Description of the Solution:	The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Increase education and training on floods in the Village
Useful Life:	N/A	**Goals Met:**	1, 2, 3
Estimated Cost:	Staff Time	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of funding award
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Village Budget
Responsible Organization:	NFIP Floodplain Administrator, Village Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Continue with typical training	$5,000	Training may not include floodplain management
	Complete NFIP administrator training	Staff Time	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	NFIP Administrator Training	
Project Number:	2022-Village of Leicester-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	Benefits outweigh the costs
Technical	1	
Political	1	
Legal	0	
Fiscal	1	Staff time and village budget
Environmental	0	
Social	0	
Administrative	1	The Village has the ability to complete project
Multi-Hazard	0	Flood
Timeline	1	To be completed within 1 year
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.13 TOWN OF LIMA

This section presents the jurisdictional annex for the Town of Lima. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Lima and who in the Town participated in the planning process; an assessment of the Town of Lima's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.13.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Lima's hazard mitigation plan primary and alternate points of contact. The Town of Lima followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: Town Supervisor, Town Clerk, and Code Enforcement. The Town Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Lima's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.13-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Michael J. Falk, Town Supervisor Address: 7329 East Main St., Lima, NY 14485 Phone Number: 585-582-1130 Email: supervisor@townoflima.org	Name/Title: Jenifer Heim, Town Clerk Address: 7329 East Main St., Lima, NY 14485 Phone Number: 585-582-1130 Email: clerk@townoflima.org
NFIP Floodplain Administrator	
Name/Title: Charlie Floeser, Code Enforcement Officer Address: 7329 East Main St., Lima, NY 14485 Phone Number: 585-624-7911 Email: codes@townoflima.org	

9.13.2 Municipal Profile

According to the U.S. Census Bureau, the Town has an area of 32.3 square miles, 31.9 square miles land and 0.04 square mile water. The Town of Lima shares a border with the Towns of Avon, Livonia, Mendon, Richmond, Rush, West Bloomfield, and shares a border with the County of Monroe.

According to the U.S. Census, the 2020 population for the Town of Lima was 2,060, a 4.9 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.27 percent of the population is 5 years of age or younger and 16.1 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.13.3 Jurisdictional Capability Assessment and Integration

The Town of Lima performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 6 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.13.3). The Town of Lima's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Lima. Section 6 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.13-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	11/06/1997	State and Local	Building
How does this reduce risk? Requires plan review so that developers must minimize risks and hazards.					
Zoning/Land Use Code	Yes	No	Chapter 250 (Zoning) 11/06/1997	Local	Zoning Board of Appeals
How does this reduce risk? This chapter was adopted to protect and promote public health, safety, convenience, order, aesthetics, prosperity and general welfare of the Town of Lima and to implement the Comprehensive Plan of the Town. This chapter regulates the location, construction, alteration and use of buildings and structures and the development and use of land within the Town of Lima and, for said purposes, divides the Town into the zoning districts.					
Subdivision Ordinance	Yes	No	Chapter 220 (Subdivision of Land) 11/06/1997	Local	Planning Board
How does this reduce risk? It is the policy of the Planning Board to consider land and subdivision plats as part of a plan for the orderly, efficient and economical development of the Town. This means, among other things, that the Planning Board shall assure that land to be subdivided shall be of such character that it can be used safely for building purposes without damage to the environment or to health or peril from fire, flood or other menace and shall assure that proper provisions shall be made for drainage, water supply, sewage and other needed improvements.					
Site Plan Ordinance	Yes	No	Chapter 250 (Zoning), Article 15 - 11/06/1997	Local and County	Planning Board
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
The site plan review process recognizes that some uses generally suitable for location in a particular district are nevertheless capable of adversely affecting the goals of this chapter. Characteristics such as size, complexity or indicia of extraordinary impact upon the surrounding neighborhood, therefore, require that careful consideration is given to critical site design elements.					
Stormwater Management Ordinance	No	-	-	-	-
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	-	-	-	-
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? • In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	Yes	No	See Zoning Article 250	Local	Building Inspector
How does this reduce risk?					
Environmental Protection Ordinance	Yes	Yes	06/10/1990 Solid Waste Management	Local	Town Board
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Chapter 115 (Flood Damage Prevention) – 11/6/1997	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk? Promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas; requires new construction and substantial improvements in the SFHA to have their first floor elevated to or above the BFE.					
Wellhead Protection	No	-	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	Yes	Yes	2005 Village	Local	Town Board
How does this reduce risk?					
Climate Change Ordinance	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Planning Documents					
Comprehensive Plan	Yes	No	March 2008	Local	Planning Board
How does this reduce risk? In this plan, attention was given to: agriculture, Lima's largest industry; to recreation, parks and open space; to the efficient use of community infrastructure; and to business development downtown and elsewhere. Particular attention was paid to the input gathered from the 674 residents who responded to an eight-page survey in 2002, the 1,404 respondents to the survey undertaken in 2006, and comments made at public meetings. The result of these efforts is a Comprehensive Plan that will provide direction to the Town and Village as the community faces development pressures in the near future.					
Capital Improvement Plan	Yes	No	-	Local	Town Board
How does this reduce risk?					
Disaster Debris Management Plan	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Floodplain Management or Watershed Plan	No	-	-	-	-
How does this reduce risk?					
Stormwater Management Plan	No	-	-	-	-
How does this reduce risk?					
Open Space Plan	No	-	-	-	-
How does this reduce risk?					
Urban Water Management Plan	No	-	-	-	-
How does this reduce risk?					
Habitat Conservation Plan	No	-	-	-	-
How does this reduce risk?					
Economic Development Plan	No	-	-	-	-
How does this reduce risk?					
Shoreline Management Plan	No	-	-	-	-
How does this reduce risk?					
Community Wildfire Protection Plan	No	-	-	-	-
How does this reduce risk?					
Community Forest Management Plan	No	-	-	-	-
How does this reduce risk?					
Transportation Plan	No	-	-	-	-
How does this reduce risk?					
Agriculture Plan	Yes	No	2010	Local	Agricultural Committee, Planning Board
How does this reduce risk? Provides an outline to plan for future growth and development while protecting agricultural land in the town. It also includes details on adopting land use regulations that recognizes the importance of agriculture in the town.					
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-	-
How does this reduce risk?					
Tourism Plan	No	-	-	-	-
How does this reduce risk?					
Business/ Downtown Development Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	-	Local	Town Board
How does this reduce risk?					
Strategic Recovery Planning Report	No	-	-	-	-
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery Plan	No	-	-	-	-
How does this reduce risk?					
Continuity of Operations Plan	No	-	-	-	-
How does this reduce risk?					
Public Health Plan	No	-	-	-	-
How does this reduce risk?					
Other	No	-	-	-	-

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Lima to oversee and track development.

Table 9.13-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Code Enforcement, Planning Board
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	Buildout outside of the Village is sparce, 2.5 acre minimum lot size, most dense is the hamlet of South Lima

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Lima and their current responsibilities which contribute to hazard mitigation.

Table 9.13-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Lima Planning Board
Zoning Board of Adjustments	Yes	Lima Zoning Board of Appeals
Planning Department	Yes	County
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Town Highway Department serves the community by providing road maintenance and plowing, signage for Town roads, drainage ditch maintenance, tree and brush cutting within the Town's right-of-way and water service in the Town's established water districts. The department is managed by the Highway Superintendent who is elected for

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
		a four year term. The Highway Superintendent and four crew members maintain 38.69 miles of Town roads and provide road services for Livingston County and New York State under contractual arrangements.
Construction/Building/Code Enforcement Department	Yes	Code Enforcement Office
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Road maintenance and plowing, signage for Town roads, drainage ditch maintenance, tree and brush cutting within the Town's right-of-way and water service
Mutual aid agreements	Yes	Between highway departments
Human Resources Manual	Yes	-
Other	Yes	Agricultural Advisory Committee Historic Preservation Committee
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	CPL
Engineers or professionals trained in building or infrastructure construction practices	Yes	CPL
Planners or engineers with an understanding of natural hazards	Yes	CPL
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	No	
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Lima.

Table 9.13-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Lima.

Table 9.13-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	-
Personnel skilled or trained in website development	No	-
Is hazard mitigation information available on your website?	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Fire Siren Village
Natural disaster/safety programs in place for schools	Yes	Lima Primary School, Lima Christian School, Elim Bible Institute
Other	No	-

Community Classifications

The table below summarizes classifications for community programs available to the Town of Lima.

Table 9.13-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	NP	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	NP	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	N/A	N/A

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
NYSDEC Climate Smart Community	NP	N/A	N/A
StormReady Certification	NP	N/A	N/A
Firewise Communities classification	NP	N/A	N/A
Other	NP	N/A	N/A

Note:
N/A Not applicable
NP Not participating
- Unavailable

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.13-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Wildfire	Moderate
Terrorism	Moderate
Utility Failure	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.13.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.13-9. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Lima	3	2	$0.00	N/A	N/A	2

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	No, None
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Not in the Building dept.
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	Not that I am aware of
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Only if building is damaged
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Building Department
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	If over 50% of it has been damaged
What are the barriers to running an effective NFIP program in the community, if any?	Unknown
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	Unknown
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 115, March 1, 2012

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Lima	3	2	$0.00	N/A	N/A	2

NFIP Topic	Comments
What is the date that your flood damage prevention ordinance was last amended?	
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Unknown
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Only that a building cannot be greater than 35 ft in height
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Unknown

Source: FEMA - Q3 Data; Livingston County HMP 2014
Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.13.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

- NYS Routes 15A, 5 and/or U.S. Route 20

Sheltering

The Town identified the following as potential shelter locations:

- Elim Bible Institute - 7245 College St.
- St. Rose Church - 1985 Lake Ave
- Lima Farms - 7042 West Main St.

Temporary Housing

The Town of Lima has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

The Town of Lima has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once

properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

9.13.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.13-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.13-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	10	0	1	0	1	0	1	0	4	0	2	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	2	0	0	0	1	0	0	0
Total Permits Issued	10	0	1	0	1	0	3	0	4	0	3	0	1	0

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
None identified					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None identified					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.13.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Lima's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Lima has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.13-1. Town of Lima Flood and Mine Subsidence Hazard Areas

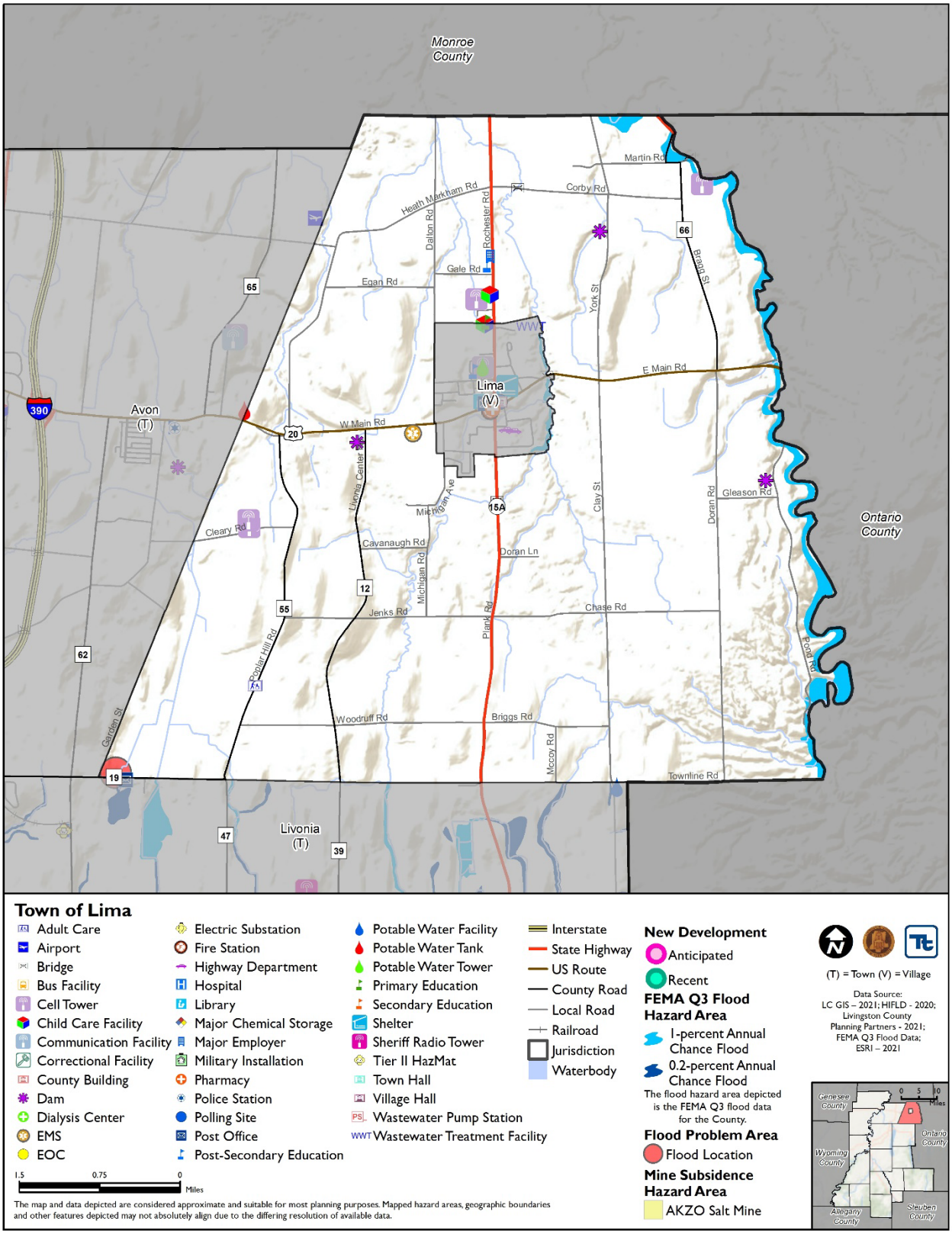


Figure 9.13-2. Town of Lima Hazmat and Wildfire Hazard Areas

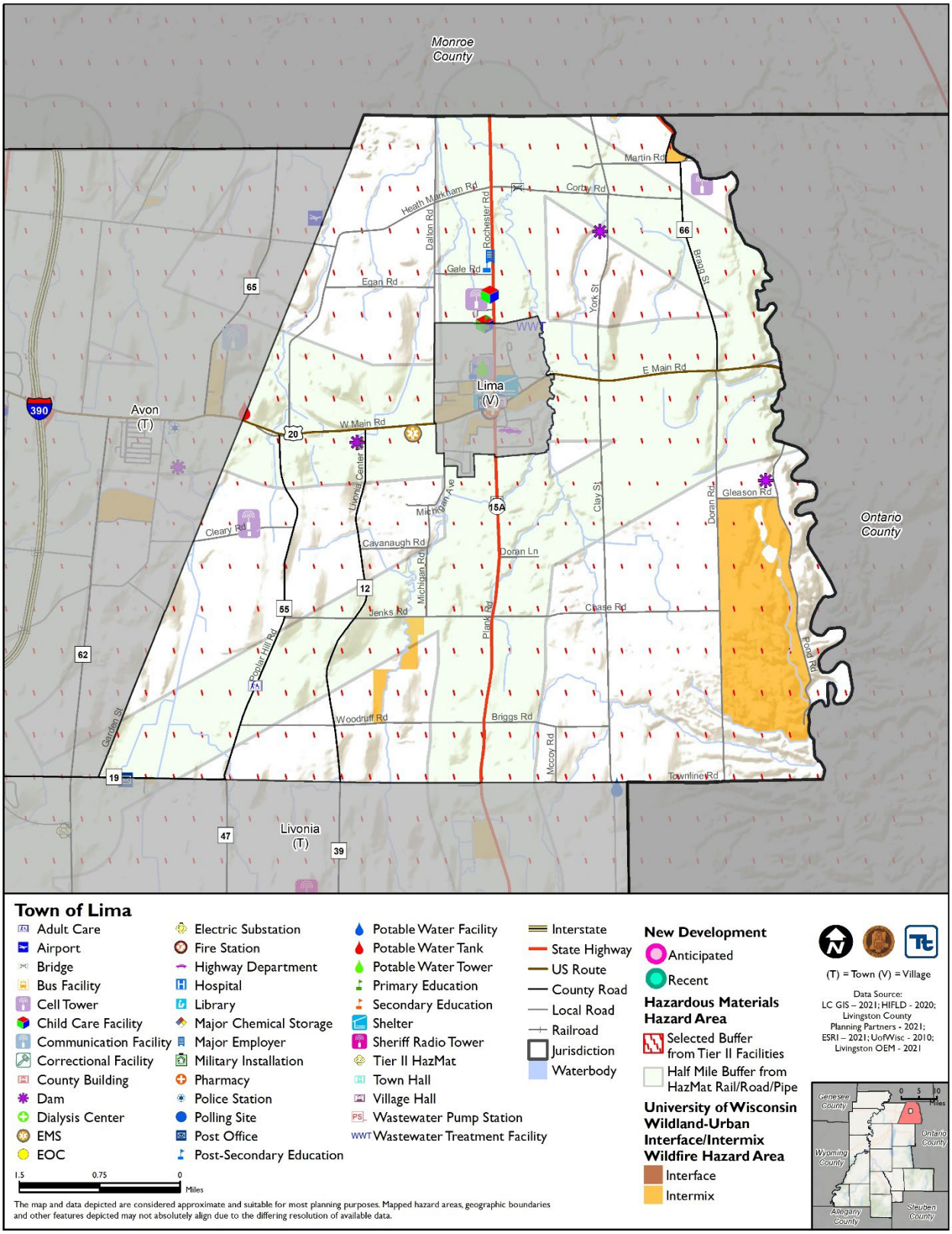
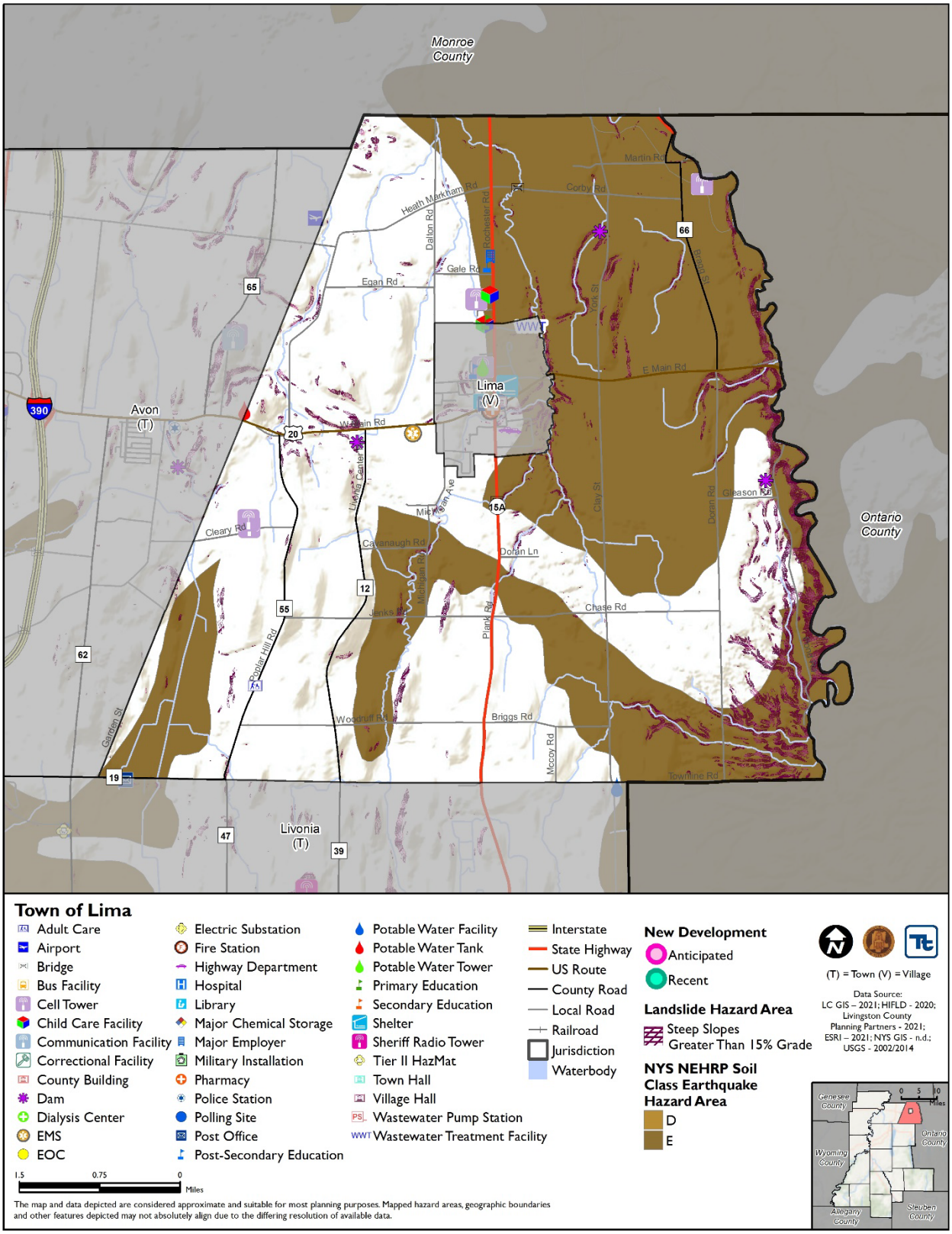


Figure 9.13-3. Town of Lima Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Lima's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.13-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.13-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Lima's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Lima ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Lima. The Town of Lima has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town agreed with the calculated rankings.

Table 9.13-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.13-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage		
No facilities in the floodplain							

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Lima's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Lima has identified the following vulnerabilities within their community:

- Power loss at critical facilities
- Town Hall needs a new backup generator
- Town and Village records are stored in the basement of town hall and susceptible to damages
- Need to improve public outreach efforts

9.13.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.13-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
TLi-1	Conduct a Town Comprehensive Plan Update.	All	None provided in the 2015 HMP	Town Planning Board	In Progress	1. 2. 3.	1. 2. 3.
TLi-2	Coordinate rescue crews with road repair crews, clear away obstacles and debris, de-ice, snowplow, to ensure timely/safe access.	Flood, Winter Storm, Severe Storm	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-3	Improve countywide communication network.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-4	Set up a clear chain of command for disaster response.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-5	Encourage FEMA to update its FIRMs	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-6	Provide backup power generators for town/village halls	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-7	Provide backup power generators for local police/fire stations	All	None provided in the 2015 HMP	Town Highway Department	Complete	1. $35,000 2. 15 years	1. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** 2. **Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
						3. Continuity of operations during outages	
TLi-8	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-9	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-10	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. - 3. This is a county initiative; therefore, it will not be included in the Town's mitigation strategy
TLi-11	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-12	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties in the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** 2. **Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
	Implement as funding becomes available.						
TLi-13	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Include in 2022 HMP 2. Adapt an existing plan to the township and publicize 3. -
TLi-14	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-15	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-16	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood and other hazard risks.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-17	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** 2. **Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
							3. This is an ongoing capability for the Town and completed as needed
TLi-18	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-19	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-20	Designate an NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-21	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** 2. **Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps **1.** Project to be included in 2022 HMP or Discontinue **2.** If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). **3.** If discontinue, explain why.
TLi-22	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-23	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed
TLi-24	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing Capability	1. 2. 3.	1. Discontinue 2. - 3. This is an ongoing capability for the Town and completed as needed

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Other than what is in the table above, the Town of Lima did not complete any additional mitigation projects/activities since the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Lima participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.13-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X	X		X		X	X			X
Earthquake	X	X		X		X	X			X
Flood	X	X		X	X	X	X		X	X
Hazardous Materials	X	X		X		X	X			X
Invasive Species	X	X		X		X	X			X
Landslide	X	X		X		X	X			X
Mine Subsidence	X	X		X		X	X			X
Pandemic	X	X		X		X	X			X
Severe Storm	X	X		X		X	X			X
Severe Winter Storm	X	X		X		X	X			X
Wildfire	X	X		X		X	X			X
Terrorism	X	X		X		X	X			X
Utility Failure	X	X		X		X	X			X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.13-16 summarizes the comprehensive-range of specific mitigation initiatives the Town of Lima would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.13-16. Summary of Prioritization of Actions

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2021-Town of Lima -001	Town Hall Backup Generator	**Problem**: Town Hall houses municipal departments and offices. In the event of a power outage, the critical systems provided by the town are inoperable. Additionally, the town hall cannot be used to assist residents as it also serves as a food pantry and shelter. **Solution**: Purchase and install a diesel-fuel permanent generator at the town hall.	Yes	No	All	1, 2	6 months	Town Board	FEMA HMGP, Town Budget	Continuity of operations; essential services to residents	$35,000	Medium	SIP	PP, ES
2021-Town of Lima -002	Records Room Relocation	**Problem**: Municipal records in the town hall are stored in the basement and exposed to dampness and potential flood damage. **Solution**: The Town will construct a fireproof room on the 3rd floor of the town hall and then move the records to the completed room.	Yes	No	All	1, 2	1 year	Town Board	FEMA HMGP, Town Budget	Protect municipal records	$40,000	High	SIP	PP
2021-Town of Lima -003	North/South Corridor Emergency Information Sign	**Problem**: There is no public information signage in the north/south corridor of the Town. During emergencies, the Town cannot relay information easily in this portion of town. **Solution**: Purchase and install a digital sign. The Town will develop a partnership with Lima Christian School to develop an agreement to use their lawn during an emergency and for access for law enforcement.	No	No	All	1, 2, 3	2 years	Town Board with support from the Lima Christian School	CARES Act, FEMA Firefighter Assistance Grants, Town Budget	Increase public awareness	$50,000	High	LPR, EAP	PI, ES
2021-Town of Lima -004	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training and resources to understand the NFIP program and flooding in the Town.	No	No	Flood	1, 2, 3	Within 1 year	NFIP Floodplain Administrator, NYSDEC	Town Budget	Increase education and training on	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend. This will allow the administrator to understand their role in administering the program and learning about the NFIP.								floods in the Town				
2021-Town of Lima -005	Update Flood Damage Prevention Ordinance	**Problem**: The Town lacks an updated flood damage prevention ordinance. **Solution**: The Town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	1, 2	Within 6 months	NFIP Floodplain Administrator, Town Board	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2021-Town of Lima -006	Floodprone Properties	**Problem**: There are 3 flood policies in the Town. 2 of the flood policies is located in the floodplain. Due to their location, the properties are prone to flooding and flood damages. **Solution**: Conduct outreach to 3 floodprone property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/ moving/elevating residential homes in the Town.	No	No	Flood	1, 2, 3	1 year	NFIP Floodplain Administrator, Town Board	Town Budget for outreach; FEMA FMA or HMGP for mitigation	Eliminates flood damage to homes, informs public of mitigation options	Staff time; mitigation depends on type chosen	Medium	LPR, SIP	PR, SP, PI

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations: *Potential FEMA HMA Funding Sources:* *Timeline:*

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*
FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.13-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2021-Town of Lima -001	Town Hall Backup Generator	1	1	1	1	1	1	0	1	0	1	1	0	0	-1	8	Medium
2021-Town of Lima -002	Records Room Relocation	1	1	1	1	1	1	0	1	1	1	1	1	0	1	12	High
2021-Town of Lima -003	North/South Corridor Emergency Information Sign	1	1	1	1	1	1	0	1	1	1	1	1	0	0	11	High
2021-Town of Lima -004	NFIP Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	0	0	9	High
2021-Town of Lima -005	Update Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	1	0	10	High
2021-Town of Lima -006	Floodprone Properties	1	1	1	1	0	0	0	0	0	1	0	1	0	0	6	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.13.9 Action Worksheets

The following action worksheets have been developed by the Town of Lima to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Town Hall Backup Generator		
Project Number:	2021-Town of Lima -001		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	Town Hall houses municipal departments and offices. In the event of a power outage, the critical systems provided by the town are inoperable. Additionally, the town hall cannot be used to assist residents as it also serves as a food pantry and shelter.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a diesel-fuel permanent generator at the town hall.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Continuity of operations; essential services to residents
Useful Life:	15 years	**Goals Met:**	1, 2
Estimated Cost:	$35,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	2022-2023
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	FEMA HMGP, Town Budget
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Portable generator	$5,000	Personnel needed to implement each time; not feasible for long-term outages
	New town hall	$1 million+	Costly; not feasible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Town Hall Backup Generator	
Project Number:	2021-Town of Lima -001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Food supply and shelter for residents
Property Protection	1	Avoids burst pipes during power outages in cold temperatures
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	0	
Agency Champion	0	
Other Community Objectives	-1	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Records Room Relocation		
Project Number:	2021-Town of Lima -002		
Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	Municipal records in the town hall are stored in the basement and exposed to dampness and potential flood damage.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will construct a fireproof room on the 3rd floor of the town hall and then move the records to the completed room.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-year flood	**Estimated Benefits (losses avoided):**	Protect municipal records
Useful Life:	50 years	**Goals Met:**	1, 2
Estimated Cost:	$40,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	2022-2023
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	FEMA HMGP, Town Budget
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Floodproofing basement	$15,000	Will not last; upkeep costs
	Sump pumps	$10,000	No backup power to run pumps
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Records Room Relocation	
Project Number:	2021-Town of Lima -002	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to install but will lower insurance rate of property
Environmental	1	
Social	1	
Administrative	1	Better condition for records
Multi-Hazard	1	All hazards
Timeline	1	
Agency Champion	0	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	North/South Corridor Emergency Information Sign		
Project Number:	2021-Town of Lima -003		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	There is no public information signage in the north/south corridor of the Town. During emergencies, the Town cannot relay information easily in this portion of town.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a digital sign. The Town will develop a partnership with Lima Christian School to develop an agreement to use their lawn during an emergency and for access for law enforcement.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Increase public awareness
Useful Life:	30 years	**Goals Met:**	1, 2, 3
Estimated Cost:	$50,000	**Mitigation Action Type:**	LPR, EAP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	2022-2024
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	CARES Act, FEMA Firefighter Assistance Grants, Town Budget
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	A-Frame Signs	$700	Needs personnel to set up, install, and maintain
	GCC Sign	$500	Manual letter change; time consuming; not immediate

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	North/South Corridor Emergency Information Sign	
Project Number:	2021-Town of Lima -003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Provides emergency notifications to residents in this area
Property Protection	1	
Cost-Effectiveness	1	Reduces annual signage costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to purchase sign
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	Does not meet signage municipal code
Total	11	
Priority (High/Med/Low)	High	

9.14 Village of Lima

The Village of Lima chose not to participate in the 2022 HMP update.

9.15 Town of Livonia

The Town of Livonia chose not to participate in the 2022 HMP update.

9.16 Village of Livonia

The Village of Livonia chose not to participate in the 2022 HMP update.

9.17 TOWN OF MOUNT MORRIS

This section presents the jurisdictional annex for the Town of Mount Morris. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Mount Morris and who in the Town participated in the planning process; an assessment of the Town of Mount Morris's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.17.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Mount Morris's hazard mitigation plan primary and alternate points of contact. The Town of Mount Morris followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Deputy Supervisor and Code Enforcement. The Deputy Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Mount Morris's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.17-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Dave DiSalvo, Deputy Supervisor Address: 103 Main St, Mt Morris, NY 14510 Phone Number: 585-737-4115 Email: ddisalvo@townofmountmorris.com	Name/Title: Don Huff, Councilman Address: 103 Main St, Mt Morris, NY 14510 Phone Number: 585-519-9594 Email: DonaldHuff45@gmail.com
NFIP Floodplain Administrator	
Name/Title: Shawn Grasby, Code Enforcement Officer Address: 103 Main St, Mt Morris, NY 14510 Phone Number: 585-5196289 Email: mmtceo@frontiernet.net	
Additional Contributors	
None	

9.17.2 Municipal Profile

According to the U.S. Census Bureau, the Town has an area of 50.7 square miles, 50.6 square miles of land and 0.1 square miles of water. The Town of Mount Morris shares a border with the Towns of Castile, Geneseo, Groveland, Leicester, and the County of Wyoming. According to the U.S. Census, the 2019 population for the Town of Mount Morris was 1,537, a 3.92 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.19 percent of the population is 5 years of age or younger and 26.4 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.17.3 Jurisdictional Capability Assessment and Integration

The Town of Mount Morris performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.17.3). The Town of Mount Morris's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Mount Morris. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.17-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	NYS Uniform Fire Prevention & Building Code (2013)	State and Local	Code Enforcement Officer
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	New Code in process Town Code Chapter 48	Local	Town Board
How does this reduce risk?					
Subdivision Ordinance	Yes	No	Town Code Chapter 48	Local	Planning Board
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Town Code Chapter 37	Local and County	Planning Board
How does this reduce risk?					
Stormwater Management Ordinance	No	Yes		Local	
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Town Code Chapter 24	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk?					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes			
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other	No				
Planning Documents					
Master Plan	No	No			
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No	county	EDA	
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	Yes	No	Farmland Protection Plan	Local	Town Board
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	Yes	No	County	County	Economic Development
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Town CEMP	Local	Town Board
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	Yes	No	COOP Plan	Local	Town board
How does this reduce risk?					
Public Health Plan	Yes	No	Local/county	County Health Department	Code officer
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Mount Morris to oversee and track development.

Table 9.17-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Mount Morris and their current responsibilities which contribute to hazard mitigation.

Table 9.17-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	
Zoning Board of Adjustments	Yes	
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	
Construction/Building/Code Enforcement Department	Yes	
Emergency Management/Public Safety Department	No	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	Yes	
Human Resources Manual	Yes	
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	
Engineers or professionals trained in building or infrastructure construction practices	Yes	
Planners or engineers with an understanding of natural hazards	Yes	

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	Yes	
Emergency Manager	No	
Grant writer(s)	Yes	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of Mount Morris.

Table 9.17-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Mount Morris.

Table 9.17-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	Yes	We use Hurricane Technologies
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of Mount Morris.

Table 9.17-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other	No		

Note:
N/A Not applicable *NP Not participating* *- Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.17-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.17.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.17-9. NFIP Summary

Town of Mount Morris	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Mount Morris	2	1	$0.00	N/A	N/A	7

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	None identified
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	No process identified
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None

Town of Mount Morris	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Mount Morris	2	1	$0.00	N/A	N/A	7

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	No; the maps are very old
NFIP Compliance	
What local department is responsible for floodplain management?	Code Enforcement
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes; current standards
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None provided
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	No process
What are the barriers to running an effective NFIP program in the community, if any?	None
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV – March 30, 1995 CAC - None
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Town Code Chapter 24
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets NFIP requirements, but not the State's mandate for freeboard
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Building Code
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.17.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of Mount Morris has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of Mount Morris has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Mount Morris did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.17.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.17-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.17-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	2	0	1	0	0	0	0	0	1	0	2	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**

Recent Major Development and Infrastructure from 2015 to Present
None
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years
None

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.17.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Mount Morris's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Mount Morris has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.17-1. Town of Mount Morris Flood and Mine Subsidence Hazard Areas

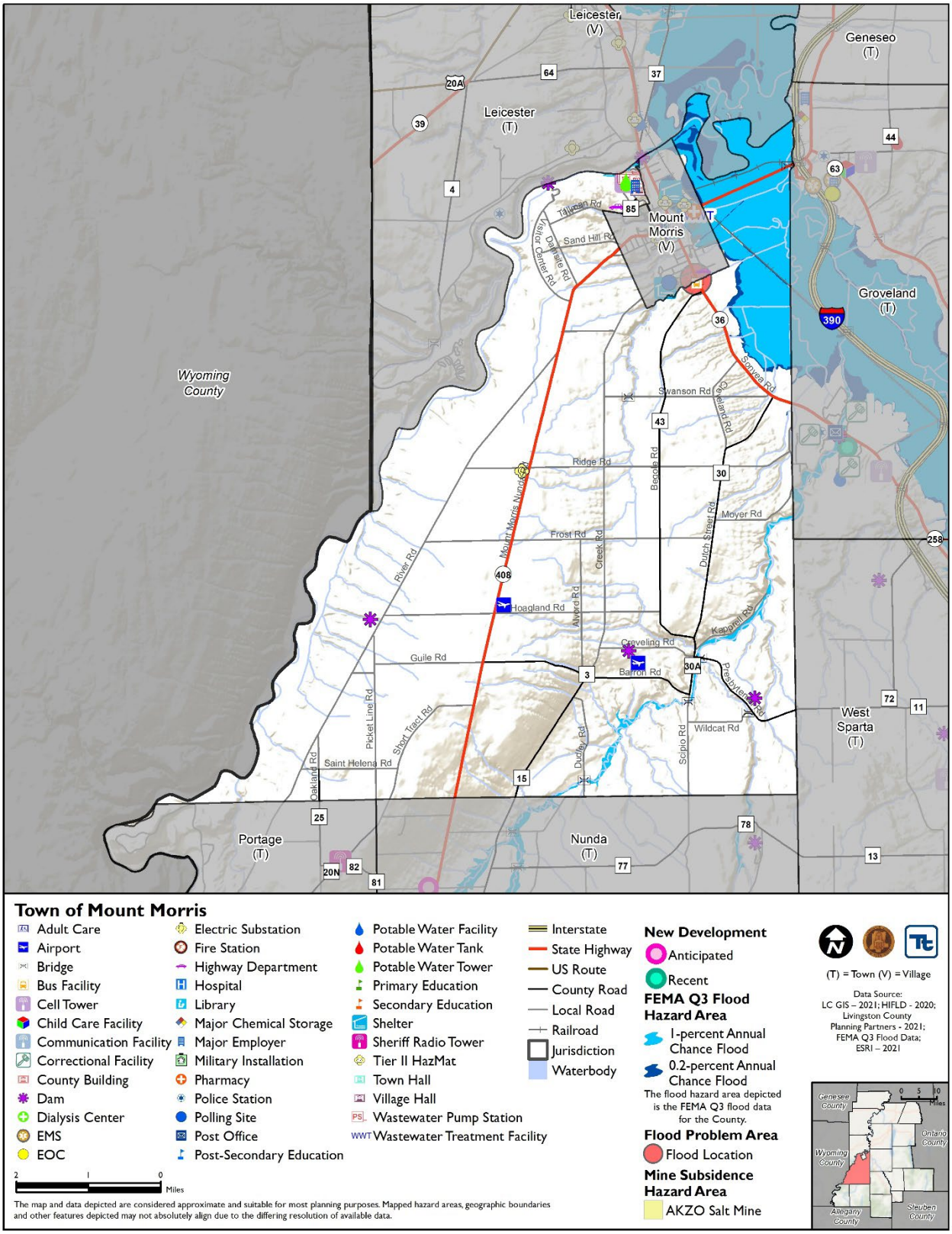


Figure 9.17-2. Town of Mount Morris Hazmat and Wildfire Hazard Areas

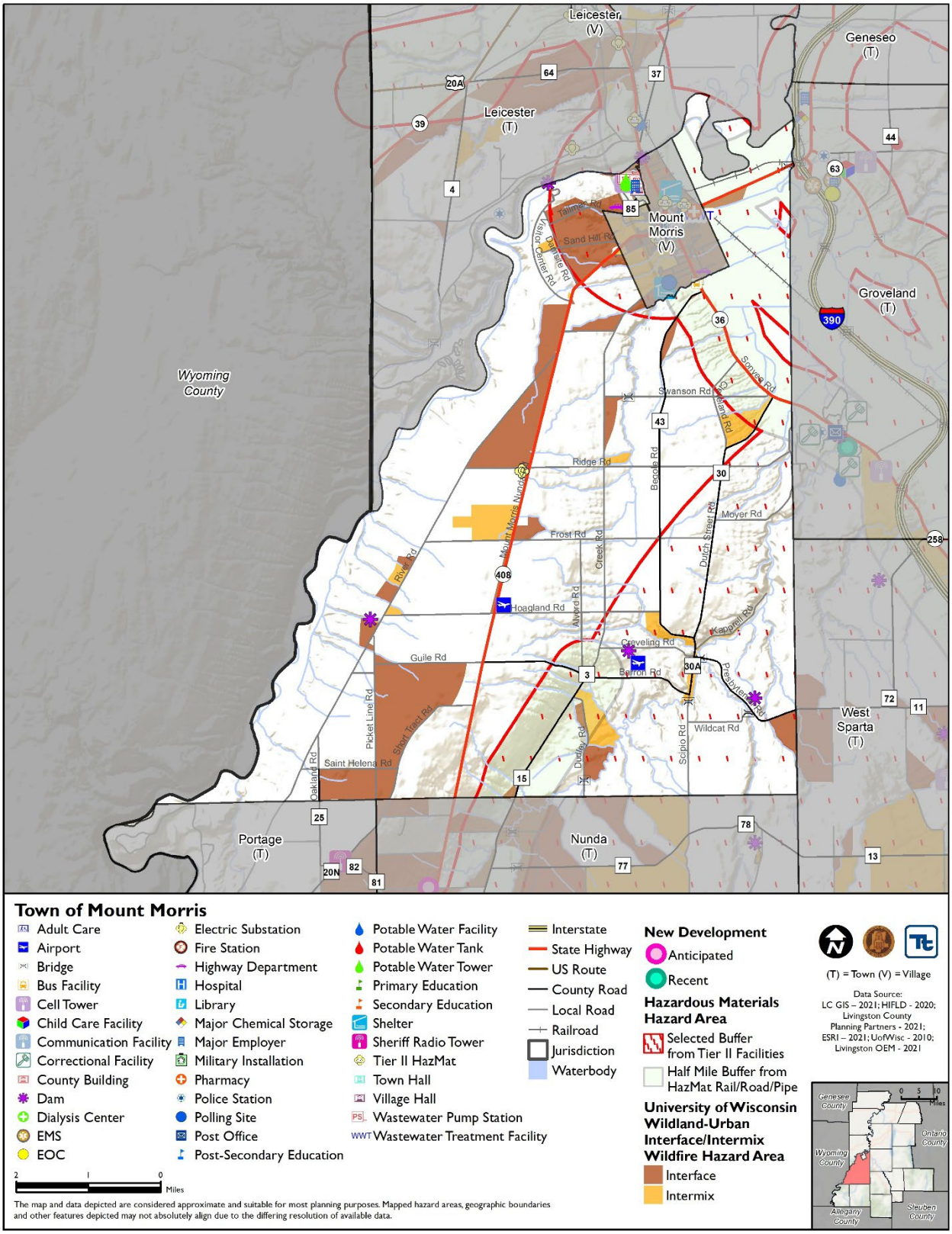
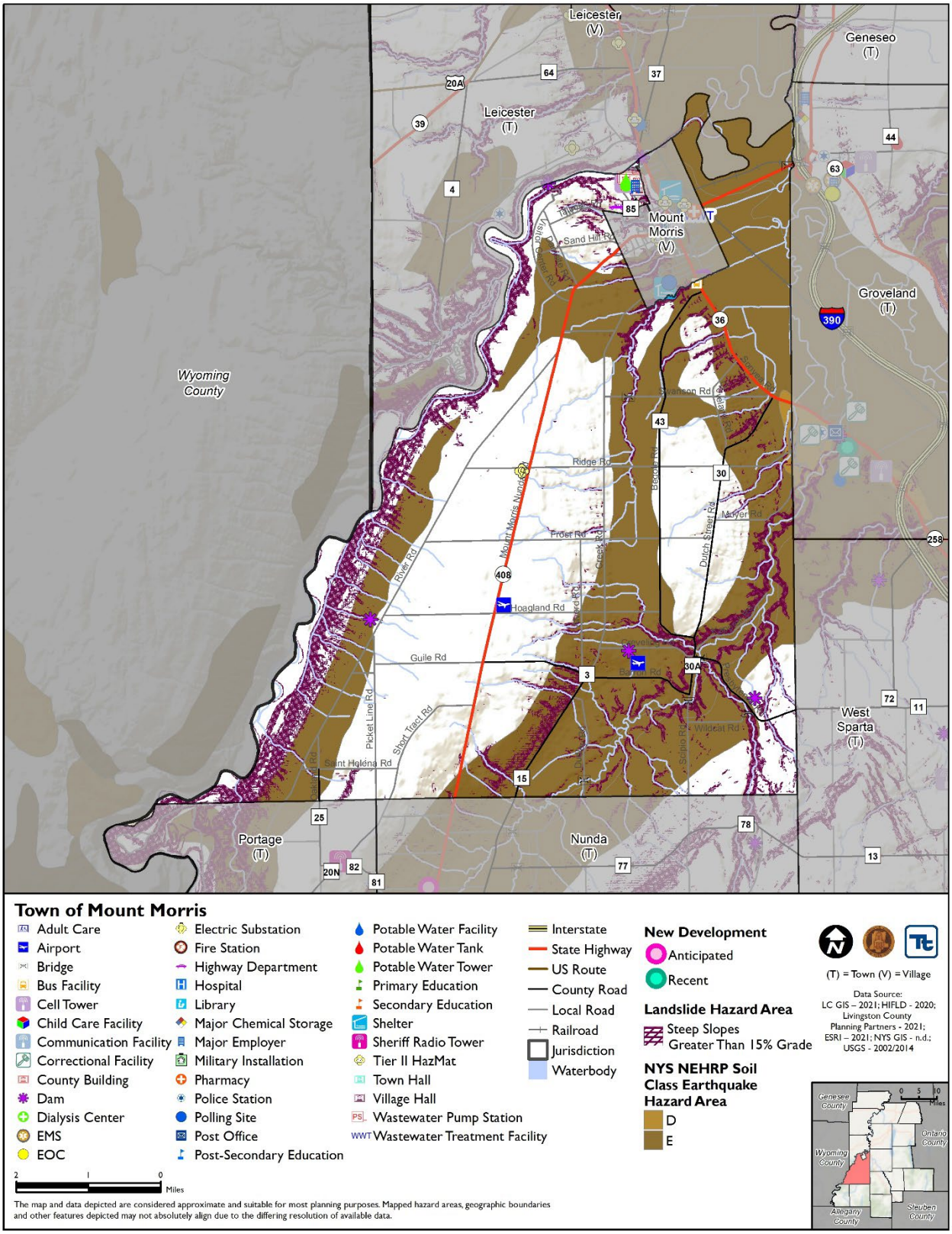


Figure 9.17-3. Town of Mount Morris Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Mount Morris's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.17-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.17-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	-
8/27/2020	Flash Flood	-	-
1/12/2020	Flood	-	-
11/1/2019	Flood	-	-
10/15/2019	Flood	-	-
10/27/2019	Flood	-	-
9/21/2018	Lightning	-	-
4/4/2018	Blizzard	-	-
7/20/2017	Tornado	-	-
3/8/2017	High Wind	-	-
9/9/2015	Thunderstorm Wind	-	-

Notes:

EM *Emergency Declaration (FEMA)*

FEMA *Federal Emergency Management Agency*

DR *Major Disaster Declaration (FEMA)*

N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Mount Morris's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Mount Morris ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Mount Morris. The Town of Mount Morris has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.17-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Medium	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.17-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Mount Morris's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Mount Morris has identified the following vulnerabilities within their community:

- The Route 26 sewer pump station needs a backup power generator.
- River Road floods during severe storms.

9.17.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.17-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TM-1	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, Portage, and the villages of Dansville, Nunda, and Mount Morris.	Flood	None provided in the 2015 HMP	County and municipal Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TM-2	Develop, train, and test an internal Town emergency plan for use during a wide variety of hazards/disaster events.	All	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TM-3	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TM-4	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TM-5	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TM-6	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Will include as specific problem areas are identified.
TM-7	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	participation of property owners. Implement as funding becomes available.						
TM-8	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TM-9	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TM-10	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	Flood	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TM-11	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through [examples]:	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
TM-12	Develop and implement a post-event damage assessment program.	Flood	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TM-13	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshops if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood, Wildfire	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
TM-14	Determine if a Community Assistance Visit (CAV) or Community Assistance	Severe Storm;		NFIP FPA	No Progress	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Severe Winter Storm	None provided in the 2015 HMP			2. 3.	3. Part of previous action.
TM-15	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TM-16	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
TM-17	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Flood	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TM-18	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TM-19	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Mount Morris has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Mount Morris was invited to a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.17-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X			X	X		X			
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X		X		X	X			
Severe Winter Storm		X		X		X	X			
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire							X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.17-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Mount Morris would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.17-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Mount Morris-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Mount Morris-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of Mount Morris-003	Stormwater BMPs	**Problem:** Stormwater runoff from farms damages roadways, causes road closures, and affects water quality. **Solution:** Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	No	No	Flood, Severe Storm	3	Within 1 year	FPA, Engineer	Staff Time	Reduced damage to roadways from stormwater runoff	Low	High	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Mount Morris-004	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI
2022-Town of Mount Morris-005	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and developers to bury utility lines underground, wherever possible.	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP
2022-Town of Mount Morris-006	Route 26 Sewer Pump Station Generator	**Problem**: The sewer pump station on Route 26 lacks backup power. Sewage can back up during a power outage and cause environmental contamination and a health hazard.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Protection from environmental contamination and public health hazard	$50K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Provide a backup power generator for the pump station.												
2022-Town of Mount Morris-007	River Road Flood Protection	**Problem**: River Road often floods. **Solution**: Conduct a feasibility study to determine the best option for reducing flood vulnerability, and implement the solution.	No	Yes	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Engineer	Town Budget; HMGP; BRIC	Reduced flood losses; emergency responders can reach incidents	$150K	High	SIP	PP

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes 💧 *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*

- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.17-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Mount Morris-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Mount Morris-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Mount Morris-003	Stormwater BMPs	0	1	1	1	1	1	1	1	0	1	1	1	0	1	11	High
2022-Town of Mount Morris-004	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Mount Morris-005	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium
2022-Town of Mount Morris-006	Route 26 Sewer Pump Station Generator	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of Mount Morris-007	River Road Flood Protection	1	1	1	1	1	1	0	0	1	0	1	1	1	1	11	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.17.9 Action Worksheets

The following action worksheets have been developed by the Town of Mount Morris to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022-Town of Mount Morris-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022-Town of Mount Morris-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Route 26 Sewer Pump Station Generator		
Project Number:	2022-Town of Mount Morris-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The sewer pump station on Route 26 lacks backup power. Sewage can back up during a power outage and cause environmental contamination and a health hazard.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a backup power generator for the pump station.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Protection from environmental contamination and public health hazard
Useful Life:	30 years	**Goals Met:**	1
Estimated Cost:	$50K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Route 26 Sewer Pump Station Generator	
Project Number:	2022-Town of Mount Morris-006	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

9.18 VILLAGE OF MOUNT MORRIS

The Village of Mount Morris chose not to participate in the 2022 HMP update.

9.19 TOWN OF NORTH DANSVILLE

This section presents the jurisdictional annex for the Town of North Dansville. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of North Dansville and who in the Town participated in the planning process; an assessment of the Town of North Dansville's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.19.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of North Dansville's hazard mitigation plan primary and alternate points of contact. The Town of North Dansville followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Supervisor, Code Enforcement, and Town Clerk/Tax Collector. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of North Dansville's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.19-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Dennis Mahus, Town Supervisor Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: 585-335-2330 Email: supervisor@northdansville.org	Name/Title: Tim Wolfanger, Town Clerk Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: 585-335-2330 Email: clerk@northdansville.org
NFIP Floodplain Administrator	
Name/Title: Tammy Sylor, Code Enforcement Address: 14 Clara Barton St., Dansville, NY 14437 Phone Number: 585-335-2330 Email:tammysylor@yahoo.com	
Additional Contributors	
None	

9.19.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total land area of 9.8 square miles, and shares a border with the Town's of Dansville, Ossian, Sparta, Springwater, Wayland, West Sparta, and shares a border with the County of Steuben. According to the U.S. Census, the 2019 population for the Town of North Dansville was 888, a 8.48 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.0 percent of the population is 5 years of age or younger and 16.8 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.19.3 Jurisdictional Capability Assessment and Integration

The Town of North Dansville performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.19.3). The Town of North Dansville's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of North Dansville. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.19-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Local Law 3 of 2006	State and Local	CEO
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Local Law 1 of 2019	Local	ZEO
How does this reduce risk?					
Subdivision Ordinance	Yes	No	Local Law 1 of 2019	Local	Code/Planning
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Local Law 1 of 2019	Local and County	ZEO
How does this reduce risk? Checks project compliance prior starting construction.					
Stormwater Management Ordinance	Yes	Yes	Unavailable	Local	Unavailable
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes		Local	
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Not available	Federal, State, County and Local	Code
How does this reduce risk?					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes		Local County	
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Master Plan	Local	Planning Board
How does this reduce risk?					
Capital Improvement Plan	Yes	No	Capital Improvement Plan	Local	Airport
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	Yes	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Economic Development Plan	Yes	No	Economic Development Plan	Local	Planning Board
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	County CEMP	County	OEM
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Yes	THIRA	County	OEM
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of North Dansville to oversee and track development.

Table 9.19-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of North Dansville and their current responsibilities which contribute to hazard mitigation.

Table 9.19-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	
Zoning Board of Adjustments	No	
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	Three Employees
Construction/Building/Code Enforcement Department	Yes	Code Office
Emergency Management/Public Safety Department	No	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	No	
Human Resources Manual	No	
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	No	
Grant writer(s)	No	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)		

Fiscal Capability

The table below summarizes financial resources available to the Town of North Dansville.

Table 9.19-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of North Dansville.

Table 9.19-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	No	

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of North Dansville.

Table 9.19-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	5-9	-
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other	No		

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.19-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.19.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.19-9. NFIP Summary

Town of North Dansville	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of North Dansville	13	1	$977.00	N/A	N/A	15

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Cumminsville Area – No lists maintained.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	No
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	

Town of North Dansville	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of North Dansville	13	1	$977.00	N/A	N/A	15

NFIP Topic	Comments
What local department is responsible for floodplain management?	Code Enforcement
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	-
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	-
What are the barriers to running an effective NFIP program in the community, if any?	-
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	-
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV – March 21, 2003 CAC – February 5, 2009
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Unavailable
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets minimum NFIP standards, but not State mandate of freeboard
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	-
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.19.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town identified NYS Routes 36 and 63, and County Routes 256 and 436,as evacuation routes.

Sheltering

The Town identified the following facilities as potential emergency shelters.

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Town Hall	14 Clara Barton St., 14437	200	No	Yes	No	Local Ambulance	
High School	284 Main St., 14437	500	No	Yes	No	Local Ambulance	
Moose Lodge	6 Main St., 14437	200	No	Yes	No	Local Ambulance	Food Service

Temporary Housing

The Town identified the following location for temporary housing.

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Dansville Airport	176 Franklin St., 14437	Yes	57 Acres of Land	Airport	Code Enforcement will check for compliance

Permanent Housing

While the Town of North Dansville did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.19.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.19-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.19-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	3	1	6	0	4	0	1	1	1	1	1	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	1	1	0	0	0	0	1	0	0	0	0	0	0	0
Total Permits Issued	4	2	6	0	4	0	2	1	1	1	1	0	1	0

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
None					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.19.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of North Dansville's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of North Dansville has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.19-1. Town of North Dansville Flood and Mine Subsidence Hazard Areas

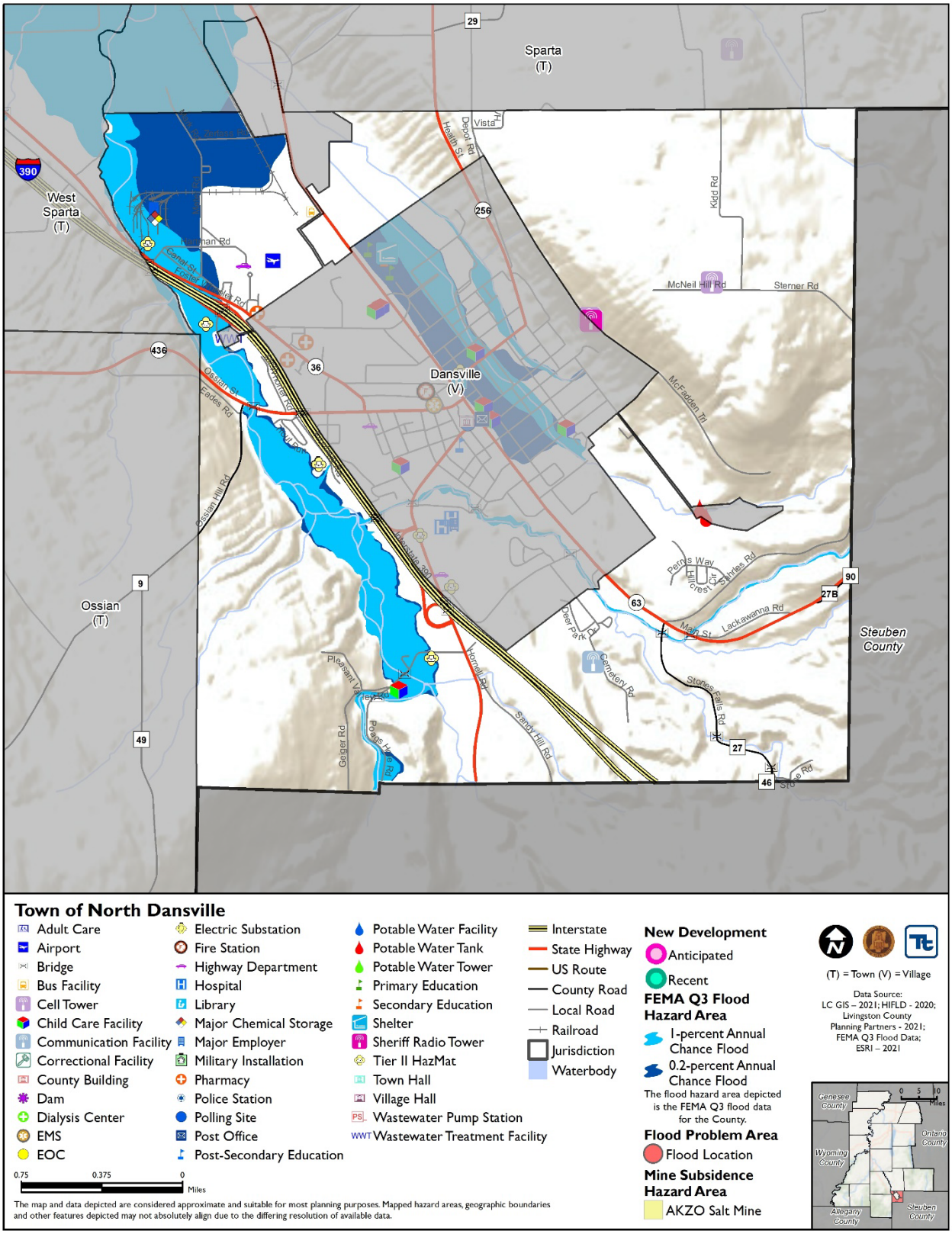


Figure 9.19-2. Town of North Dansville Hazmat and Wildfire Hazard Areas

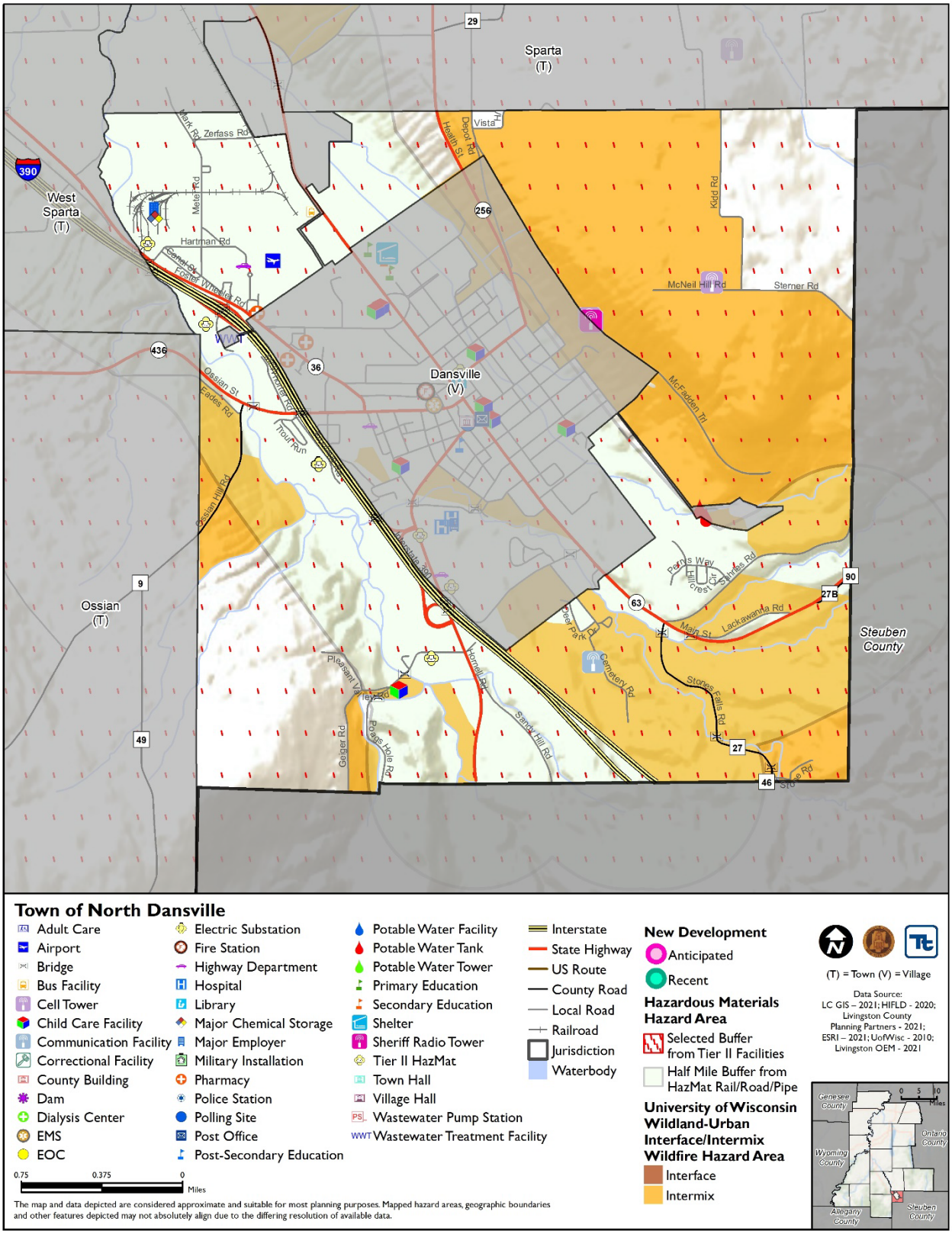
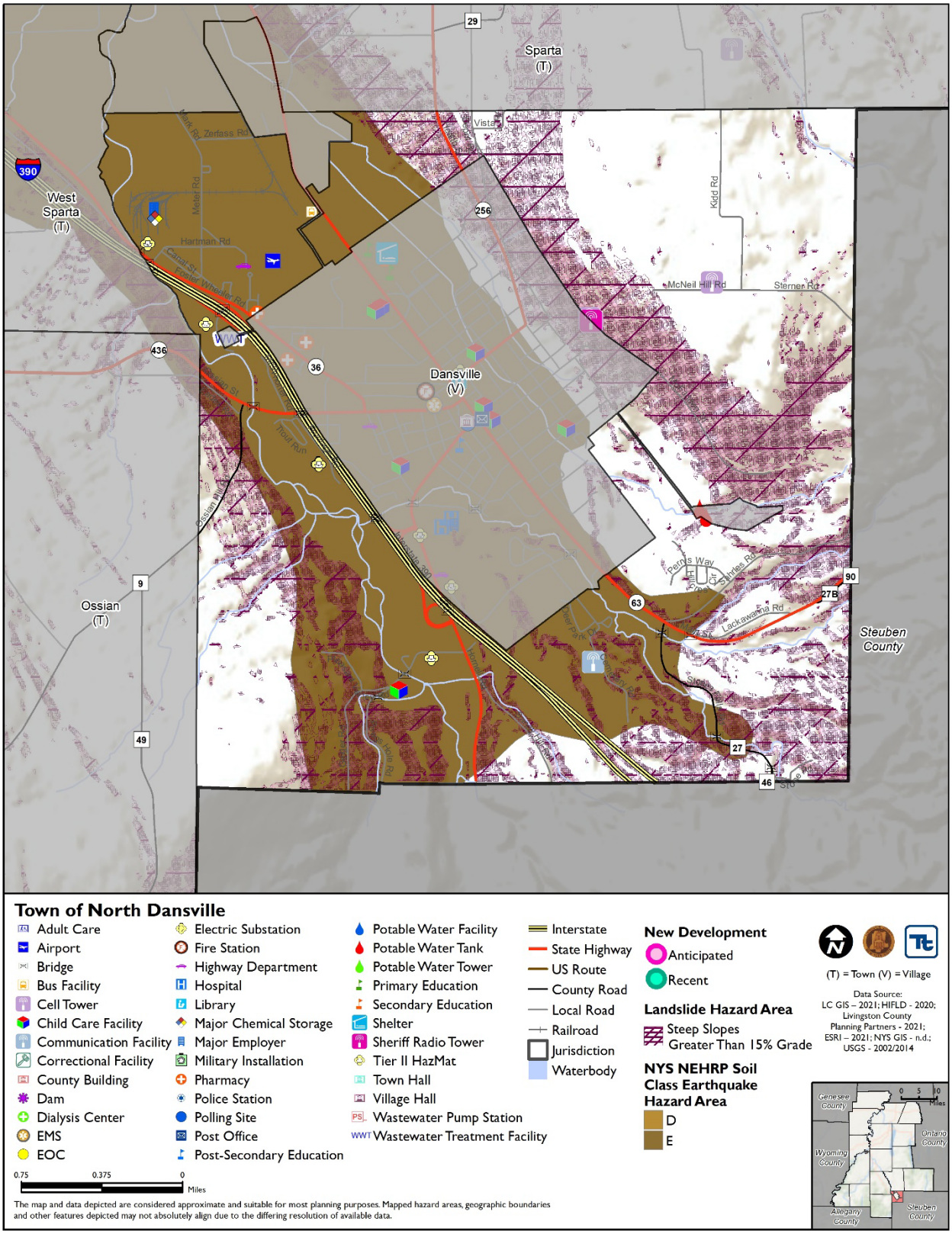


Figure 9.19-3. Town of North Dansville Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of North Dansville's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.19-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.19-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	-
8/27/2020	Flash Flood	-	-
1/12/2020	Flood	-	-
11/1/2019	Flood	-	-
10/15/2019	Flood	-	-
10/27/2019	Flood	-	-
9/21/2018	Lightning	-	-
4/4/2018	Blizzard	-	-
7/20/2017	Tornado	-	-
3/8/2017	High Wind	-	-
9/9/2015	Thunderstorm Wind	-	-

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of North Dansville's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of North Dansville ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of North Dansville. The Town of North Dansville has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.19-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.19-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure 1% Event	Exposure 0.2% Event	Complies with NYS Standards	Addressed by Proposed Action
Providence Ag - Dansville	Hazmat	X	X	No	2022-Town of North Dansville-004
Travel Ctrs. of America - Dansville	Hazmat	X	X	No	2022-Town of North Dansville-004
Valley Energy Services	Hazmat	X	X	No	2022-Town of North Dansville-004

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of North Dansville's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of North Dansville has identified the following vulnerabilities within their community:

- The Flood Damage Prevention Ordinance is dated and does not include State-mandated freeboard.
- The Cumminsville area is vulnerable to flooding.
- The following three hazmat facilities are in the special flood hazard area and vulnerable to flooding: 1) Providence Ag – Dansville; 2) Travel Ctrs. of America – Dansville; 3) Valley Energy Services.
- Culverts are undersized.
- Backup power generators are needed at Town Hall, Town Barns, and the Airport Main Hanger and Vault.

9.19.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.19-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TND-1	Implement a stream clearance project for Mill Creek, Canaseraga Creek, and Creek East Side/North.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-2	Develop a Town stormwater management plan.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-3	Provide backup power generators for pump stations.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TND-4	Provide backup power generators for airports/airstrips.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-5	Provide backup power generators for highway department/DPW garages and related installations.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-6	Get community groups involved (Boy/Girl Scouts, etc.) with information distribution programs.	All	None provided in the 2015 HMP	County Sheriff	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-7	Support community programs to assist elderly and vulnerable populations during utility failures. Encourage residents to check on elderly and other vulnerable neighbors.	Flood	None provided in the 2015 HMP	County Office for the Aging	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-8	Develop a flood mitigation program for flood-prone stretches of the Genesee River, Jaycox Creek, Keshequa Creek and Canaseraga Creek. These watercourses are the source of significant flooding and require special attention.	Flood	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-9	Introduce erosion controls/stream and bank stabilization measures along specific flood prone watercourses, including Mud Creek, Mill Creek and Canaseraga Creek.	All	None provided in the 2015 HMP	County Planning	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-10	Build a diversion channel/canal to divert flood waters from the flood-prone Village of Dansville.	Flood	None provided in the 2015 HMP	Town Highway	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TND-11	Create a coordinated ditch stabilization program for the southern part of the county, specifically the towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage. The higher relief in these towns makes this program a priority.	Flood	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-12	Line some streambanks, especially those in the southern part of the county, with retaining walls for erosion control.	Flood	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-13	Construct permanent storage facilities for vulnerable equipment & machinery that is not currently protected from harsh weather.	HazMat	None provided in the 2015 HMP	CEO	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-14	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMPs) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-15	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-16	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed.
TND-17	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Will include as specific problem areas are identified.
TND-18	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.						
TND-19	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Supervisor's Office	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TND-20	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TND-21	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Town will support as necessary
TND-22	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
TND-23	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TND-24	Support participation in the NFIP Community Rating System (CRS)	Flood		NFIP FPA	No Progress	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	program by attending CRS workshop(s) if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.		None provided in the 2015 HMP			2. 3.	3. NFIP policy base does not support administrative requirements of participation.
TND-25	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. Part of previous action.
TND-26	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TND-27	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
TND-28	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TND-29	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TND-30	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of North Dansville has not identified any mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP:

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of North Dansville participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.19-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X	X	X	X	X	X	X	X		
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm	X	X	X	X		X	X	X		
Severe Winter Storm		X	X	X		X	X	X		
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.19-16 summarizes the comprehensive range of specific mitigation initiatives the Town of North Dansville would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.19-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of North Dansville-001	Update Flood Damage Prevention Ordinance	**Problem**: The Town lacks an updated flood damage prevention ordinance. **Solution**: The Town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of North Dansville-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the Town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of North Dansville-003	Cumminsville Flood Protection	**Problem:** The Cumminsville area is vulnerable to flooding. **Solution**: The Town will conduct a study of the flood problem in the Cumminsville area to determine possible alternatives to reduce flooding, and will implement the most	No	No	Flood, Severe Storm	1, 2	Within 2 years	Engineer, CEO	Town budget; staff time; HMGP	Properties protected from flooding; less damage to roadways; roadways remain passable for emergency responders	$100K for the study	High	LPR	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		appropriate alternative(s).												
2022-Town of North Dansville-004	Hazmat Facility Flood Protection	**Problem:** The following three hazmat facilities are in the special flood hazard area and vulnerable to flooding: 1) Providence Ag – Dansville; 2) Travel Ctrs. of America – Dansville; 3) Valley Energy Services. **Solution:** The FPA will work with the operators of each facility to determine protective measures that can be taken to prevent contamination of floodwaters and flood damage to the facilities.	Yes	Yes	Flood	1, 2, 3	Within 1 year	FPA	Staff time	Protect critical facilities from flooding; reduce risk of contamination of flood waters	Low	High	LPR	PP
2022-Town of North Dansville-005	Stormwater Management Upgrades	**Problem:** Culverts throughout the Town are undersized and need to be upgraded. **Solution:** The Town will assess the culverts in the Town to determine which need to be upgraded, will develop designs to replace the culverts with ones of adequate size, as applicable, and will maintain drainage ditches.	No	No	Flood; Severe Storm	1, 2	Within 3 years	Highway	CHIPS; BRIC; HMGP; Staff time; Town budget	Reduced damage to culverts and roadways; roads remain passable during storm events	$5K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of North Dansville-006	Backup Power at Town Hall	**Problem:** Town Hall lacks backup power. Government may not be able to function during a power outage. **Solution:** Provide a backup power generator for Town Hall.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued government operations during and after an emergency	$45K	High	SIP	PP
2022-Town of North Dansville-007	Backup Power at Town Barns	**Problem:** The facilities cannot function without power, which could prevent crews from being able to operate. **Solution:** Purchase and install a backup power generator.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued highway operations during and after an emergency	$45K	High	SIP	PP
2022-Town of North Dansville-008	Backup Power at the Airport Main Hanger and Vault	**Problem:** The facility doors cannot open without power, which could prevent crews from being able to operate. **Solution:** Purchase and install a backup power generator.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Supervisor, Engineer	Town budget; HMGP; Airport revenue	Continued flight operations during and after an emergency	$45K	High	SIP	PP
2022-Town of North Dansville-009	Stream Clearance	**Problem**: Creeks in the Town become clogged with debris, inhibiting the flow of water and contributing to flooding. **Solution**: Implement a stream clearance project for Mill Creek, Canaseraga Creek , and Creek East Side/North.	No	Yes	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 6 months	FPA	Staff time	Removal of obstructions from waterways; more efficient discharge of water in creeks	Low	High	NSP	NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of North Dansville-010	Stormwater Management Plan	**Problem**: Stormwater management in the Town is not consistent. **Solution**: Develop a Town stormwater management plan .	No	No	Flood, Severe Storm	1, 2	Within 2 years	Supervisor; CEO	Staff Time	Consistent, effective stormwater management; reduced risk of flooding	$50K	High	LPR	PR
2022-Town of North Dansville-011	Dansville Diversion Channel	**Problem**: Floodwaters in the Town flow to the Village of Dansville, causing increased impacts. **Solution**: Build a diversion channel/canal to divert flood waters from the flood-prone Village of Dansville.	No	No	Flood	1, 2	Within 4 years	FPA; Engineer	Town budget; BRIC; HMGP	Decrease flood impacts to populated area; lower flood losses	High	Med.	SIP	PP
2022-Town of North Dansville-012	Public Outreach Campaign	**Problem**: Residents may be unaware of the steps they can take to protect their homes and property. **Solution**: Develop and implement an enhanced all-hazards, public outreach/ education/ mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI
2022-Town of North Dansville-013	Bury Power Lines	**Problem**: Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.	No	No	Severe Storm, Severe Winter Storm,	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Work with utility companies and developers to bury utility lines underground, wherever possible.			Utility Failure									

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*

- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.19-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of North Dansville-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of North Dansville-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of North Dansville-003	Cumminsville Flood Protection	0	1	1	1	1	1	0	0	1	1	1	1	1	1	11	High
2022-Town of North Dansville-004	Hazmat Facility Flood Protection	1	0	1	1	1	1	1	1	0	1	0	1	1	0	10	High
2022-Town of North Dansville-005	Stormwater Management Upgrades	0	1	1	1	1	1	1	0	0	1	1	0	1	1	10	High
2022-Town of North Dansville-006	Backup Power at Town Hall	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of North Dansville-007	Backup Power at Town Barns	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of North Dansville-008	Backup Power at the Airport Main Hanger and Vault	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of North Dansville-009	Stream Clearance	0	0	1	1	1	1	1	1	0	1	1	1	1	1	11	High
2022-Town of North Dansville-010	Stormwater Management Plan	0	1	1	1	1	1	1	1	0	1	1	1	0	1	11	High
2022-Town of North Dansville-011	Dansville Diversion Channel	1	1	1	1	0	0	-1	0	1	1	0	0	0	1	6	Medium
2022-Town of North Dansville-012	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of North Dansville-013	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.19.9 Action Worksheets

The following action worksheets have been developed by the Town of North Dansville to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Backup Power for Town Hall		
Project Number:	2022-Town of North Dansville-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Town Hall lacks backup power. Government may not be able to function during a power outage.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a backup power generator for Town Hall.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued government operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1
Estimated Cost:	$45K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of North Dansville-006	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Backup Power at Town Barns		
Project Number:	2022-Town of North Dansville-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The facilities cannot function without power, which could prevent crews from being able to operate.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a backup power generator.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued highway operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$45K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power at Town Barns	
Project Number:	2022-Town of North Dansville-007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Backup Power at the Airport Main Hanger and Vault		
Project Number:	2022-Town of North Dansville-008		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The facility doors cannot open without power, which could prevent crews from being able to operate.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a backup power generator.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued flight operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1, 2
Estimated Cost:	$45K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP; Airport review
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power at the Airport Main Hanger and Vault	
Project Number:	2022-Town of North Dansville-008	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Dansville Diversion Channel		
Project Number:	2022-Town of North Dansville-011		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Floodwaters in the Town flow to the Village of Dansville, causing increased impacts.		
Action or Project Intended for Implementation			
Description of the Solution:	Build a diversion channel/canal to divert flood waters from the flood-prone Village of Dansville.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	0.2% annual chance flood	**Estimated Benefits (losses avoided):**	Decrease flood impacts to populated area; lower flood losses
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Med.	**Desired Timeframe for Implementation:**	Within 4 years
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	Town budget; BRIC; HMGP
Responsible Organization:	FPA	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate all structures	High	Cost prohibitive
	Diversion channel	High	Selected alternative

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Dansville Diversion Channel	
Project Number:	2022-Town of North Dansville-011	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	-1	
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	0	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	6	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022-Town of North Dansville-013		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022-Town of North Dansville-013	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.20 TOWN OF NUNDA

This section presents the jurisdictional annex for the Town of Nunda. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Nunda and who in the Town participated in the planning process; an assessment of the Town of Nunda's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.20.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Nunda's hazard mitigation plan primary and alternate points of contact. The Town of Nunda followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Supervisor, Highway, and Code Enforcement. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Nunda's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.20-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Merilee G. Walker, Town Supervisor Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-734-4572 Email: supervisor@town.nunda.ny.us	Name/Title: Rick Moran, Highway Superintendent Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-314-7828 Email: nundahwy@frontiernet.net
NFIP Floodplain Administrator	
Name/Title:Mark Mullikin, Code Enforcement Officer Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-519-3321 Email: nundavillagecodeenforcement@yahoo.com	
Additional Contributors	
None	

9.20.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total land area of 37.1 square miles, of which all is land except for 0.04 square miles of water. The Town of Nunda shares a border with the Towns of Grove, Mount Morris, Ossian, Portage, West Sparta, and Allegany County. The Town of Nunda is located in the southwestern area of Livingston County.

According to the U.S. Census, the 2019 population for the Town of Nunda was 1,519, a 9.96 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.7 percent

of the population is 5 years of age or younger and 16.4 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.20.3 Jurisdictional Capability Assessment and Integration

The Town of Nunda performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.20.3). The Town of Nunda's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Nunda. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.20-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	2005/updated 2016	State and Local	Planning
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Local Law 3 of 2016	Local	Planning
How does this reduce risk? Having Building and Zoning Laws, limitations can be addressed as to placement of structures within floodplain areas.					
Subdivision Ordinance	Yes	No	Local Law 3 of 2016	Local	Planning
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Local Law 3 of 2016	Local and County	Planning
How does this reduce risk? Planning and Zoning Boards can place limitations on proposed development.					
Stormwater Management Ordinance	Yes	Yes	Not available	Local	
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	Yes	Yes	Not available	State	State
How does this reduce risk? Prevention of buildings in a floodplain.					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Local Law 2 of 1987	Federal, State, County and Local	Code Enforcement Officer
How does this reduce risk?					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes		County	
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Master Plan	Local	Planning
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	Yes	Yes	Open Space Plan	Local	Planning
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No		Liv. Co.	
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	2015	Local	Town Board
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Yes	2005	Local	Town Board
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Nunda to oversee and track development.

Table 9.20-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	N	Use existing Zoning Law
Are permits tracked by hazard area? (For example, floodplain development permits.)	Y	As prescribed by the laws
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	N	Each permit is scrutinized when submitted by the landowner.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Nunda and their current responsibilities which contribute to hazard mitigation.

Table 9.20-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Joint with the Village of Nunda
Zoning Board of Adjustments	Yes	Joint with the Village of Nunda
Planning Department	No	
Mitigation Planning Committee	Yes	Supervisor, Code Enforcement
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	-
Construction/Building/Code Enforcement Department	Yes	-
Emergency Management/Public Safety Department	No	Utilize Livingston County Resources
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	Yes	-
Human Resources Manual	No	
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Only on an as-needed basis
Engineers or professionals trained in building or infrastructure construction practices	Yes	On an as-needed basis
Planners or engineers with an understanding of natural hazards	No	

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	Yes	Only as needed basis
Emergency Manager	No	
Grant writer(s)	No	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of Nunda.

Table 9.20-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Grant writer for Livingston County
Capital improvements project funding	Financial Consultant when needed
Authority to levy taxes for specific purposes	Confer with our accountant
User fees for water, sewer, gas or electric service	Confer with the Village of Nunda
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Only with financial consultant input
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Sought as needed or when available
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Nunda.

Table 9.20-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	Yes	Presently have a webmaster on staff
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Nunda Fire Department has a siren within the Village limits. Facebook and Social Media
Natural disaster/safety programs in place for schools	No	
Other	No	

Community Classifications

The table below summarizes classifications for community programs available to the Town of Nunda.

Table 9.20-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Unknown	Unknown
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Unknown	Unknown
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other	No		

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.20-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.20.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.20-9. NFIP Summary

Town of Nunda	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Nunda	6	4	$60,409.52	N/A	N/A	7

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	We utilize the Flood Maps as a guideline.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	No
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	3

Town of Nunda	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Nunda	6	4	$60,409.52	N/A	N/A	7

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	No. We feel that they are outdated.
NFIP Compliance	
What local department is responsible for floodplain management?	Code Enforcement Officer
Are any certified floodplain managers on staff in your jurisdiction?	N
Do you have access to resources to determine possible future flooding conditions from climate change?	Y
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Y General guidance, seminars or workshops, and updates
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit review and inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	NYSDC recommendations, flood plain regulations
What are the barriers to running an effective NFIP program in the community, if any?	Time, staff, and money
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	2—1987 With no recorded updates
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Yes, improvements would help with insurance rates.

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.20.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

Due to the size of the Township, these routes can only be determined based on the location of the disaster. The Nunda Fire Department would aid in the evacuation, as well as the Nunda Police Department.

Sheltering

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Keshequa Central School	Mill Street, Nunda, NY	Unknown	Unknown	yes	yes	Nunda Ambulance Service	Meals
Town Highway Bldg	1955 Hay Road	20--25	Unknown	Yes	Yes	Nunda Ambulance	-

Temporary Housing

The Town identified the following location as a potential site for temporary housing after an emergency.

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Creek Rd. Mobile Park	Creek Road	Water/septic	20-25	Mobile Homes	None

Permanent Housing

While the Town of Nunda did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.20.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.20-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.20-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	2	0	3	0	2	0	3	0	1	0	3	0	3	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Total Permits Issued	2	0	3	0	3	0	3	0	1	0	3	0	4	0

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
Town of Nunda Highway	Comm.	1	1955 Hay Road	None	Under construction 2021, completion expected October 2021
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None at this time.					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.20.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Nunda's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Nunda has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.20-1. Town of Nunda Flood and Mine Subsidence Hazard Areas

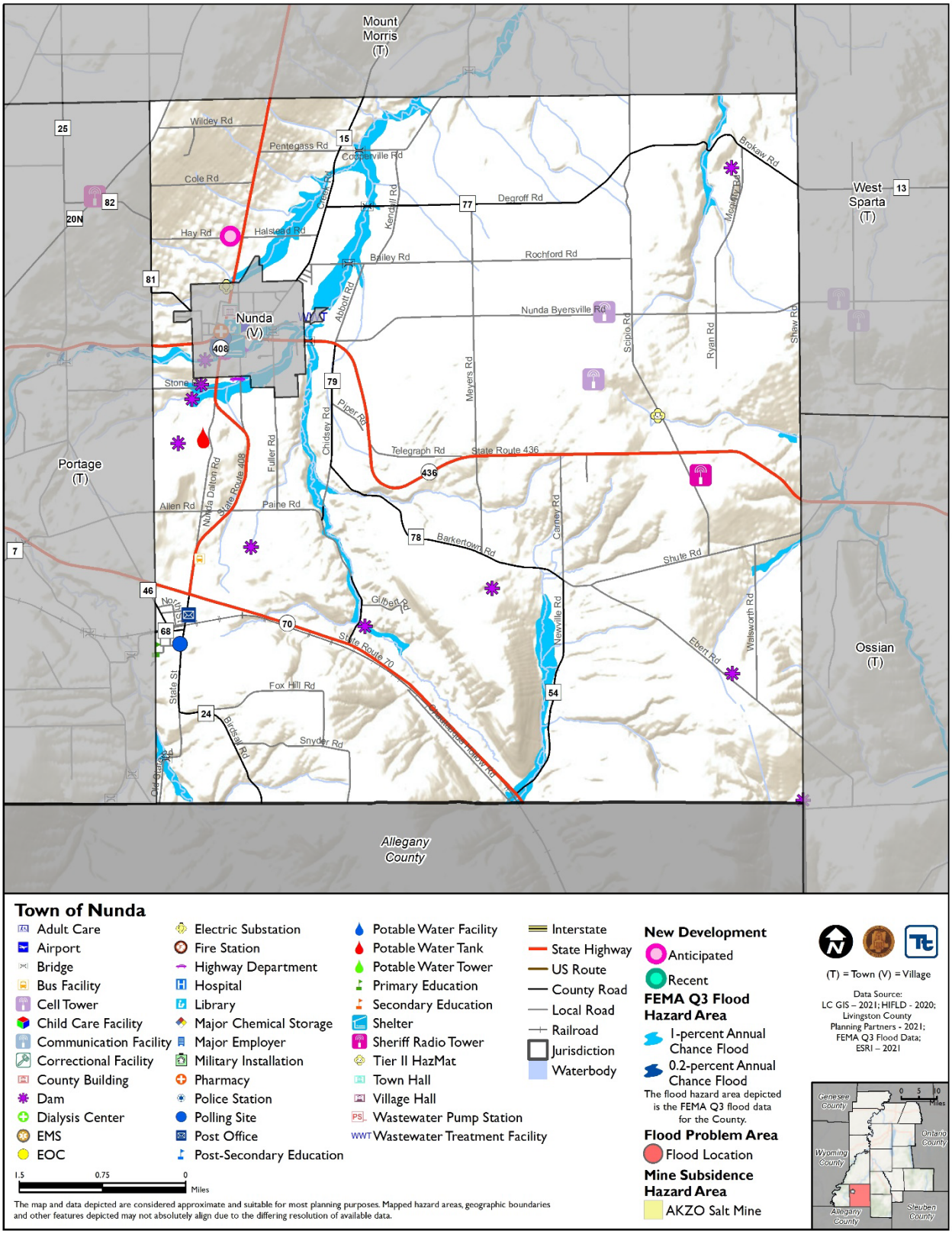


Figure 9.20-2. Town of Nunda Hazmat and Wildfire Hazard Areas

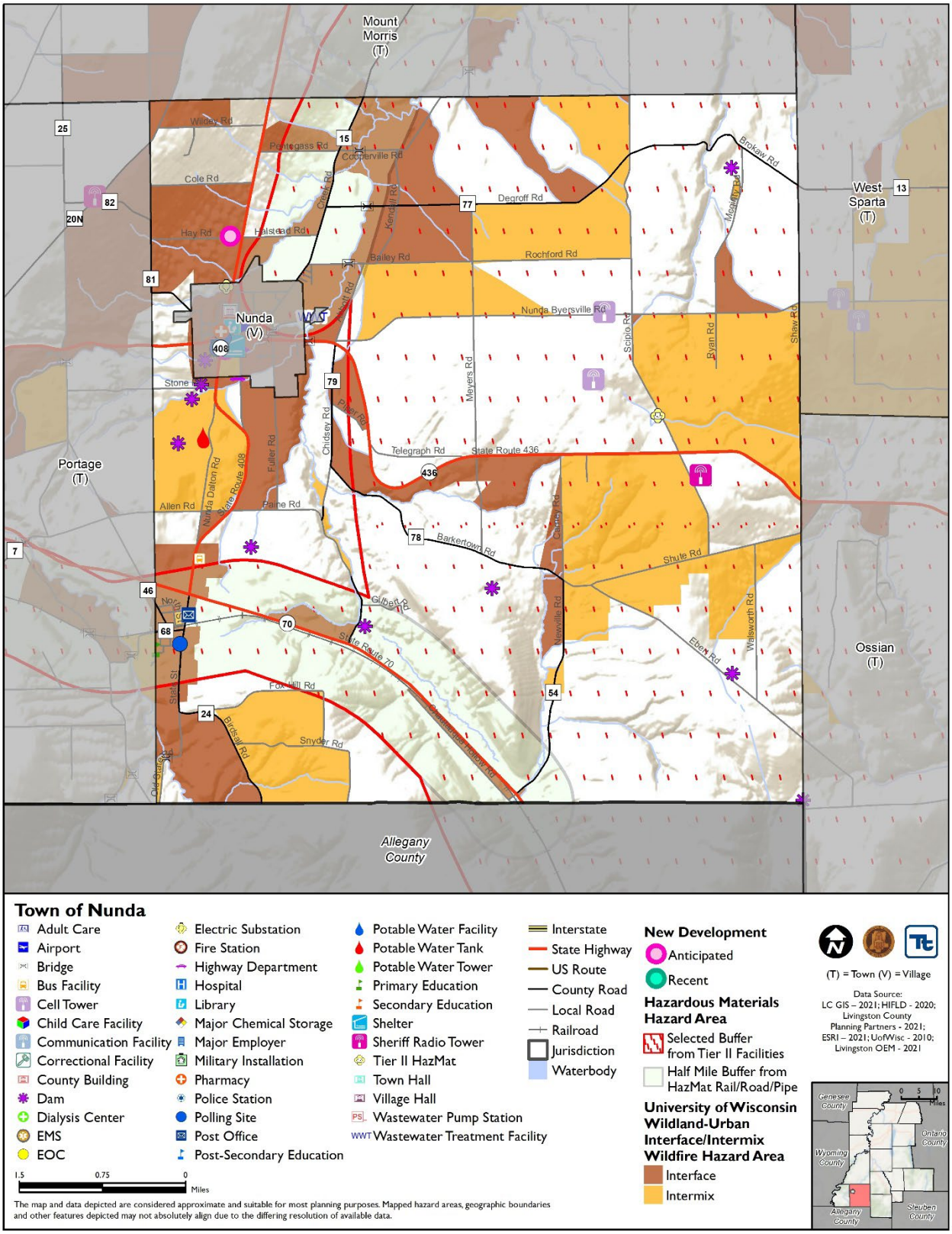
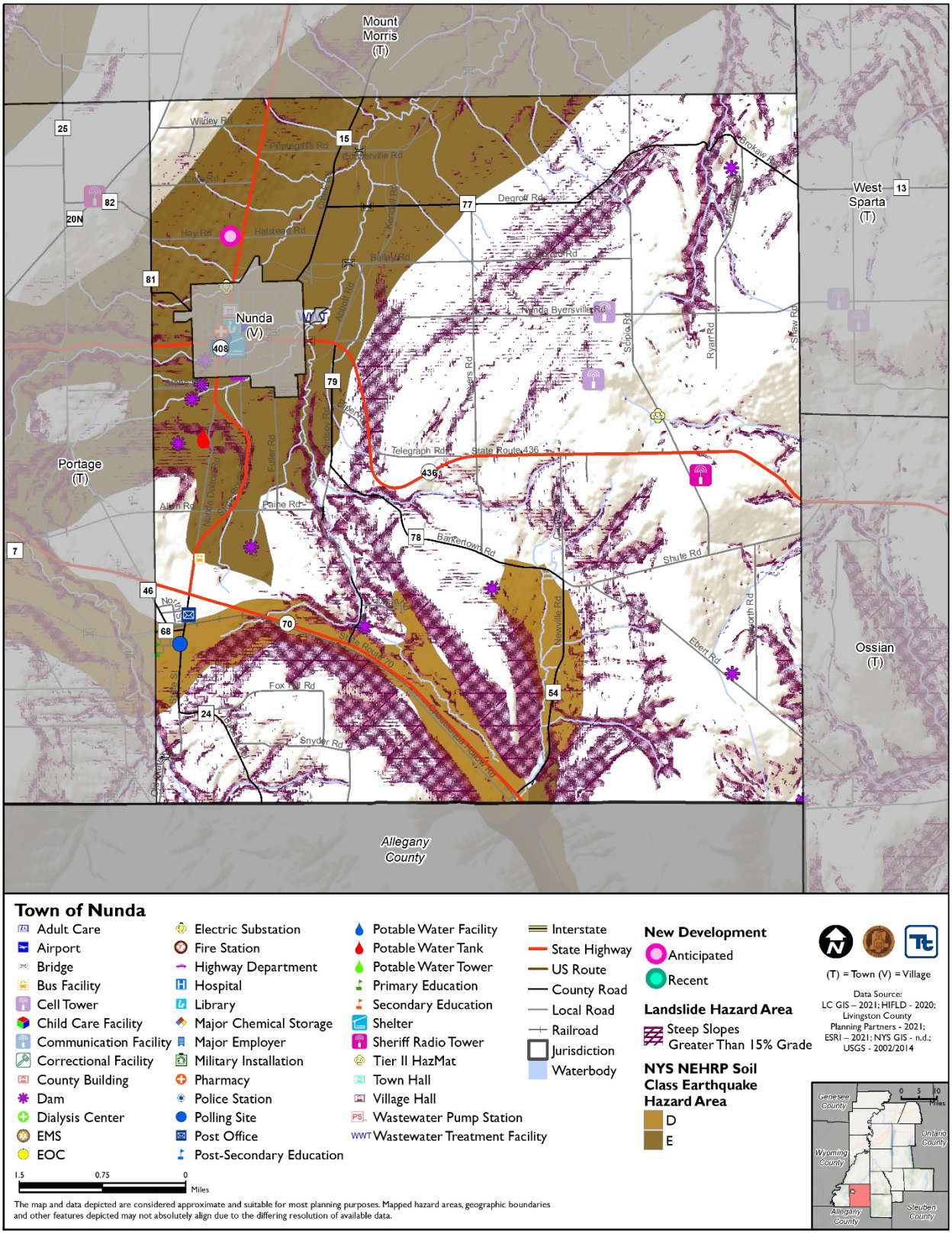


Figure 9.20-3. Town of Nunda Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Nunda's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.20-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.20-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	-
8/27/2020	Flash Flood	-	Washouts of some roadways and culverts. Estimate $3500 in damages to the Town as clean-up and gravel replacement
1/12/2020	Flood	-	-
11/1/2019	Flood	-	-
10/15/2019	Flood	-	-
10/27/2019	Flood	-	-
9/21/2018	Lightning	-	-
4/4/2018	Blizzard	-	-
7/20/2017	Tornado	-	-
3/8/2017	High Wind	-	-
9/9/2015	Thunderstorm Wind	-	-

Notes:

EM *Emergency Declaration (FEMA)*

FEMA *Federal Emergency Management Agency*

DR *Major Disaster Declaration (FEMA)*

N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Nunda's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Nunda ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Nunda. The Town of Nunda has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.20-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	Medium

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.20-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
Nunda Water Supply Dam	Dam	X	X	No	2022-Town of Nunda-003

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Nunda's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Nunda has identified the following vulnerabilities within their community:

- The Nunda Water Supply Dam is within the special flood hazard area and vulnerable to flooding.
- Flood insurance rate maps are outdated.
- The Flood Damage Prevention Ordinance is dated and does not address State mandates regarding freeboard.

9.20.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.20-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TN-1	Provide backup power generators for Town Highway Department/	All	None provided in the 2015 HMP	Town Highway Department	In Progress	1. 2. 3.	1 Discontinue 2. 3. Generator on order thru manufacturer.
TN-2	Secure hazardous materials on farms (identified as an initiative in the 2007 HMP).	All	None provided in the 2015 HMP	SWCD	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-3	Create a coordinated ditch stabilization program for the southern part of the County, specifically in Towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage; and the Villages of Dansville, Nunda, and Mount Morris (identified as an initiative in the 2007 HMP).	Flood	None provided in the 2015 HMP	County and municipal highway departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-4	Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TN-5	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. The Village of Nunda owns the local reservoir
TN-6	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. The Village of Nunda owns the local reservoir
TN-7	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect them from future damage. Repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Following our Flood Maps, and we have had no repetitive losses.
TN-8	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No at-risk properties at this time.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.						
TN-9	Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Discontinue 2. 3. Not a Town priority
TN-10	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-11	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-12	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance; planning to update zoning ordinance and comprehensive plan 3.
TN-13	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TN-14	Support participation in the NFIP CRS program by attending CRS workshop(s) if	Flood		NFIP FPA	No Progress	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related CAV initiative.		None provided in the 2015 HMP			2. 3.	3. NFIP policy base does not support administrative requirements of participation.
TN-15	Determine if a CAV or CAC is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. Part of previous action.
TN-16	Designate a NFIP FPA, and other local officials who would benefit, become a CFM through the ASFPM and NYSSFMA, and pursue relevant continuing education training such as FEMA BCA and SDE.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TN-17	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Completed as part of the HMP update
TN-18	Work with County and power companies to identify roads within the Town considered "critical" that would be prioritized for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-19	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TN-20	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Nunda has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Nunda was invited to a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.20-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought										
Earthquake										
Flood	X	X		X	X	X	X			
Hazardous Materials										
Invasive Species										
Landslide										
Mine Subsidence										
Pandemic										
Severe Storm		X		X		X	X			
Severe Winter Storm		X				X				
Terrorism										
Utility Failure		X				X				
Wildfire										

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.20-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Nunda would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.20-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Nunda-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Nunda-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of Nunda-003	Protect the Nunda Water Supply Dam	**Problem**: The Nunda Water Supply Dam is in the special flood hazard area and vulnerable to flooding. **Solution**: The Town Engineer shall conduct an assessment of the dam and determine if the facility is retrofitted based on FEMA guidelines to withstand	Yes	No	Flood	1, 2	Within 5 years	Engineer; FPA	FEMA HMGP, BRIC, USDA Community Facilities Grant Program, EMPG	Ensure facility remains in service, protected from flood risk; water supply protected.	Moderate	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		severe storms and flooding. If not, the Town will apply for mitigation funding, accordingly.												
2022-Town of Nunda-004	Stormwater BMPs	**Problem**: Stormwater runoff from farms damages local infrastructure and affects water quality. **Solution:** Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	No	Yes	Flood, Severe Storm	1, 2, 3	Within 1 year	CEO	Staff Time	Decreased flood damage; better water quality	Medium	High	EAP	PI
2022-Town of Nunda-005	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and developers to bury utility lines underground, wherever possible.	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.20-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Nunda-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Nunda-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Nunda-003	Protect the Nunda Water Supply Dam	0	1	1	1	1	1	1	1	0	1	0	1	1	1	11	High
2022-Town of Nunda-004	Stormwater BMPs	0	1	1	1	1	1	1	1	0	1	1	1	0	1	11	High
2022-Town of Nunda-005	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.20.9 Action Worksheets

The following action worksheets have been developed by the Town of Nunda to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Protect the Nunda Water Supply Dam		
Project Number:	2022-Town of Nunda-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The Nunda Water Supply Dam is in the special flood hazard area and vulnerable to flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town Engineer shall conduct an assessment of the dam and determine if the facility is retrofitted based on FEMA guidelines to withstand severe storms and flooding. If not, the Town will apply for mitigation funding, accordingly.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☒	No ☐	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	0.2% annual chance flood	**Estimated Benefits (losses avoided):**	Ensure facility remains in service, protected from flood risk; water supply protected.
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	FEMA HMGP, BRIC, USDA Community Facilities Grant Program, EMPG
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Remove Dam	High	Reservoir drains
	Protect the dam from flooding	High	Selected alternative
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Protect the Nunda Water Supply Dam	
Project Number:	2022-Town of Nunda-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022-Town of Nunda-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022-Town of Nunda-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.21 VILLAGE OF NUNDA

This section presents the jurisdictional annex for the Village of Nunda. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Village participated in the planning process; an assessment of the Village of Nunda's risk and vulnerability; the different capabilities utilized in the Village; and an action plan that will be implemented to achieve a more resilient community.

9.21.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Village of Nunda's hazard mitigation plan primary and alternate points of contact. The Village of Nunda followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from the Clerk-Treasurer. The Clerk-Treasurer represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.21-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: LeRoy J. Wood, Administrator/Clerk-Treasurer Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-468-2215 Email: clerk@villageofnunda.org	Name/Title: Mark Mullikin, Code Enforcement Officer Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-519-3321 Email: nundavillagecodeenforcement@yahoo.com
NFIP Floodplain Administrator	
Name/Title: Mark Mullikin, Code Enforcement Officer Address: 4 Massachusetts St., Nunda, NY 14517 Phone Number: 585-519-3321 Email: nundavillagecodeenforcement@yahoo.com	
Additional Contributors	
None	

9.21.2 Municipal Profile

According to the U.S. Census Bureau, the Village has a total land area of 1.0 square miles, and is surrounded entirely by the Town of Nunda. According to the U.S. Census, the 2019 population for the Village of Nunda was 1,169, a 15.11 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.5 percent of the population is 5 years of age or younger and 20.7 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.21.3 Jurisdictional Capability Assessment and Integration

The Village of Nunda performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.21.3). The Village of Nunda's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Nunda. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.21-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes		State and Local	CEO/ZEO
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	Zoning Local Law 2016	Local	CEO/ZEO
How does this reduce risk? ***Consider the following:*** • *Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use?* • *Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?* • *Does it contain natural overlay zones that set conditions?* • *Does the ordinance require developers to take additional actions to mitigate natural hazard risk?* • *Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?*					
Subdivision Ordinance	Yes	No	Zoning Local Law 2016	Local	CEO/ZEO
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Zoning Local Law 2016	Local and County	CEO/ZEO
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Ordinance	No	Yes		Local	
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Local Law 1 of 2016	Federal, State, County and Local	Flood Plain Admin
How does this reduce risk?					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes			
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Comprehensive Plan	Local	Mayor
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	No	Yes			
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Other	No	-			

Development and Permitting Capability

The table below summarizes the capabilities of the Village of Nunda to oversee and track development.

Table 9.21-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Flood permits are logged
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Village of Nunda and their current responsibilities which contribute to hazard mitigation.

Table 9.21-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	
Zoning Board of Adjustments	Yes	
Planning Department	Yes	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	
Construction/Building/Code Enforcement Department	Yes	
Emergency Management/Public Safety Department	Yes	Livingston County OEM
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	No	
Human Resources Manual	No	
Other	No	
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Engineers or professionals trained in building or infrastructure construction practices	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	Yes	
Surveyor(s)	No	
Emergency Manager	Yes	
Grant writer(s)	No	
Resilience Officer	Yes	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Village of Nunda.

Table 9.21-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Nunda.

Table 9.21-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Telephone, Facebook notifications, www.villageofnunda.org website
Personnel skilled or trained in website development	No	
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	Yes	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Village of Nunda.

Table 9.21-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other			

Note:
N/A Not applicable *NP Not participating* *- Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.21-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.21.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.21-9. NFIP Summary

Village of Nunda	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Nunda	5	4	$5,712.95	N/A	N/A	3

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	None identified
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Not applicable
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None

Village of Nunda	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Village of Nunda	5	4	$5,712.95	N/A	N/A	3

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Maps are outdated and lack clarity
NFIP Compliance	
What local department is responsible for floodplain management?	Flood Plain Manager - DPW
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	No information provided
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Based on cost
What are the barriers to running an effective NFIP program in the community, if any?	Maps are outdated and lack clarity
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV – March 21, 2003 CAC – September 3, 2015
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law 1 of 2016
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets minimum NFIP requirements, but not the State's mandated freeboard requirement
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	A Joint Town of Nunda and Village of Nunda Zoning Law exists
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.21.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Village uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Village of Nunda has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Village of Nunda has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Village will work with the County to find suitable locations.

Permanent Housing

While the Village of Nunda did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Village can utilize this analysis to identify potential locations.

9.21.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.21-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Village are not expected to impact vulnerability.

Table 9.21-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family	2	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Multi-Family	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Other (commercial, mixed-use, etc.)	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Total Permits Issued	**2**	**N/A**	**0**	**N/A**	**0**	**N/A**	**0**	**N/A**	**0**	**N/A**	**0**	**N/A**	**0**	**N/A**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					

Nunda Mini Storage	Commercial	1	19 South State Street, Nunda	None	Complete
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Nunda Mini Storage	Commercial	1	19 South State Street, Nunda	None	Pending

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.21.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Village of Nunda's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Village of Nunda has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.21-1. Village of Nunda Flood and Mine Subsidence Hazard Areas

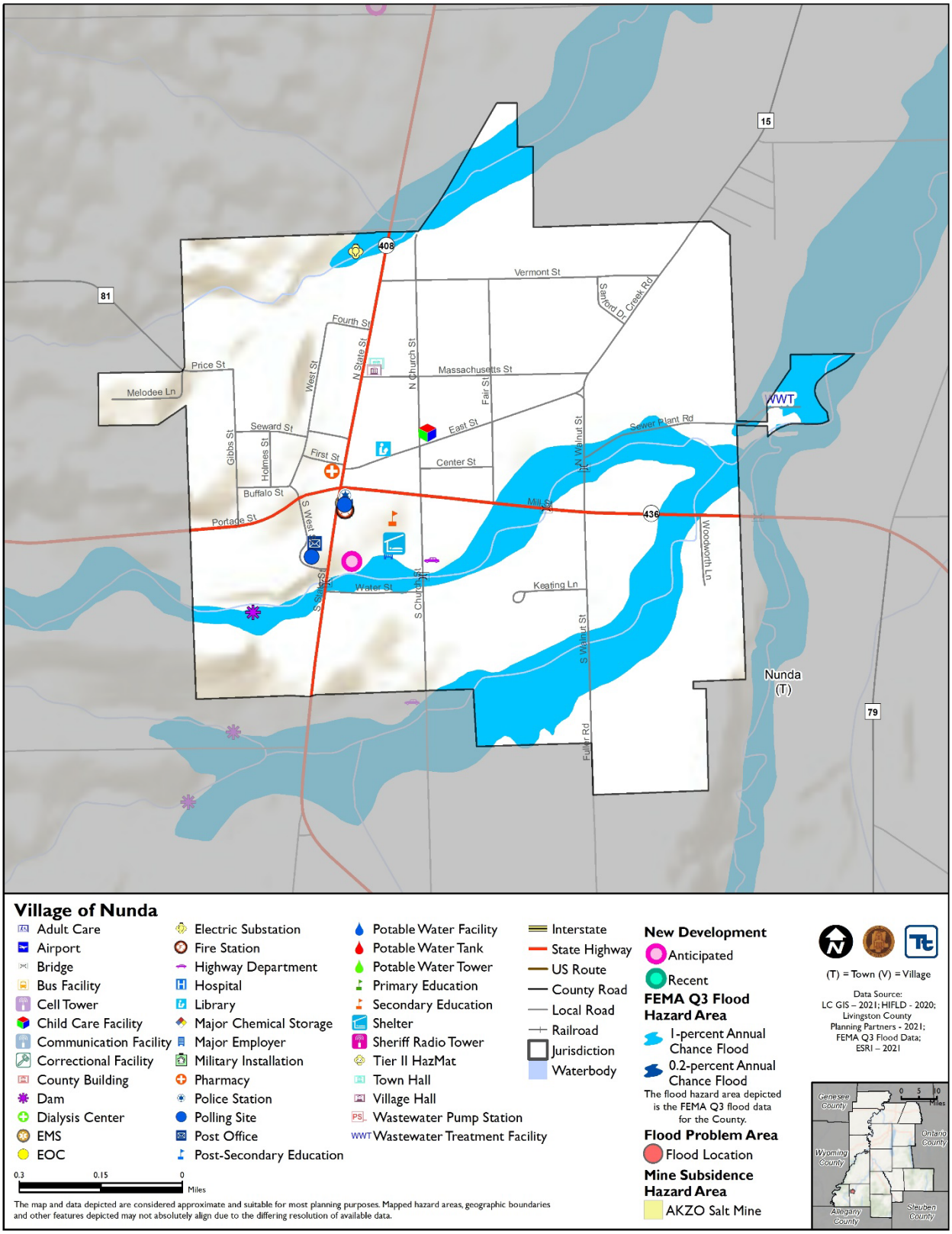


Figure 9.21-2. Village of Nunda Hazmat and Wildfire Hazard Areas

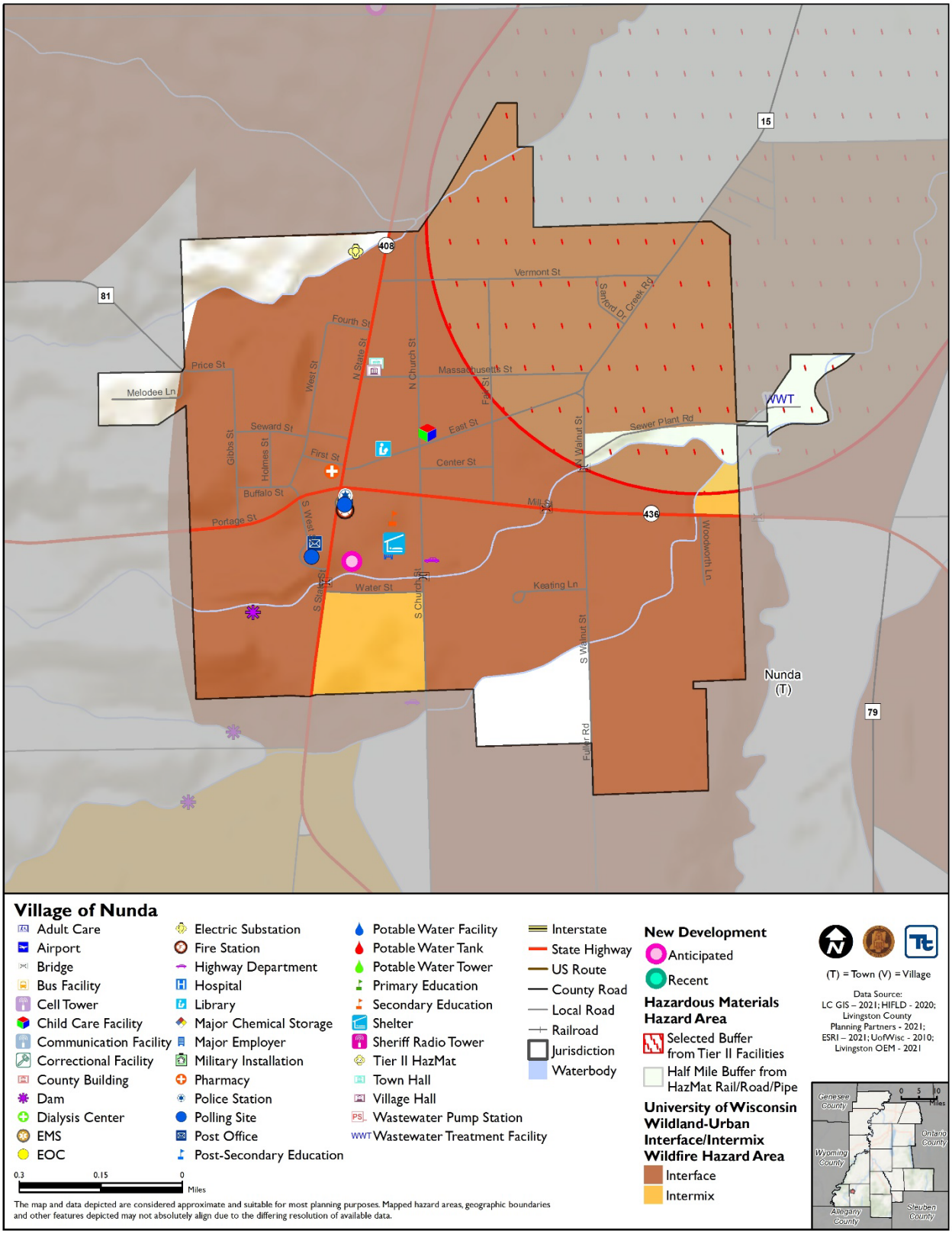
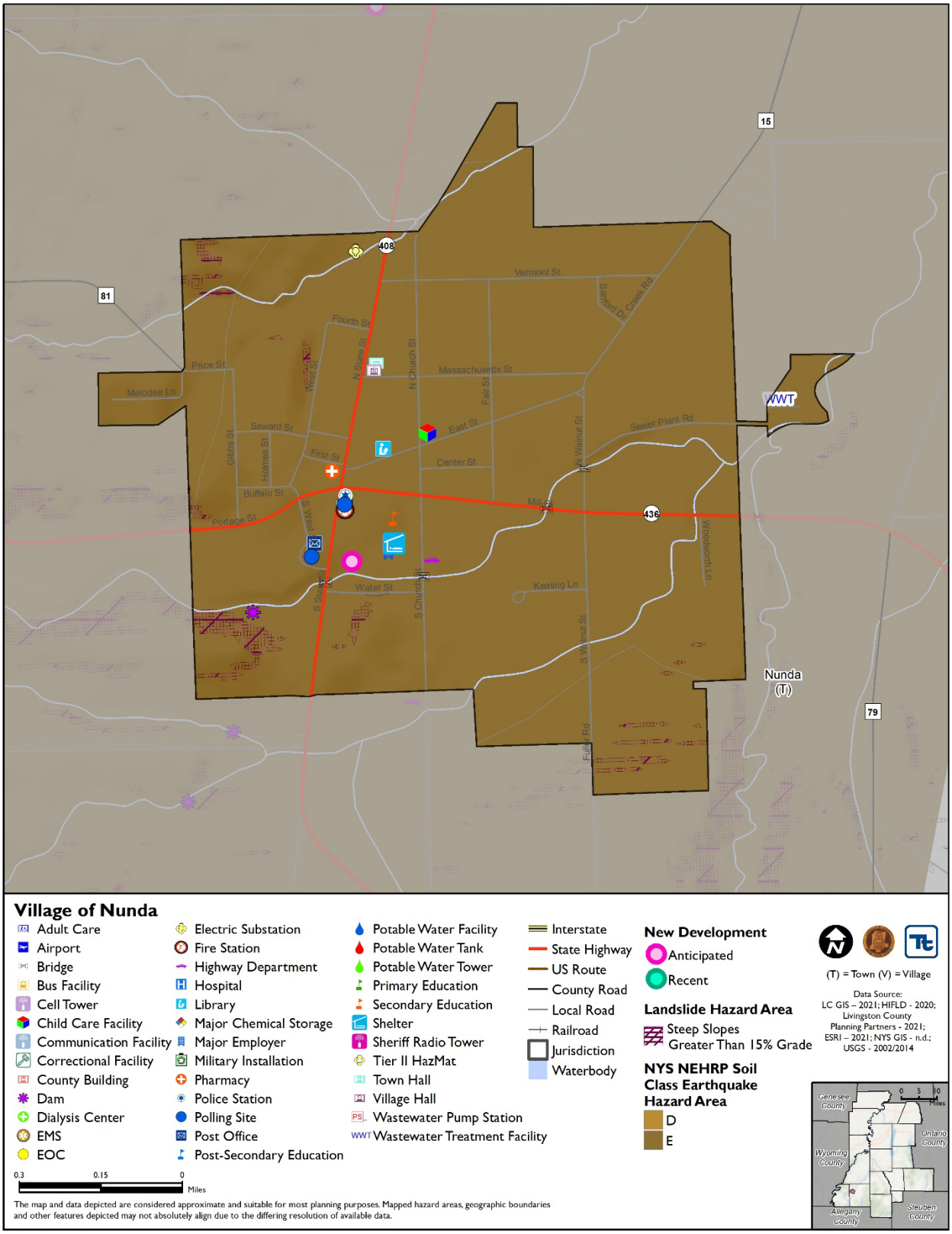


Figure 9.21-3. Village of Nunda Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Village of Nunda's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.21-11 provides details regarding municipal-specific loss and damages the Village experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.21-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	-
8/27/2020	Flash Flood	-	-
1/12/2020	Flood	-	-
11/1/2019	Flood	-	-
10/15/2019	Flood	-	-
10/27/2019	Flood	-	-
9/21/2018	Lightning	-	-
4/4/2018	Blizzard	-	-
7/20/2017	Tornado	-	-
3/8/2017	High Wind	-	-
9/9/2015	Thunderstorm Wind	-	-

Notes:

EM *Emergency Declaration (FEMA)*

FEMA *Federal Emergency Management Agency*

DR *Major Disaster Declaration (FEMA)*

N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Village of Nunda's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the

degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Nunda. The Village of Nunda has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Village did not change the calculated rankings.

Table 9.21-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	Medium	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.21-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure 1% Event	Exposure 0.2% Event	Complies with NYS Standards	Addressed by Proposed Action
Nunda Casket Company Dam	Dam	X	X	Yes	2022- Village of Nunda-004
North State Street Substation	Electric	X	X	Yes	2022- Village of Nunda-005

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Village of Nunda's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Village of Nunda has identified the following vulnerabilities within their community:

- Keshequa Creek still remains a concern as flooding has occurred since our last reporting cycle. Areas that may be affected are South Walnut Street and South Church Street in the Village.
- The Nunda Casket Company Dam is in the special flood hazard area and needs to be protected to the 0.2 percent annual chance flood level.
- The electric substation on North State Street needs is vulnerable to flooding.

9.21.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.21-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VN-1	Enhance stormwater management in the Village.	Flood, Severe Storm	None provided in the 2015 HMP	Village Planning Board	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing effort. Village will add actions for specific enhancements that need to be made.
VN-2	Develop a coordinated watershed inspection program for the entire County. Currently, only Conesus Lake has one. A countywide program would study all watersheds and municipal water supplies and create a fair, uniform, and systematic set of standards.	All	None provided in the 2015 HMP	County Health Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-3	Develop a countywide strategy to protect vulnerable utilities during severe weather events.	Severe Storms, Winter Storms	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-4	Prepare a coordinated sandbagging plan between the County EMS and floodprone communities in the southern half of the County.	Flood	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-5	Inform the public of the earthquake hazard in Livingston County through a public outreach program. This program could take the form of a website, press release, public information session, and/or distribution of information through local newspapers.	Earthquake	None provided in the 2015 HMP	County OEM	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-6	Create a coordinated ditch stabilization program for the southern part of the County, specifically the Towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage; and the Villages of Dansville, Nunda, and Mount Morris (identified as an initiative in the 2007 HMP).	Flood	None provided in the 2015 HMP	County and municipal highway departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
VN-7	Prepare for flood mitigation measures and set up evacuation plan for the Keshequa Central School (identified as an initiative in the 2007 HMP).	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VN-8	Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-9	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-10	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-11	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, floodproofing) or acquisition/relocation to protect them from future damage. Repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Will include as specific problem areas are identified.
VN-12	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.
VN-13	Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Village Supervisor's Office	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
VN-14	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.						
VN-15	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically to ensure alignment of mitigation initiatives through all levels of government (effort to build state and federal-level recognition and support of the County and local hazard mitigation planning strategies identified in this plan).	All Hazards	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Village will support as necessary
VN-16	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
VN-17	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
VN-18	Support participation in the NFIP CRS program by attending CRS workshop(s) if offered within the county. Join the CRS program if adequate resources to support long-term participation can be dedicated. See following related CAV initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
VN-19	Determine if a CAV or CAC is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. Part of previous action.
VN-20	Designate a NFIP FPA, and other local officials who would benefit, become a CFM through the ASFPM and NYSSFMA, and pursue relevant continuing education training such as FEMA BCA and SDE.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
VN-21	Develop and maintain mapping of all natural hazard risk areas in the Village, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
VN-22	Work with County and power companies to identify roads within the Village considered "critical" that would be prioritized for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
VN-23	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
VN-24	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	VN-24	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Village of Nunda has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Village of Nunda was invited to a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.21-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X	X		X	X	X	X			
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X		X		X	X			
Severe Winter Storm		X		X		X	X			
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.21-16 summarizes the comprehensive range of specific mitigation initiatives the Village of Nunda would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.21-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Village of Nunda-001	Update Flood Damage Prevention Ordinance	**Problem**: The village lacks an updated flood damage prevention ordinance. **Solution**: The village will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Village Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Village of Nunda-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the village is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Village Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Village of Nunda-003	Keshequa Creek Flood Protection	**Problem:** Flooding of the Keshequa Creek, particularly along South Church Street and South Walnut Street, has damaged the roadways and homes. **Solution:** The village will conduct a study of the flood problem	No	No	Flood	1, 2, 3	Within 3 years	FPA; Engineer; Mayor	Staff time; BRIC; HMGP; FMA	Reduced flood loss to roads and structures	$100,000 for the study; TBD for flood protection measures	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		along the creek, identify possible alternatives to reduce flood damages, and select the best alternative(s) for implementation.												
2022-Village of Nunda-004	Protect the Nunda Casket Company Dam	**Problem:** The Nunda Casket Company Dam is in the special flood hazard area and vulnerable to flooding. **Solution:** While it is not unusual for the dam to be located in a floodplain, it is necessary to conduct additional assessment and mitigation measures to make sure the dam is not vulnerable to operation failure. The Village DPW shall conduct an assessment of the dam and determine if the facility is retrofitted based on FEMA guidelines to withstand severe storms. If not, the village will apply for mitigation funding, accordingly.	Yes	No	Flood	1, 2	Within 5 years	Engineer; FPA	FEMA HMGP, BRIC, USDA Community Facilities Grant Program, EMPG	Ensure facility remains in service, protected from flood risk.	Moderate	High	SIP	PP
2022-Village of	Protect the North State Street Electric Substation	**Problem:** The electric substation on North State Street is in the special flood hazard	Yes	No	Flood	1, 2	Within 3 years	Engineer; FPA	Staff time; BRIC; HMGP; Power fees	Electric service protected from	High	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
Nunda-005		area and vulnerable to flooding. **Solution:** Work with the owner of the substation to assess the site-specific risk from flooding, develop alternatives to protect the substation, and implement the chosen alternative.								flooding; decreased vulnerability to power outages				
2022-Village of Nunda-006	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Mayor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI
2022-Village of Nunda-007	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		developers to bury utility lines underground, wherever possible.												

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*

- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.21-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Village of Nunda-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022- Village of Nunda-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022- Village of Nunda-003	Keshequa Creek Flood Protection	1	1	1	1	1	1	-1	1	1	0	0	1	1	1	10	High
2022- Village of Nunda-004	Protect the Nunda Casket Company Dam	0	1	1	1	1	1	1	1	0	1	0	1	1	1	11	High
2022- Village of Nunda-005	Protect the North State Street Electric Substation	1	1	1	1	1	1	0	1	1	1	1	0	0	1	11	High
2022- Village of Nunda-006	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022- Village of Nunda-007	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.21.9 Action Worksheets

The following action worksheets have been developed by the Village of Nunda to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet				
Project Name:	Keshequa Creek Flood Protection			
Project Number:	2022- Village of Nunda-003			
Risk / Vulnerability				
Hazard(s) of Concern:	Flood			
Description of the Problem:	Flooding of the Keshequa Creek, particularly along South Church Street and South Walnut Street, has damaged the roadways and homes.			
Action or Project Intended for Implementation				
Description of the Solution:	The village will conduct a study of the flood problem along the creek, identify possible alternatives to reduce flood damages, and select the best alternative(s) for implementation.			
Is this project related to a Critical Facility?	Yes ☐	No ☒		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒		
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	0.2% annual chance flood	**Estimated Benefits (losses avoided):**	Reduced flood loss to roads and structures	
Useful Life:	100 years	**Goals Met:**	1, 2, 3	
Estimated Cost:	$100,000 for the study; TBD for flood protection measures	**Mitigation Action Type:**	Structural and Infrastructure Project	
Plan for Implementation				
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years	
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	Staff time; BRIC; HMGP; FMA	
Responsible Organization:	FPA	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement	
Three Alternatives Considered (including No Action)				
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**	
	No Action	$0	Problem continues.	
	Elevate Roadway	High	Unknown upstream and downstream impacts	
	Study the flood problem and implement appropriate measures	High	Chosen alternative	
Progress Report (for plan maintenance)				
Date of Status Report:				
Report of Progress:				
Update Evaluation of the Problem and/or Solution:				

Evaluation and Prioritization		
Project Name:	Keshequa Creek Flood Protection	
Project Number:	2022- Village of Nunda-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Protect the North State Street Electric Substation		
Project Number:	2022- Village of Nunda-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The electric substation on North State Street is in the special flood hazard area and vulnerable to flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with the owner of the substation to assess the site-specific risk from flooding, develop alternatives to protect the substation, and implement the chosen alternative.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☒	No ☐	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	0.2% annual chance flood	**Estimated Benefits (losses avoided):**	Electric service protected from flooding; decreased vulnerability to power outages
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	Staff time; BRIC; HMGP; Power fees
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Link to other power infrastructure	High	Cost prohibitive
	Protect the substation from flooding	High	Selected alternative

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Protect the North State Street Electric Substation	
Project Number:	2022- Village of Nunda-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022- Village of Nunda-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022- Village of Nunda-007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.22 TOWN OF OSSIAN

This section presents the jurisdictional annex for the Town of Ossian. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Ossian and who in the Town participated in the planning process; an assessment of the Town of Ossian's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.22.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Ossian's hazard mitigation plan primary and alternate points of contact. The Town of Ossian followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Supervisor and Code Enforcement Officer. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Ossian's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.22-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Dwight Knapp, Town Supervisor Address: 4706 Ossian Hill Road, Dansville, NY 14437 Phone Number: 585-335-7600 Email: Townofossian@frontiernet.net	Name/Title: Sheila Hess, Planning Consultant Address: N/A Phone Number: 716-560-1768 Email: shess@ccenvironment.com
NFIP Floodplain Administrator	
Name/Title: Robert Bourgoine, Code Enforcement Officer Address: 4706 Ossian Hill Road, Dansville, NY 14437 Phone Number: 585-335-5625 Email: ossiancode@hotmail.com	
Additional Contributors	
None	

9.22.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total land area of approximately 39.7 square miles, of which 39.6 square miles is land and 0.04 square miles is water. The Town of Ossian shares a border with the Town's of Burns, Dansville, Grove, North Dansville, Nunda, West Sparta, and shares a boundary with the Counties of Allegany, and Steuben. The Town of Ossian is the southern most municipality in Livingston County.

According to the U.S. Census, the 2019 population for the Town of Ossian was 724, an 8.24 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.4 percent

of the population is 5 years of age or younger and 25.8 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.22.3 Jurisdictional Capability Assessment and Integration

The Town of Ossian performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.22.3). The Town of Ossian's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Ossian. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.22-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	NYS CODE	State and Local	CEO
How does this reduce risk? Protects against wind/storm damage, flooding and energy efficiency					
Zoning/Land Use Code	Yes	No	Zoning Law of the Town of Ossian Local Law #2 2-2020	Local	CEO
How does this reduce risk?					
Subdivision Ordinance	No	No		Local	
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Zoning Law, Article 9	Local and County	CEO
How does this reduce risk? Guides development away from natural and natural hazard areas, set backs, natural cover, traffic, erosion					
Stormwater Management Ordinance	Yes	Yes	Zoning Law, Article 9, Section 9-5	Local	CEO

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? Protects adjacent areas from offsite runoff and erosion					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	Yes – Land Conservation/Site plan Review	Yes	Zoning Law Article 6, Section 6-1 and Article 9, Section 9-5	Local	CEO
How does this reduce risk? **SEE BELOW** ***Consider the following:*** • *Are environmental systems that protect development from hazards identified and mapped? YES* • *Do environmental policies maintain and restore protective ecosystems? MAINTAIN* • *Do the ordinances prohibit development within, of filling of, wetlands, floodways, and floodplains? YES* • *Do environmental policies provide incentives to development that is located outside protective ecosystems? NO*					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Local Law 1-1989	Federal, State, County and Local	Code Enforcement
How does this reduce risk? Informs development within flood hazard areas.					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes			
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Town of Ossian Comp Plan	Local	Supervisor
How does this reduce risk? Limits development in vulnerable areas and guides development away from those areas.					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	Yes	No	Ossian Ag & Farmland Protection Plan	Local	Supervisor
How does this reduce risk? Considers and protects natural areas/buffers					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	No	Yes			
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Ossian to oversee and track development.

Table 9.22-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Planning and zoning
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	Town of Ossian is a rural township with 5% of the land base developed, 66%in natural cover (primarily forest land) and 29% in agriculture, most of which is in a priority farmland protected area.

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Ossian and their current responsibilities which contribute to hazard mitigation.

Table 9.22-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Site plan reviews
Zoning Board of Adjustments	Yes	Flood hazard considerations
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	Maintain drainages to protect from flooding and road and property damages
Construction/Building/Code Enforcement Department	Yes	Enforces local laws – see above

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Emergency Management/Public Safety Department	No	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Part of highway dept.
Mutual aid agreements	No	Contract with Village of Dansville
Human Resources Manual	No	
Other	Yes	Ag. & Farmland Protection Committee
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	No	
Grant writer(s)	No	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of Ossian.

Table 9.22-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No, possibly in future
Open Space Acquisition funding programs	No, possibly in future
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No, possibly in future

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Ossian.

Table 9.22-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	Yes	Website updated regularly
Is hazard mitigation information available on your website?	Not Yet	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of Ossian.

Table 9.22-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
NYSDEC Climate Smart Community	No		
StormReady Certification	No		

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Firewise Communities classification	No		
Other			

Note:
N/A Not applicable *NP Not participating* *- Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.22-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.22.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.22-9. NFIP Summary

Town of Ossian	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Ossian	1	0	$0.00	N/A	N/A	1

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Limited areas along Sugar Creek and Canaseraga Creek

Town of Ossian	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Ossian	1	0	$0.00	N/A	N/A	1

NFIP Topic	Comments
• Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	N/A
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Code Enforcement
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	N/A
What are the barriers to running an effective NFIP program in the community, if any?	Applicability
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law 1-1989
Does your floodplain management program meet or exceed minimum requirements?	N/A

Town of Ossian	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Ossian	1	0	$0.00	N/A	N/A	1

NFIP Topic	Comments
• If exceeds, in what ways?	
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Comprehensive Plan and Zoning Law
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.22.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of Ossian has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of Ossian has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Ossian did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.22.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.22-10 summarizes recent and expected future development trends, including major

residential/commercial development and major infrastructure development. New and proposed development in the Town is not expected to impact vulnerability to hazards.

Table 9.22-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	1	0	1	0	1	0	0	0	0	0	0	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	1	0	1	0	1	0	0	0	0	0	0	0	0	0
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														
None														
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years														
None														

SFHA *Special Flood Hazard Area (1% flood event)*

** Only location-specific hazard zones or vulnerabilities identified.*

9.22.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Ossian's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Ossian has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.22-1. Town of Ossian Flood and Mine Subsidence Hazard Areas

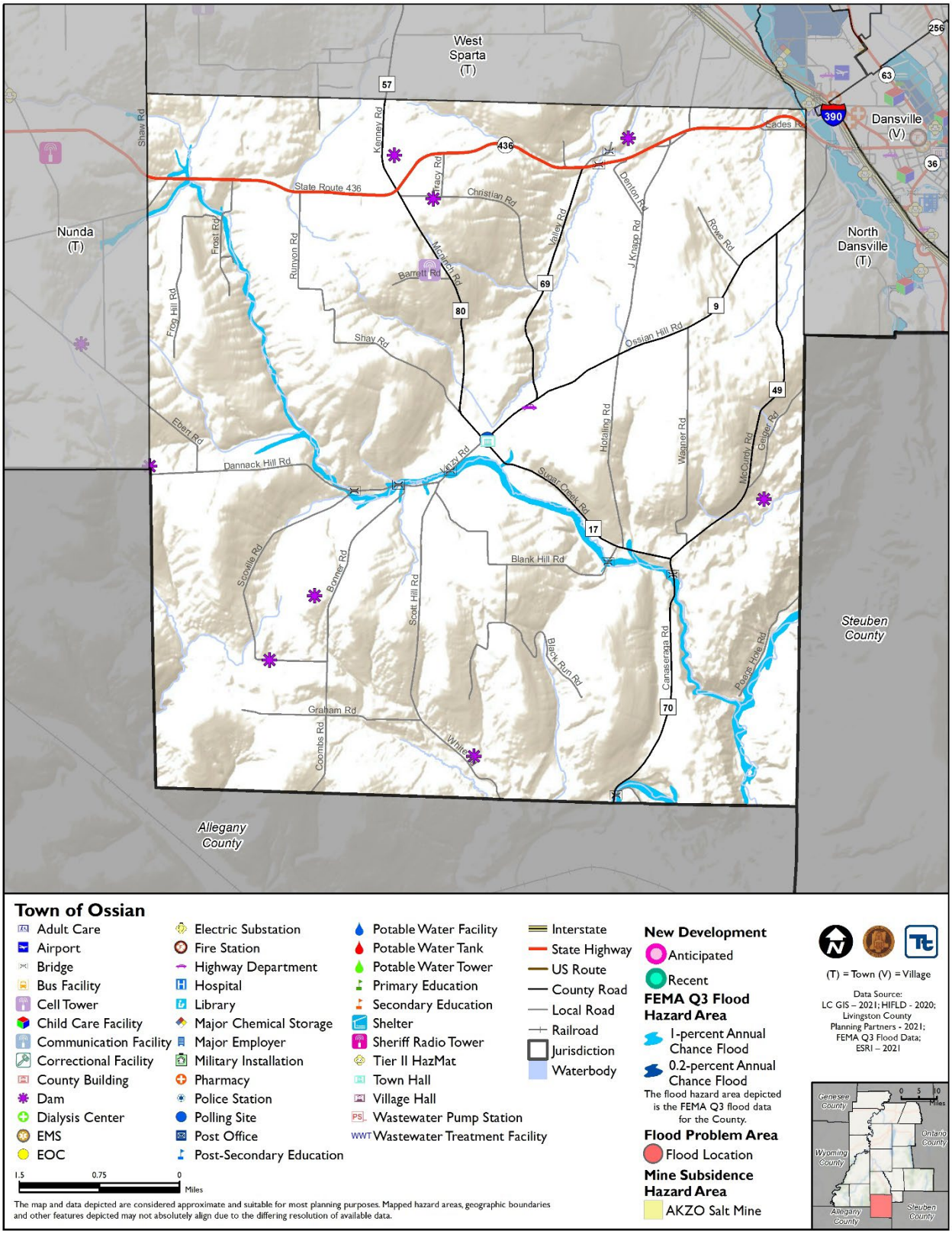


Figure 9.22-2. Town of Ossian Hazmat and Wildfire Hazard Areas

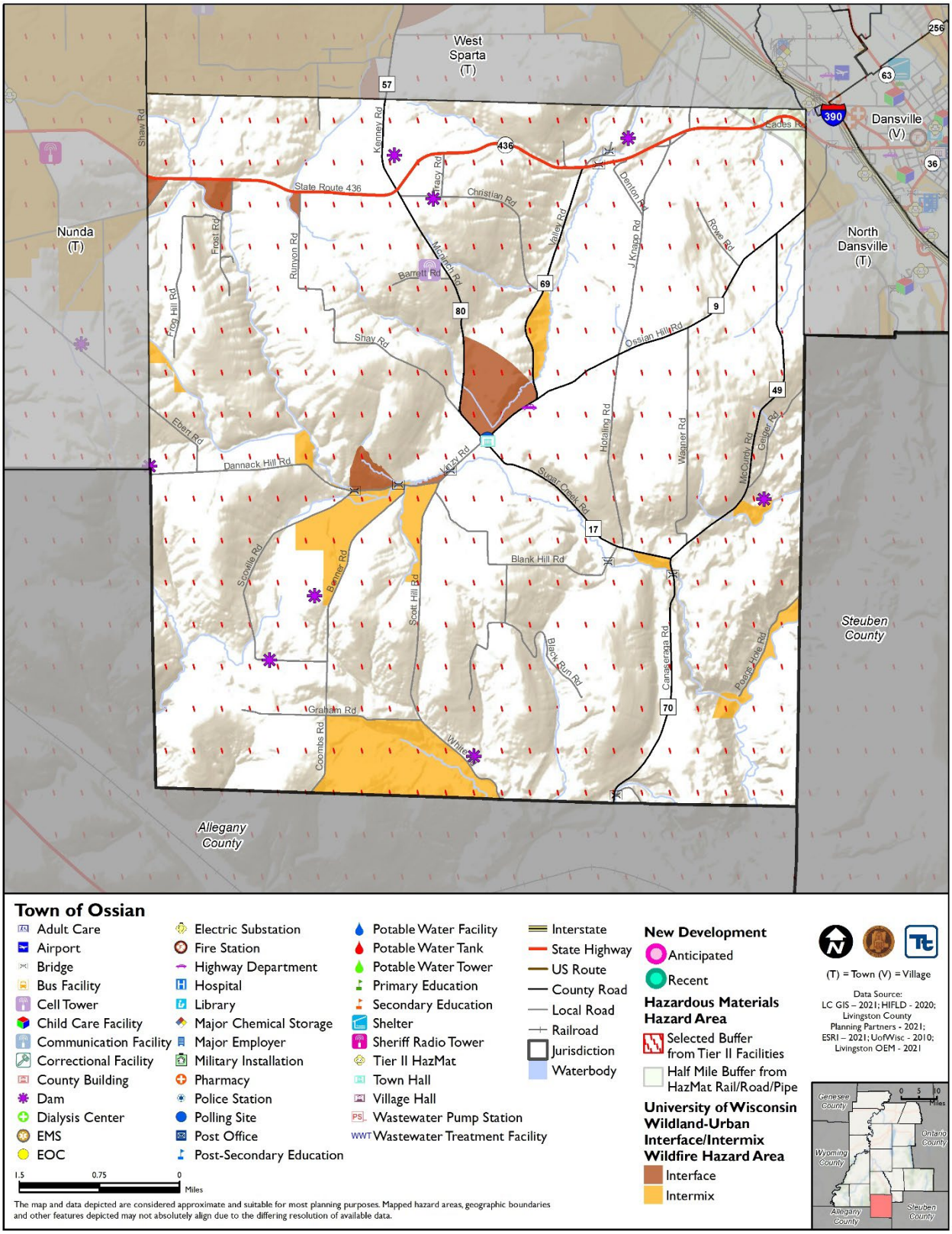
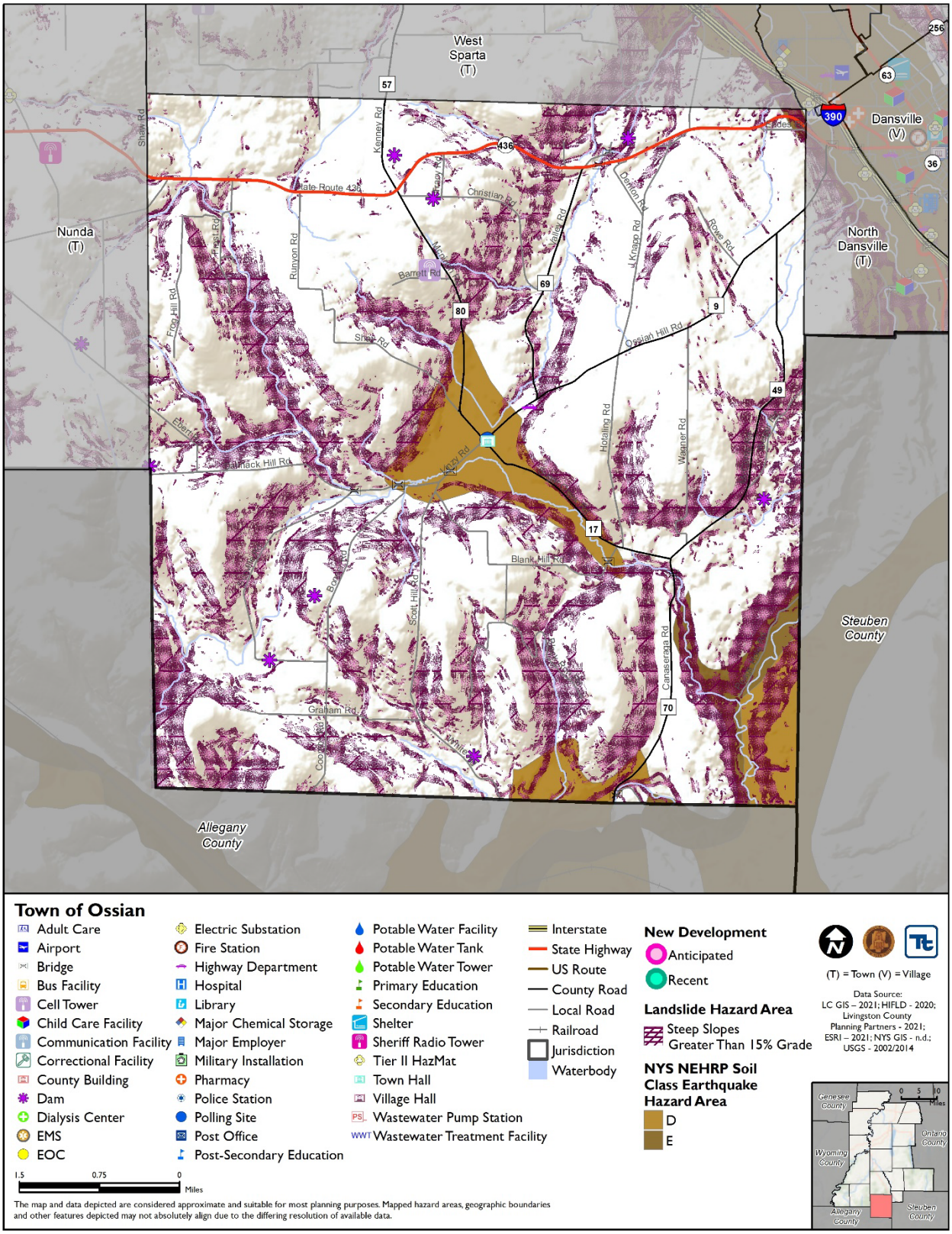


Figure 9.22-3. Town of Ossian Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Ossian's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.22-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.22-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	None
8/27/2020	Flash Flood	-	None
1/12/2020	Flood	-	None
11/1/2019	Flood	-	None
10/15/2019	Flood	-	None
10/27/2019	Flood	-	None
9/21/2018	Lightning	-	None
4/4/2018	Blizzard	-	None
7/20/2017	Tornado	-	None
3/8/2017	High Wind	-	None
9/9/2015	Thunderstorm Wind	-	None

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Ossian's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Ossian ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard

risk/vulnerability rankings of potential natural hazards for the Town of Ossian. The Town of Ossian has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.22-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.22-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Ossian's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Ossian has identified the following vulnerabilities within their community:

- The town lacks an updated flood damage prevention ordinance.
- The floodplain administrator for the town is in need of training on current NFIP requirements in the State.
- Sugar Creek has erosion issues.
- Town Hall requires backup power.
- Falling tree branches can result in property damage and utility failure.
- Loss of hemlock stands along waterways due to invasive species would lead to erosion, sedimentation, loss of water quality, warming, and loss of trout habitat.

9.22.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.22-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TO-1	Clean and clear the stormwater ditch between Sugar Creek and Ossian Hill Road.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning Department	No Progress	1. 2. 3.	1 .Discontinue 2. 3. Has not been a problem
TO-2	Implement a streambank management program for Sugar Creek to alleviate flooding and other related issues.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TO-3	Complete ditch reconstruction for Town roads.	Flood	None provided in the 2015 HMP	County and Municipal Highway Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TO-4	Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the event of a disaster. These townwide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes (included as an initiative for the Town in the 2007 HMP).	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed
TO-5	Provide backup power generators for Town/Village Halls (included as an initiative for the Town in the 2007 HMP).	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TO-6	Complete and implement the public education and outreach program on permitting, zoning, and building codes. This program is currently estimated at 75 percent completion.	All	None provided in the 2015 HMP	Municipal Code Enforcement	Complete	Information not available	1. Discontinue 2. 3. Complete
TO-7	Set design standards for water supply infrastructure and sewage facilities to prevent contamination during flooding.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support as needed
TO-8	Line some streambanks, especially those in the southern part of the County, with retaining walls for erosion control (included as an initiative for the Town in the 2007 HMP).	Flood	None provided in the 2015 HMP	County and municipal Highway Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TO-9	Develop materials and conduct education and outreach to work with farmers to implement BMPs to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County and municipal Highway Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing effort in Agriculture Plan
TO-10	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Town will support as needed
TO-11	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Town will support as needed
TO-12	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect them from future damage. Repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progres	1. 2. 3.	1. Discontinue 2. 3. Will include as specific problem areas are identified.
TO-13	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.
TO-14	Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TO-15	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.						
TO-16	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. County effort; Town will support as needed
TO-17	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
TO-18	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TO-19	Support participation in the NFIP CRS program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long-term participation can be dedicated. See following related CAV initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
TO-20	Determine if a CAV or CAC is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. Part of previous action.
TO-21	Designate a NFIP FPA, and other local officials who would benefit, become a CFM through the ASFPM and NYSSFMA, and pursue relevant continuing education training such as FEMA BCA and SDE.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TO-22	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Complete
TO-23	Work with County and power companies to identify roads within the Town	Severe Storm;		Engineering Department	Ongoing	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Winter Storm	None provided in the 2015 HMP			2. 3.	3. Ongoing capability
TO-24	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.
TO-25	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	In Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Ossian has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Ossian participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.22-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X		X	X	X		X	X		
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide			X	X			X	X		
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X	X	X		X	X	X		
Severe Winter Storm		X	X	X		X	X	X		
Terrorism				X			X			
Utility Failure		X	X	X		X	X	X		
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.22-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Ossian would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.22-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Ossian-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Ossian-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of Ossian-003	Sugar Creek Streambank Management Program	**Problem:** Sugar Creek has erosion issues. **Solution:** Implement a streambank management program for Sugar Creek to alleviate flooding and other related issues.	No	Yes	Severe Storm, Flood, Landslide	1, 2	Within 2 years	Highway Department, FPA	US EPA; NYS DEC; HMGP	Reduction in streambank erosion and potential collapses which could result in landslide and flooding concerns	Med.	Med.	NSP	NR
2022-Town of Ossian-004	Backup Power for Town Hall	**Problem:** Town Hall lacks backup power. Government may not be	Yes	No	Severe Storm, Severe Winter	1	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued government operations during and	$50K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		able to function during a power outage. **Solution:** Provide a backup power generator for Town Hall.			Storm, Utility Failure					after an emergency				
2022-Town of Ossian-005	Tree Maintenance	**Problem:** Falling tree branches can result in property damage and utility failure. **Solution:** The Town will establish a tree maintenance program to reduce the likelihood of falling tree branches.	No	Yes	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Highway Department	Staff Time	Reductions in tree damage, power outages	Low	High	NSP	NR
2022-Town of Ossian-006	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI
2022-Town of Ossian-007	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Work with utility companies and developers to bury utility lines underground, wherever possible.												

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes 💧 *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*

- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.22-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Ossian-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Ossian-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Ossian-003	Sugar Creek Streambank Management Program	0	1	0	1	1	0	0	1	0	1	1	1	0	0	7	Medium
2022-Town of Ossian-004	Backup Power for Town Hall	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of Ossian-005	Tree Maintenance	0	1	1	1	1	1	0	0	1	1	0	1	1	1	10	High
2022-Town of Ossian-006	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Ossian-007	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.22.9 Action Worksheets

The following action worksheets have been developed by the Town of Ossian to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Sugar Creek Streambank Management Program		
Project Number:	2022-Town of Ossian-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Flood, Landslide		
Description of the Problem:	Sugar Creek has erosion issues.		
Action or Project Intended for Implementation			
Description of the Solution:	Implement a streambank management program for Sugar Creek to alleviate flooding and other related issues.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Reduction in streambank erosion and potential collapses which could result in landslide and flooding concerns
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	Medium	**Mitigation Action Type:**	Natural Systems Protection
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 2 years
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	US EPA; NYS DEC; HMGP
Responsible Organization:	Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Property Acquisition	High	Not cost effective
	Stabilize Streambank	Med.	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Sugar Creek Streambank Management Program	
Project Number:	2022-Town of Ossian-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	
Total	7	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Backup Power for Town Hall		
Project Number:	2022-Town of Ossian-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Town Hall lacks backup power. Government may not be able to function during a power outage.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a backup power generator for Town Hall.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued government operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1
Estimated Cost:	$50K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of Ossian-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022-Town of Ossian-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022-Town of Ossian-007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.23 TOWN OF PORTAGE

This section presents the jurisdictional annex for the Town of Portage. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of Portage and who in the Town participated in the planning process; an assessment of the Town of Portage's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.23.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Portage's hazard mitigation plan primary and alternate points of contact. The Town of Portage followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Town Clerk and Highway Superintendent. The Town Clerk represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of Portage's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.23-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Esther Howe, Town Clerk Address: 2 North Church St., Hunt, NY 14846 Phone Number: 585-476-5728 Email:	Name/Title: Steve Howe, Superintendent of Highways Address: 2 North Church St., Hunt, NY 14846 Phone Number: 585-476-2001 Email:
NFIP Floodplain Administrator	
Name/Title: Mark Mullikin, Code Enforcement Officer Address: 2 North Church St., Hunt, NY 14846 Phone Number: 585 519-3321 Email: codeenforcement@townofwestsparta.org	
Additional Contributors	
None	

9.23.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total land area of 26.6 square miles, of which all is land except for 0.2 square miles of water. The Town shares a border with the Towns of Genesee Falls, Granger, Grove, Mount Morris, Nunda, and the Counties of Allegany and Wyoming. According to the U.S. Census, the 2019 population for the Town of Portage was 763, a 11.18 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 3.5 percent of the population is 5 years of age or younger and 21.2 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.23.3 Jurisdictional Capability Assessment and Integration

The Town of Portage performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.23.3). The Town of Portage's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Portage. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.23-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	International Building Code	State and Local	Code Enforcement Officer
How does this reduce risk? Building standards protect the public health, safety, and welfare					
Zoning/Land Use Code	No	No	NA	Local	NA
How does this reduce risk? NA					
Subdivision Ordinance	No	No	NA	Local	NA
How does this reduce risk? NA					
Site Plan Ordinance	No	No	NA	Local and County	NA
How does this reduce risk? NA					
Stormwater Management Ordinance	No	Yes	NA	Local	NA
How does this reduce risk? NA					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No	NA		NA

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? NA					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No	NA	Local	NA
How does this reduce risk? NA					
Environmental Protection Ordinance	No	Yes	NA	NA	NA
How does this reduce risk? NA					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Town of Portage Flood Damage Prevention Law, 1989	Federal, State, County and Local	Floodplain Manager
How does this reduce risk? Ensures that structures are built safely in floodplain areas.					
Wellhead Protection	No	No	NA	NA	NA
How does this reduce risk?					
Emergency Management Ordinance	No	No	NA	County	all
How does this reduce risk?					
Climate Change Ordinance	No	No	NA	NA	NA
How does this reduce risk? NA					
Other	No	-	NA	NA	NA
Planning Documents					
Master Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Capital Improvement Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Disaster Debris Management Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Floodplain Management or Watershed Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Stormwater Management Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Open Space Plan	No	Yes	NA	NA	NA
How does this reduce risk? NA					
Urban Water Management Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Habitat Conservation Plan	No	No	NA	NA	NA

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? NA					
Economic Development Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	NA
How does this reduce risk? NA					
Community Wildfire Protection Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Community Forest Management Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Transportation Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Agriculture Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Climate Action/ Resiliency/Sustainability Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Tourism Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Business/ Downtown Development Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	County CEMP	County	all
How does this reduce risk? The CEMP covers short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards					
Strategic Recovery Planning Report	No	No	NA	NA	NA
How does this reduce risk? NA					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes	NA	NA	NA
How does this reduce risk? NA					
Post-Disaster Recovery Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Continuity of Operations Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Public Health Plan	No	No	NA	NA	NA
How does this reduce risk? NA					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Portage to oversee and track development.

Table 9.23-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Building Permits only. Code Enforcement Officer handles issuance of building permits
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Development in the floodplain
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Portage and their current responsibilities which contribute to hazard mitigation.

Table 9.23-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	N	
Zoning Board of Adjustments	N	
Planning Department	N	
Mitigation Planning Committee	N	
Environmental Board/Commission	N	
Open Space Board/Committee	N	
Economic Development Commission/Committee	N	
Public Works/Highway Department	Y	3 full-time staff + Highway Superintendent
Construction/Building/Code Enforcement Department	Y	Code Enforcement Officer
Emergency Management/Public Safety Department	N	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	N	
Mutual aid agreements	Y	Nunda Fire Dept & Ambulance, Livingston County Highway Department
Human Resources Manual	Y	Highway Department Employee Handbook
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	N	
Engineers or professionals trained in building or infrastructure construction practices	N	
Planners or engineers with an understanding of natural hazards	N	

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	N	
Professionals trained in conducting damage assessments	N	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	N	
Scientist familiar with natural hazards	N	
Surveyor(s)	N	
Emergency Manager	N	
Grant writer(s)	N	
Resilience Officer	N	
Other (this could include stormwater engineer, environmental specialist, etc.)	N	

Fiscal Capability

The table below summarizes financial resources available to the Town of Portage.

Table 9.23-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	N
Capital improvements project funding	Y – CHIPS Highway funding
Authority to levy taxes for specific purposes	Y
User fees for water, sewer, gas or electric service	N
Impact fees for homebuyers or developers of new development/homes	N
Stormwater utility fee	N
Incur debt through general obligation bonds	Y
Incur debt through special tax bonds	Y
Incur debt through private activity bonds	N
Withhold public expenditures in hazard-prone areas	N
Other federal or state Funding Programs	Y – Stimulus Funding
Open Space Acquisition funding programs	N
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Portage.

Table 9.23-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	N	
Personnel skilled or trained in website development	N	
Is hazard mitigation information available on your website?	N	
Social media for hazard mitigation education and outreach	N	
Citizen boards or commissions that address issues related to hazard mitigation	N	
Other programs already in place that could be used to communicate hazard-related information	N	
Warning Systems / Services (mass notification system, outdoor warning signals)	N	
Natural disaster/safety programs in place for schools	N	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of Portage.

Table 9.23-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N		
Building Code Effectiveness Grading Schedule (BCEGS)	N		
Public Protection (ISO Fire Protection Classes 1 to 10)	N		
NYSDEC Climate Smart Community	N		
StormReady Certification	N		
Firewise Communities classification	N		
Other			

Note:
N/A Not applicable *NP Not participating* *- Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.23-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.23.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.23-9. NFIP Summary

Town of Portage	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Portage	2	0	$0.00	N/A	N/A	2

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Farmland along Genesee River, and Properties along Keshequa Creek
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Unknown
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	Unknown

Town of Portage	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Portage	2	0	$0.00	N/A	N/A	2

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Maps need to be updated
NFIP Compliance	
What local department is responsible for floodplain management?	Building Dept.
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes, Training
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit Review, Inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Based on value, size, and scope of improvement
What are the barriers to running an effective NFIP program in the community, if any?	Time Staff, and training
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Town of Portage Flood Damage Prevention Law, 1989
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets minimum NFIP standards, but not State mandate for freeboard
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No; no

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.23.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town identified the following facilities to serve as emergency shelters. Additionally, in the event sheltering is needed, the Town will work with the County to find suitable locations.

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Town Highway Barns	2 N. Church St, Hunt	200	Yes	Yes	Yes	Basic First Aid	Internet
Hunt Baptist Church	S Church St, Hunt	200-300	Unknown	Yes	No	Basic First Aid	Unknown

Temporary Housing

The Town identified the following site to serve as a potential location for temporary housing.

Site Name	Site Address	Infrastructure / Utilities Available (Water, electric, septic, etc.)	Capacity (Number of sites)	Type	Actions Required to Ensure Conformance with the NYS Uniform Fire Prevention and Building Code
Parade Grounds	Letchworth State Park	Restrooms, water, electric	50+	Tent sites	Unknown, owned by State

Permanent Housing

While the Town of Portage did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.23.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.23-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.23-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	2	0	2	0	0	0	1	0	1	0	1	0	1	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
None					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Town of Portage	Addition	1	2 N. Church St.	None	In Development Stage

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.23.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Portage's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Portage has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.23-1. Town of Portage Flood and Mine Subsidence Hazard Areas

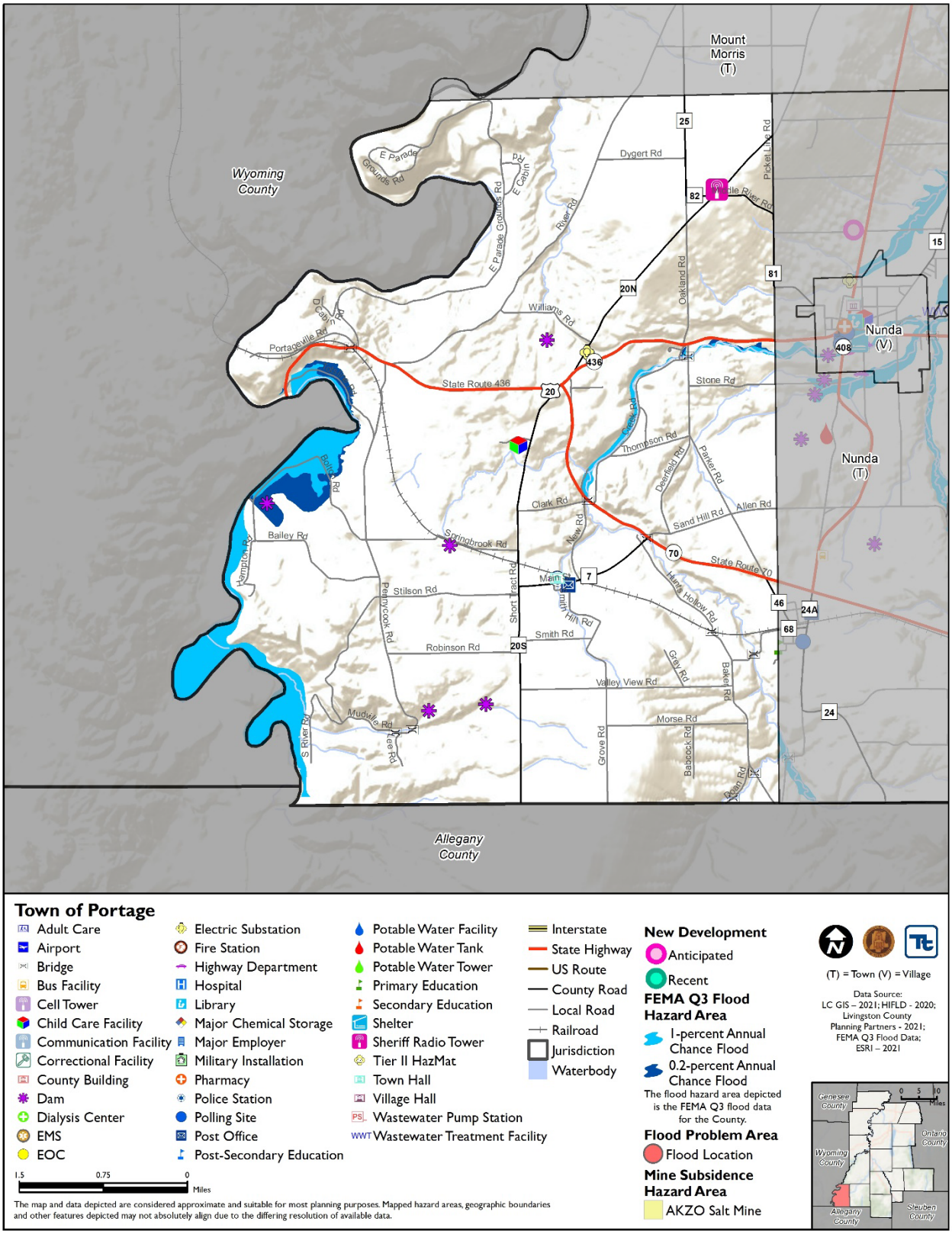


Figure 9.23-2. Town of Portage Hazmat and Wildfire Hazard Areas

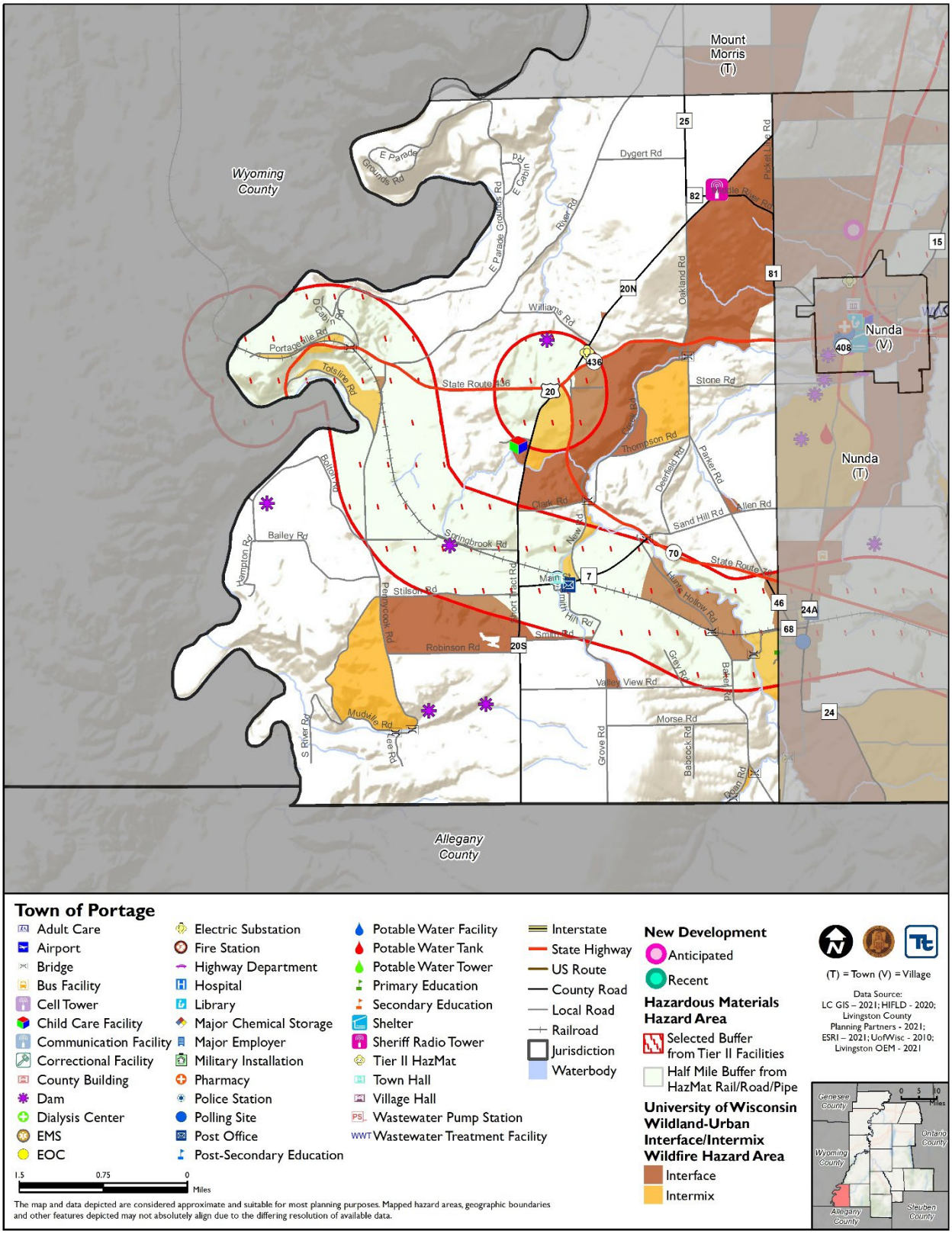
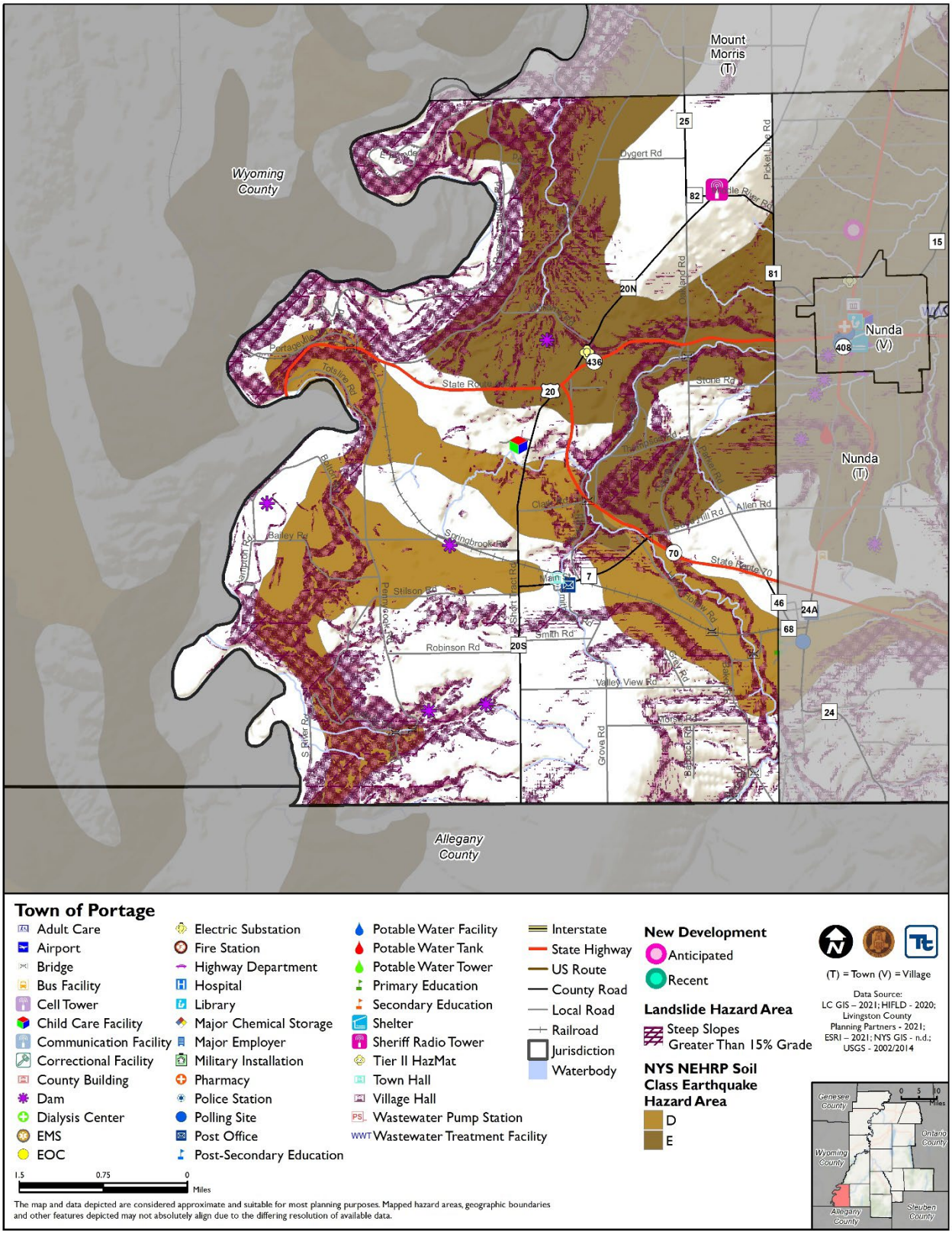


Figure 9.23-3. Town of Portage Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Portage's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.23-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.23-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	No
8/27/2020	Flash Flood	-	No
1/12/2020	Flood	-	No
11/1/2019	Flood	-	No
10/15/2019	Flood	-	No
10/27/2019	Flood	-	No
9/21/2018	Lightning	-	No
4/4/2018	Blizzard	-	No
7/20/2017	Tornado	-	No
3/8/2017	High Wind	-	No
9/9/2015	Thunderstorm Wind	-	No

Notes:
EM Emergency Declaration (FEMA)
FEMA Federal Emergency Management Agency
DR Major Disaster Declaration (FEMA)
N/A Not applicable

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Portage's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of Portage ranked

the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Portage. The Town of Portage has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.23-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.23-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Portage's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Portage has identified the following vulnerabilities within their community:

- With the new High Bridge over the Genesee River, there are more and larger trains passing through the town. If there were to be a train derailment, it would be more severe than in years past.
- The Flood Damage Prevention Ordinance is from 1989 and does not include State-mandated freeboard.
- Culvert pipes on Parker Road are inadequate and need to be replaced.
- Culvert pipes on Spring Brook Road are inadequate and need to be replaced.

9.23.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.23-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TP-1	Develop and implement a thorough public outreach and educational campaign focused on the associated risk of building in the floodplain and floodplain zoning regulations.	Flood, Severe Storm	None provided in the 2015 HMP	Town Supervisor's Office	No progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TP-2	Prepare a "master emergency response plan" for each town to coordinate the activities of all emergency response agencies in the event of a disaster. These townwide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action
TP-3	Set up evacuation plans that allot specific vehicles and drivers to rescue specific individuals in specific places.	All	None provided in the 2015 HMP	County Sheriff	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action
TP-4	Ensure designated shelters are stocked with supplies/equipment, especially in regards to special needs populations (elderly, ill, disabled).	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action
TP-5	Security upgrades for critical facilities and community assets.	All	None provided in the 2015 HMP	CEO	No Progress	1. 2. 3.	1. Discontinue 2. 3. Actions will be developed for specific facilities, as needed.
TP-6	Update/modify building codes to require the use of hazard resistant construction materials.	Severe Weather	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Building codes set by State
TP-7	Encourage the protection of wetlands and aquifers wherever possible.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Will develop action when specific need identified
TP-8	Encourage FEMA to update its FIRMs.	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Not under Town's control
TP-9		Flood		County Highway		1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Establish a Transfer of Development Rights program to shift new development away from flood plains/low lying areas.		None provided in the 2015 HMP			2. 3.	3. No longer applies.
TP-10	Begin the process to promote or adopt higher regulatory and zoning standards to manage HazMat risk (regarding transportation), with specific focuses on construction, protection and maintenance standards for utility infrastructure.	HazMat	None provided in the 2015 HMP	County Highway	No Progress	1. 2. 3.	1. Include in 2022 HMP 2. Action to update FDPO 3.
TP-11	Obtain funds for increased training to improve emergency response to HazMat incidents, fires, and ice storms.	HazMat, Transportation Incidents	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action
TP-12	Develop materials and conduct education and outreach to work with farmers to implement BMPs to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support
TP-13	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support
TP-14	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. County action; Town will support
TP-15	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect them from future damage. Repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Actions will be developed as specific problem areas are identified
TP-16	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Actions will be developed as specific problem areas are identified

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	willing participation of property owners. Implement as funding becomes available.						
TP-17	Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TP-18	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TP-19	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Town will support countywide initiatives
TP-20	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
TP-21	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TP-22	Support participation in the NFIP CRS program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related CAV initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
TP-23	Determine if a CAV or CAC is needed, and schedule if needed. This is a part of	Flood	None provided in the 2015 HMP	NFIP FPA		1. 2. 3.	1. Discontinue 2. 3. Part of previous action.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	the process of joining CRS (above initiative).						
TP-24	Designate a NFIP FPA, and other local officials who would benefit, become a CFM through the ASFPM and NYS SFMA, and pursue relevant continuing education training such as FEMA BCA and SDE.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TP-25	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g. Planning Board, site plan review process).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
TP-26	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TP-27	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TP-28	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Portage has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Portage was invited to a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.23-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X	X		X	X	X	X			
Hazardous Materials	X			X			X			X
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X		X		X	X			
Severe Winter Storm		X		X		X	X			
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.23-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Portage would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.23-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Portage-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Portage-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of Portage-003	Culvert Replacement Parker Road	**Problem:** Culvert pipes on Parker Road are inadequate and need to be replaced. **Solution:** Replace culvert pipes with larger ones.	No	No	Flood, Severe Storm	1, 2	Within 1 year	Highway Department	CHIPS	Lower damages due to flooding; street remains passable during storms and flooding	$50K	High	SIP	PP
2022-Town of Portage-004	Culvert Replacement Spring Brook Road	**Problem:** Culvert pipes on Spring Brook Road are inadequate and need to be replaced. **Solution:** Replace culvert pipes with larger ones.	No	No	Flood, Severe Storm	1, 2	Within 1 year	Highway Department	CHIPS	Lower damages due to flooding; street remains passable during storms and flooding	$25K	High	SIP	PP
2022-Town of	Hazmat Plan	**Problem:** With the new High Bridge over the Genesee River, there are	No	Yes	Hazmat	2	Within 1 year	Supervisor; County OEM	Staff Time; SHSP	Improved response to train	Low	Med.	LPR	ES

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
Portage-005		more and larger trains passing through the town. If there were to be a train derailment, it would be more severe than in years past. **Solution**: Work with emergency response organizations and the County OEM to develop a plan for train derailments at that location.								derailment and hazmat spill				
2022-Town of Portage-006	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance and floodplain development regulations.	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI
2022-Town of Portage-007	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and developers to bury utility	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		lines underground, wherever possible.												

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*

- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.23-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Portage-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Portage-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Portage-003	Culvert Replacement Parker Road	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Portage-004	Culvert Replacement Spring Brook Road	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Portage-005	Hazmat Plan	0	0	1	1	1	1	1	1	0	0	0	1	0	1	8	Medium
2022-Town of Portage-006	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Portage-007	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.23.9 Action Worksheets

The following action worksheets have been developed by the Town of Portage to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Culvert Replacement Parker Road		
Project Number:	2022-Town of Portage-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Culvert pipes on Parker Road are inadequate and need to be replaced.		
Action or Project Intended for Implementation			
Description of the Solution:	Replace culvert pipes with larger ones.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	50-year storm	**Estimated Benefits (losses avoided):**	Lower damages due to flooding; street remains passable during storms and flooding
Useful Life:	30 years	**Goals Met:**	1, 2
Estimated Cost:	$50K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	2 weeks	**Potential Funding Sources:**	CHIPS
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital planning
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate roadway	High	More expensive
	Replace culverts	$50K	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Culvert Replacement Parker Road	
Project Number:	2022-Town of Portage-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Culvert Replacement Spring Brook Road		
Project Number:	2022-Town of Portage-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Culvert pipes on Spring Brook Road are inadequate and need to be replaced.		
Action or Project Intended for Implementation			
Description of the Solution:	Replace culvert pipes with larger ones.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	50-year storm	**Estimated Benefits (losses avoided):**	Lower damages due to flooding; street remains passable during storms and flooding
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$25,000	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	2 weeks	**Potential Funding Sources:**	CHIPS
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital planning

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate roadway	High	More expensive
	Replace culverts	$50K	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Culvert Replacement Spring Brook Road	
Project Number:	2022-Town of Portage-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	0	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	

9.24 TOWN OF SPARTA

This section presents the jurisdictional annex for the Town of Sparta. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of Sparta's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.24.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Sparta's hazard mitigation plan primary and alternate points of contact. The Town of Sparta followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from the Town Highway Department and Floodplain Administrator. The Highway Superintendent represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.24-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Mark Schuster, Town Supervisor Address: 6464 Liberty Pole Rd, Dansville, NY 14437 Phone Number: 585-669-2803 Email: info@sparta-ny.org	Name/Title: Kevin Robinson, Highway Superintendent Address: 6464 Liberty Pole Rd, Dansville, NY 14437 Phone Number: 585-335-6703 Email: spartahighway@sparta-ny.org
NFIP Floodplain Administrator	
Name/Title: Charles A Cagle, Code Enforcement Officer Address: 6464 Liberty Pole Rd, Dansville, NY 14437 Phone Number: (607) 542-2175 Email: codeoffice.1957@gmail.com	
Additional Contributors	
None	

9.24.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total of 27.7 square miles, all land. The Town shares a border with the Towns of Conesus, Groveland, North Dansville, Springwater, Wayland, West Sparta, and shares a boundary with the County of Steuben.

According to the U.S. Census, the 2019 population for the Town of Sparta was 1,583, a 2.7 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.7 percent of the population is 5 years of age or younger and 21.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.24.3 Jurisdictional Capability Assessment and Integration

The Town of Sparta performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.24.3). The Town of Sparta's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Sparta. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.24-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	International Building Code	State and Local	Code Enforcement Officer
How does this reduce risk? Building standards protect public health, safety, and welfare.					
Zoning/Land Use Code	Yes	No	2019	Local	Planning Board, ZBA & CEO
How does this reduce risk? Zoning provides standards to protect public health, safety, and welfare.					
Subdivision Ordinance	Yes	No	1990	Local	Planning Board, CEO
How does this reduce risk? Subdivision regulations provide for the orderly development of land, specifically regarding well and septic location issues.					
Site Plan Ordinance	Yes	No	2019	Local and County	Planning Board, CEO
How does this reduce risk? Subdivision regulations provide standards to protect public health, safety, and welfare.					
Stormwater Management Ordinance	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Local Law #1 of 1987	Federal, State, County and Local	Floodplain Administrator
How does this reduce risk? Promotes safe development.					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes			
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other	No	-			
Planning Documents					
Master Plan	Yes	No	1993	Local	All
How does this reduce risk? Promotes orderly development following the Town's land use goals.					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	Yes	No	Conesus Lake Watershed Management Plan, 2003	Local, county	Conesus Lake Watershed Council
How does this reduce risk? Identifies recommendations for the protection of Conesus Lake and its watershed.					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	N/A
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	Yes	No	2018	Local	Town Board
How does this reduce risk? Protects and promotes agriculture in the Town of Sparta					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other	No				
Response/Recovery Planning					
Emergency Operations Plan	No	Yes			
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other	No	-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Sparta to oversee and track development.

Table 9.24-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Code Enforcement Office
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Code Enforcement Officer
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	Buildout would include Agricultural, Rural and Residential development

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Sparta and their current responsibilities which contribute to hazard mitigation.

Table 9.24-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	5 members
Zoning Board of Adjustments	Yes	5 members
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	4 FT and 2 PT
Construction/Building/Code Enforcement Department	Yes	1 Code Enforcement Officer
Emergency Management/Public Safety Department	No	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	Yes	Highway Department, Fire Departments, and Ambulance
Human Resources Manual	No	
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Contractual
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contractual
Planners or engineers with an understanding of natural hazards	Yes	Contractual
Staff with expertise or training in benefit/cost analysis	Yes	Contractual
Professionals trained in conducting damage assessments	Yes	Contractual

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	County supported
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	No	County supported
Grant writer(s)	No	County supported
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of Sparta.

Table 9.24-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	No
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Sparta.

Table 9.24-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	Yes	Contractual
Is hazard mitigation information available on your website?	No	

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	Yes	Website and bulletin boards
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of Sparta.

Table 9.24-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Unknown	Unknown
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other			

Note:
N/A Not applicable NP Not participating - Unavailable

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.24-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.24.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.24-9. NFIP Summary

Town of Sparta	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Sparta	4	1	$10,223.09	N/A	N/A	1

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	See floodplain map. No structures damaged by flooding in 20+ years.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	N/A
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None in the past 20+ years
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Code Office
Are any certified floodplain managers on staff in your jurisdiction?	No

Town of Sparta	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Sparta	4	1	$10,223.09	N/A	N/A	1

NFIP Topic	Comments
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review/site plan application/floodplain application.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	More than 50% project involved
What are the barriers to running an effective NFIP program in the community, if any?	No
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV = 2003; CAC = 2009
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law #1 of 1987
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets minimum requirements of the NFIP, but not of the State
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	The Town has site plan review. Floodplain locations are considered at time of review.
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.24.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of Sparta has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of Sparta has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Sparta did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.24.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.24-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.24-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	0	0	0	0	5	0	3	0	6	0	4	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	4	0	5	0	4	0	4	0
Total Permits Issued	**0**	**0**	**0**	**0**	**0**	**0**	9	**0**	8	**0**	**10**	**0**	8	**0**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
None					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA *Special Flood Hazard Area (1% flood event)* *- Unavailable*

** Only location-specific hazard zones or vulnerabilities identified.*

9.24.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Sparta's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Sparta has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.24-1. Town of Sparta Flood and Mine Subsidence Hazard Areas

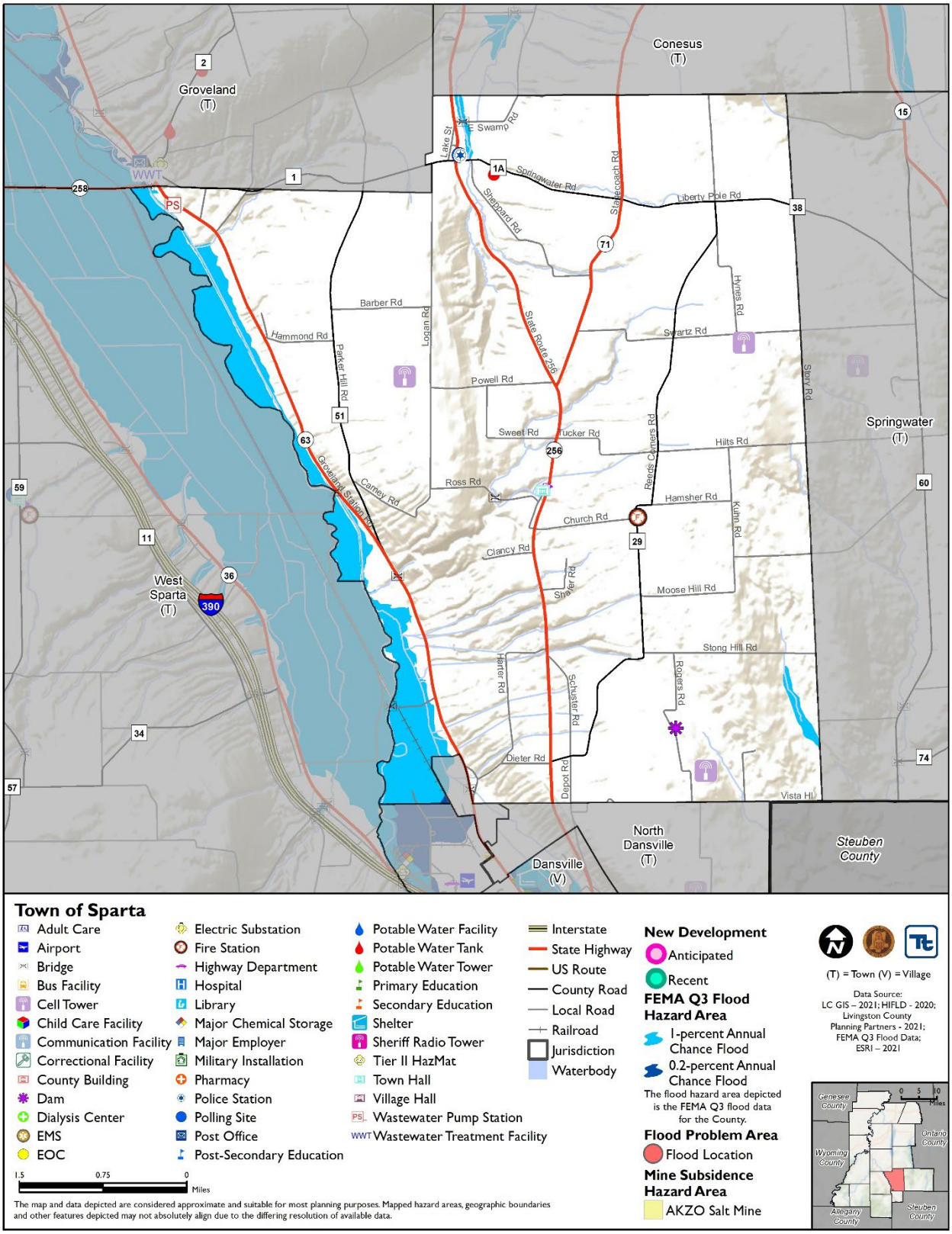


Figure 9.24-2. Town of Sparta Hazmat and Wildfire Hazard Areas

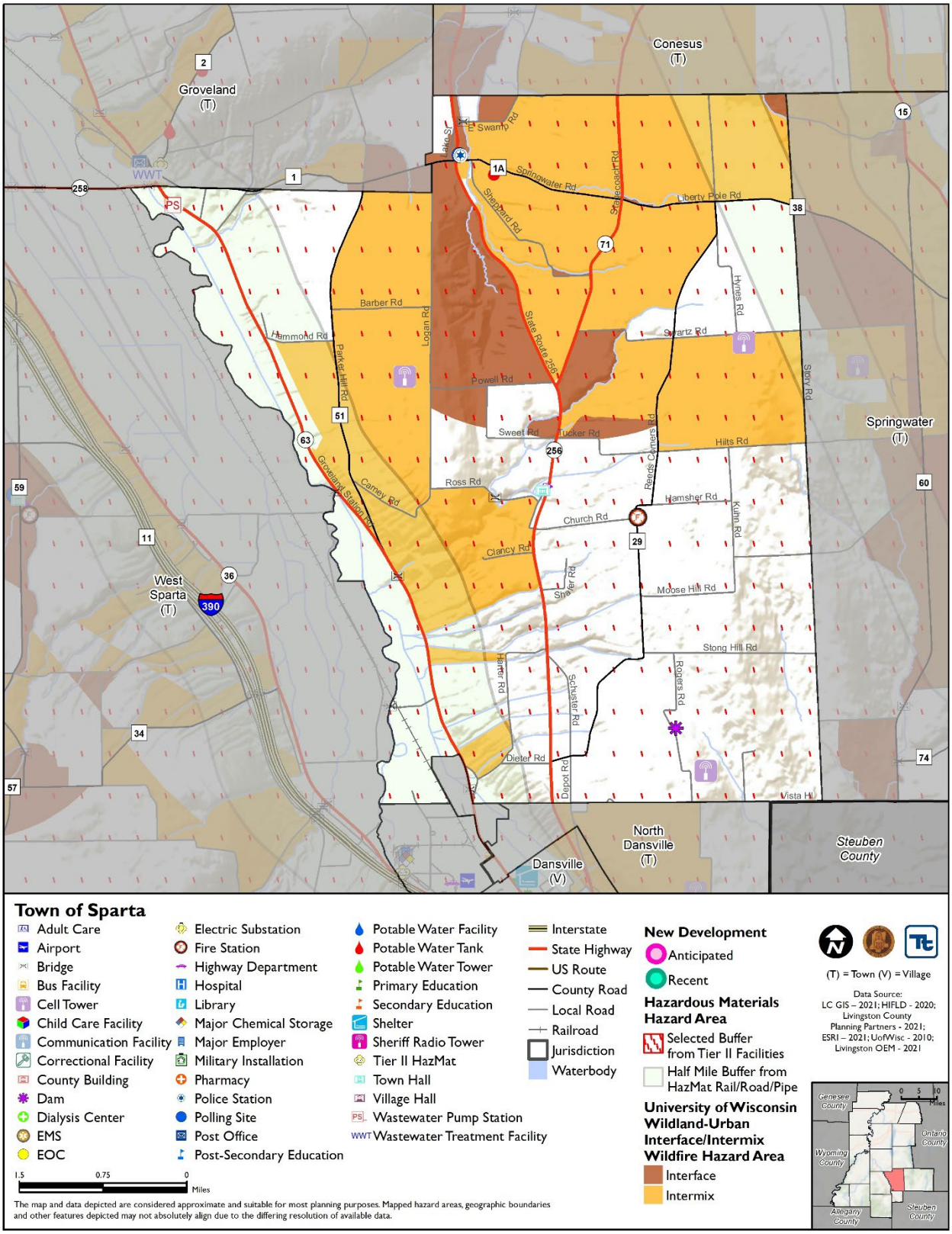
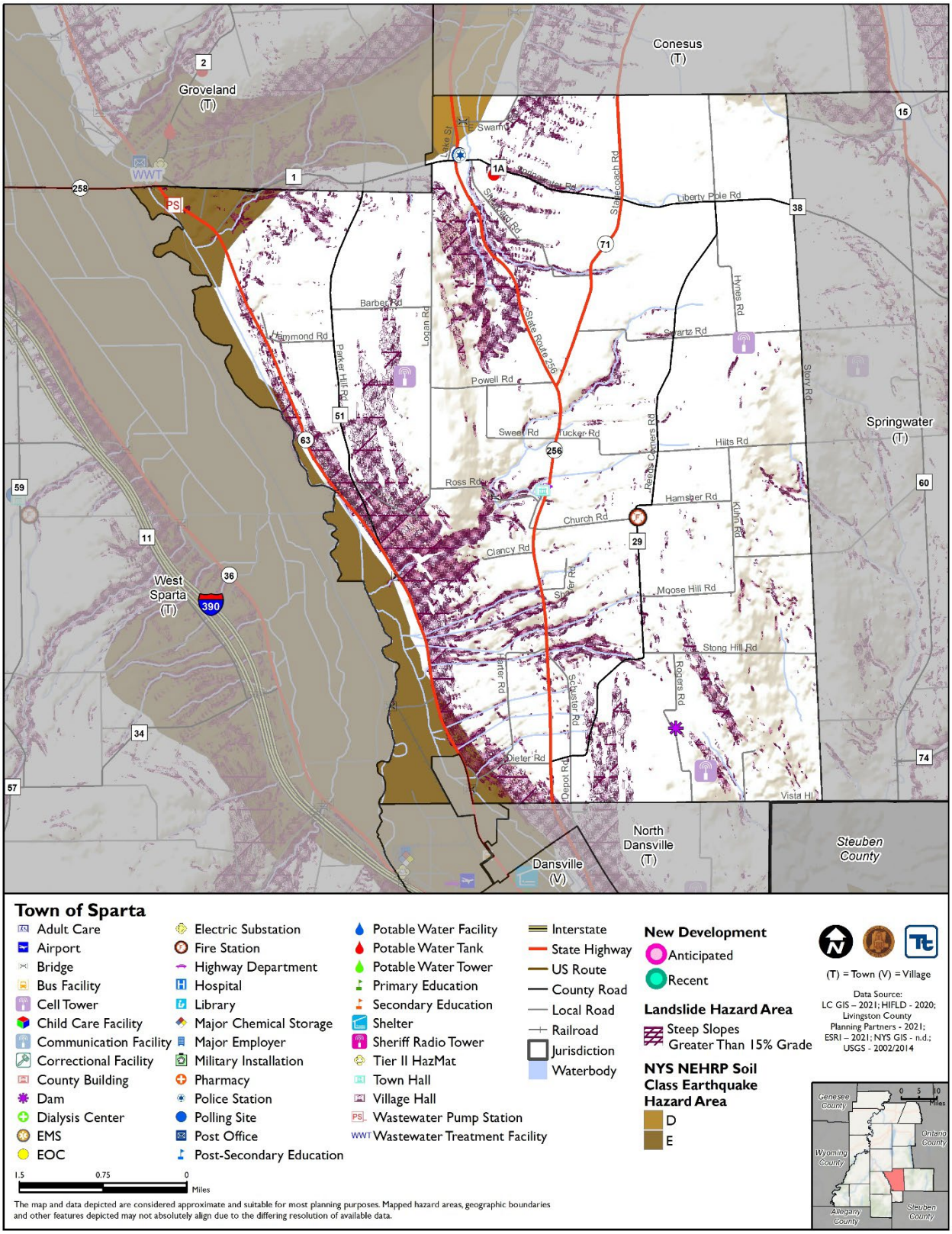


Figure 9.24-3. Town of Sparta Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Sparta's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.24-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.24-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	None
8/27/2020	Flash Flood	-	The Town had no generator available to provide backup power to facilities that needed it.
1/12/2020	Flood	-	None
11/1/2019	Flood	-	None
10/15/2019	Flood	-	None
10/27/2019	Flood	-	None
9/21/2018	Lightning	-	None
4/4/2018	Blizzard	-	None
7/20/2017	Tornado	-	None
3/8/2017	High Wind	-	None
9/9/2015	Thunderstorm Wind	-	None

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Sparta's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Sparta. The Town of Sparta has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.24-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.24-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of Sparta's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Sparta has identified the following vulnerabilities within their community:

- The Community Center needs backup power.
- The Highway Department building needs backup power.
- The Flood Damage Prevention Ordinance is from 1987 and does not include State-mandated freeboard.

9.24.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.24-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TS-1	Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the Town should a disaster occur.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-2	Provide backup power generators for Town/Village Halls.	Flood	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-3	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek, and Canaseraga Creek.	Flood, Severe Storm	None provided in the 2015 HMP	County and Municipal Highway Departments	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-4	Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-5	Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-6	Implement hydrilla control measures to prevent the further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TS-7	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage. Repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Will include as specific problem areas are identified.
TS-8	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing	Flood	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	participation of property owners. Implement as funding becomes available.						
TS-9	Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	All	None provided in the 2015 HMP	Town Supervisor's Office	In Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TS-10	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TS-11	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TS-12	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance 3.
TS-13	Develop and implement a post-event damage assessment program.	Flood	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TS-14	· Support participation in the NFIP CRS program by attending CRS workshop(s) if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related CAV initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
TS-15	Determine if a CAV or CAC is needed, and schedule if needed. This is a part of	Flood		NFIP FPA	No Progress	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	the process of joining CRS (above initiative).		None provided in the 2015 HMP			2. 3.	3. Part of previous action.
TS-16	Designate a NFIP FPA, and other local officials who would benefit, become a CFM through the ASFPM and NYS SFMA, and pursue relevant continuing education training such as FEMA BCA and SDE.	Flood, Wildfire	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TS-17	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
TS-18	Work with County and power companies to identify roads within the Town considered "critical" would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TS-19	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TS-20	Work with utility companies and developers to bury utility lines underground, wherever possible.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Sparta has not identified mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Sparta was invited to a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.24-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	X			X			X			X
Earthquake	X			X			X			X
Flood	X		X	X	X		X	X		X
Hazardous Materials	X			X			X			X
Invasive Species	X		X	X			X	X		X
Landslide	X			X			X			X
Mine Subsidence	X			X			X			X
Pandemic	X			X			X			X
Severe Storm	X	X		X		X	X			X
Severe Winter Storm	X	X		X		X	X			X
Terrorism	X			X			X			X
Utility Failure	X	X		X		X	X			X
Wildfire	X			X			X			X

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.24-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Sparta would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.24-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Sparta-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of Sparta-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of Sparta-003	Community Center Backup Power	**Problem:** The Community Center serves as s safe space for residents during an emergency. It is in a flood-prone area, and a water removal device is required to keep the floors dry. **Solution:** Purchase and install a backup generator for the facility.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Safe space available for residents when power is lost.	$10K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Sparta-004	Highway Department Backup Power	**Problem:** The facility doors cannot open without power, which could prevent crews from being able to operate. **Solution:** Purchase and install a backup power generator.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued highway operations during and after an emergency	$10K	High	SIP	PP
2022-Town of Sparta-005	Emergency Plan	**Problem:** Emergency response coordination must be maintained. **Solution:** Prepare a "master emergency response plan" to coordinate the activities of all emergency response agencies in the Town should a disaster occur.	No	No	All	1	Within 6 months	County OEM	Staff Time	Improved emergency response	Low	High	LPR	ES
2022-Town of Sparta-006	Backup Power for Town Hall	**Problem:** Town Hall lacks backup power. Government may not be able to function during a power outage. **Solution:** Provide a backup power generator for Town Hall.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued government operations during and after an emergency	$50K	High	SIP	PP
2022-Town of Sparta-007	Erosion Control and Streambank Stabilization	**Problem:** Properties along Mud Creek, Mill Creek, and Canaseraga Creek are threatened by erosion. **Solution:** Introduce erosion controls/stream and bank stabilization along specific	No	No	Flood	1, 2	Within 2 years	Highway Department; Engineering; FPA	US EPA; NYS DEC; HMGP	Property protected from streambank erosion	Med.	Med.	NSP	NR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		watercourses, including Mud Creek, Mill Creek, and Canaseraga Creek.												
2022-Town of Sparta-008	Stormwater BMPs	**Problem:** Stormwater runoff from farms damages roadways, causes road closures, and affects water quality. **Solution:** Develop materials and conduct education and outreach working with farmers to implement BMPs to address stormwater runoff from fields.	No	No	Flood, Severe Storm	3	Within 1 year	FPA, Engineer	Staff Time	Reduced damage to roadways from stormwater runoff	Low	High	EAP	PI
2022-Town of Sparta-009	Hydrilla Management Analysis	**Problem:** Hydrilla can overtake waterbodies, affecting water quality and recreational opportunities. **Solution:** Conduct a hydrilla management analysis to determine whether chemical treatments or the introduction of grass carp would be a more effective control measure.	No	Yes	Invasive Species	2	Within 1 year	Supervisor	Staff Time	Better control of invasive species	Low	Med.	NSP	NR
2022-Town of Sparta-010	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.												
2022-Town of Sparta-011	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and developers to bury utility lines underground, wherever possible.	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes 💧 *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.24-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Sparta-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Sparta-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of Sparta-003	Community Center Backup Power	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of Sparta-004	Highway Department Backup Power	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of Sparta-005	Emergency Plan	1	1	1	1	1	1	1	0	0	0	1	1	0	1	10	High
2022-Town of Sparta-006	Backup Power for Town Hall	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of Sparta-007	Erosion Control and Streambank Stabilization	0	1	0	1	1	0	0	1	0	1	1	1	0	0	7	Medium
2022-Town of Sparta-008	Stormwater BMPs	0	1	1	1	1	1	1	1	0	1	1	1	0	1	11	High
2022-Town of Sparta-009	Hydrilla Management Analysis	0	0	1	1	1	1	1	1	0	0	0	1	0	1	8	Medium
2022-Town of Sparta-010	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of Sparta-011	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.24.9 Action Worksheets

The following action worksheets have been developed by the Town of Sparta to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Community Center Backup Power		
Project Number:	2022-Town of Sparta-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The Community Center serves as s safe space for residents during an emergency. It is in a flood-prone area, and a water removal device is required to keep the floors dry.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a backup generator for the facility.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Safe space available for residents when power is lost.
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$10K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Winter 2023
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Community Center Backup Power	
Project Number:	2022-Town of Sparta-003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Highway Department Backup Power		
Project Number:	2022-Town of Sparta-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The facility doors cannot open without power, which could prevent crews from being able to operate.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a backup power generator.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued highway operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$10K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Winter 2023
Estimated Time Required for Project Implementation:	Days after initiation	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Highway Department Backup Power	
Project Number:	2022-Town of Sparta-004	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Backup Power for Town Hall		
Project Number:	2022-Town of Sparta-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Town Hall lacks backup power. Government may not be able to function during a power outage.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a backup power generator for Town Hall.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued government operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1
Estimated Cost:	$50K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Backup Power for Town Hall	
Project Number:	2022-Town of Sparta-006	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Erosion Control and Streambank Stabilization		
Project Number:	2022-Town of Sparta-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Properties along Mud Creek, Mill Creek, and Canaseraga Creek are threatened by erosion.		
Action or Project Intended for Implementation			
Description of the Solution:	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek, and Canaseraga Creek.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Property protected from streambank erosion
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	Medium	**Mitigation Action Type:**	Natural Systems Protection
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 2 years
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	US EPA; NYS DEC; HMGP
Responsible Organization:	Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Property Acquisition	High	Not cost effective
	Stabilize Streambank	Med.	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Erosion Control and Streambank Stabilization	
Project Number:	2022-Town of Sparta-007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	0	
Other Community Objectives	0	
Total	7	
Priority (High/Med/Low)	Medium	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022-Town of Sparta-011		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022-Town of Sparta-011	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.25 TOWN OF SPRINGWATER

This section presents the jurisdictional annex for the Town of Springwater. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of Springwater's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.25.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Springwater's hazard mitigation plan primary and alternate points of contact. The Town of Springwater followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Town Supervisor and Deputy Town Supervisor. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.25-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Deborah Babbitt Henry, Town Supervisor Address: 8022 South Main St., Springwater, NY 14560 Phone Number: 585- 402-6790 Email: springwatersuper@yahoo.com	Name/Title: Larry Gnau, Deputy Town Supervisor Address: 8022 South Main St., Springwater, NY 14560 Phone Number:585-944-6358 Email: lgnau@frontiernet.net
NFIP Floodplain Administrator	
Name/Title: Allan Henry, Code Enforcement Address: 8022 South Main St., Springwater, NY 14560 Phone Number: 585-447-0249 Email: springwatercode@yahoo.com	
Additional Contributors	
None	

9.25.2 Municipal Profile

According to the U.S. Census Bureau, the Town has a total land area of 53.3 square miles, of which 53.3 square miles is land and 0.04 square miles is water.

According to the U.S. Census, the 2019 population for the Town of Springwater was 2,233, an 8.4 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 5.5 percent of the population is 5 years of age or younger and 19.3 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.25.3 Jurisdictional Capability Assessment and Integration

The Town of Springwater performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.25.3). The Town of Springwater's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Springwater. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.25-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations – See local laws					
Building Code	Yes	Yes	Local Law 02 of 2015	State and Local	Code Enforcement Officer
How does this reduce risk?					
Zoning/Land Use Code	No	No		Local	
How does this reduce risk?					
Subdivision Ordinance	Yes	No	2011	Local	Planning Board
How does this reduce risk?					
Site Plan Ordinance	No	No		Local and County	
How does this reduce risk?					
Stormwater Management Ordinance	No	Yes		Local	
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Unknown	Federal, State, County and Local	FPA
How does this reduce risk?					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	Yes	Yes	-	Local	-
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Master Plan	Local	Planning Board
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No			
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Emergency Operations Plan	Local	Emergency Manager
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	Yes	No	COOP/COG Plan	Local	Supervisor
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of Springwater to oversee and track development.

Table 9.25-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Springwater and their current responsibilities which contribute to hazard mitigation.

Table 9.25-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	No	
Zoning Board of Adjustments	No	
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	
Open Space Board/Committee	Yes	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	Highway
Construction/Building/Code Enforcement Department	Yes	Code Enforcement
Emergency Management/Public Safety Department	No	
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	No	
Human Resources Manual	In Development	Consider the following: • Do any job descriptions specifically include identifying and/or implementing mitigation projects/actions or other efforts to reduce natural hazard risk?
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	Town Supervisor

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Engineers or professionals trained in building or infrastructure construction practices	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	Yes	Town Supervisor
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	Yes	Town Supervisor
Grant writer(s)	Yes	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)		

Fiscal Capability

The table below summarizes financial resources available to the Town of Springwater.

Table 9.25-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Springwater.

Table 9.25-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	No	
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other	No	

Community Classifications

The table below summarizes classifications for community programs available to the Town of Springwater.

Table 9.25-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other			

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.25-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.25.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.25-9. NFIP Summary

Town of Springwater	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Springwater	6	4	$39,376.90	N/A	N/A	4

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	Unknown
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None

Town of Springwater	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Springwater	6	4	$39,376.90	N/A	N/A	4

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes – minimal area
NFIP Compliance	
What local department is responsible for floodplain management?	Code
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	N/A
What are the barriers to running an effective NFIP program in the community, if any?	N/A
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	N/A
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	N/A
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	N/A
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	N/A No

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.25.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of Springwater has identified the Town Barn as a possible shelter, but no further details were available. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of Springwater has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of Springwater did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.25.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.25-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. With no new or proposed development in the Town, there are no impacts to vulnerability.

Table 9.25-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Property or Development Name	**Type of Development**		**# of Units / Structures**		**Location (address and/or block and lot)**		**Known Hazard Zone(s)***		**Description / Status of Development**					
Recent Major Development and Infrastructure from 2015 to Present														

None
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years
None

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.25.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of Springwater's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of Springwater has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.25-1. Town of Springwater Flood and Mine Subsidence Hazard Areas

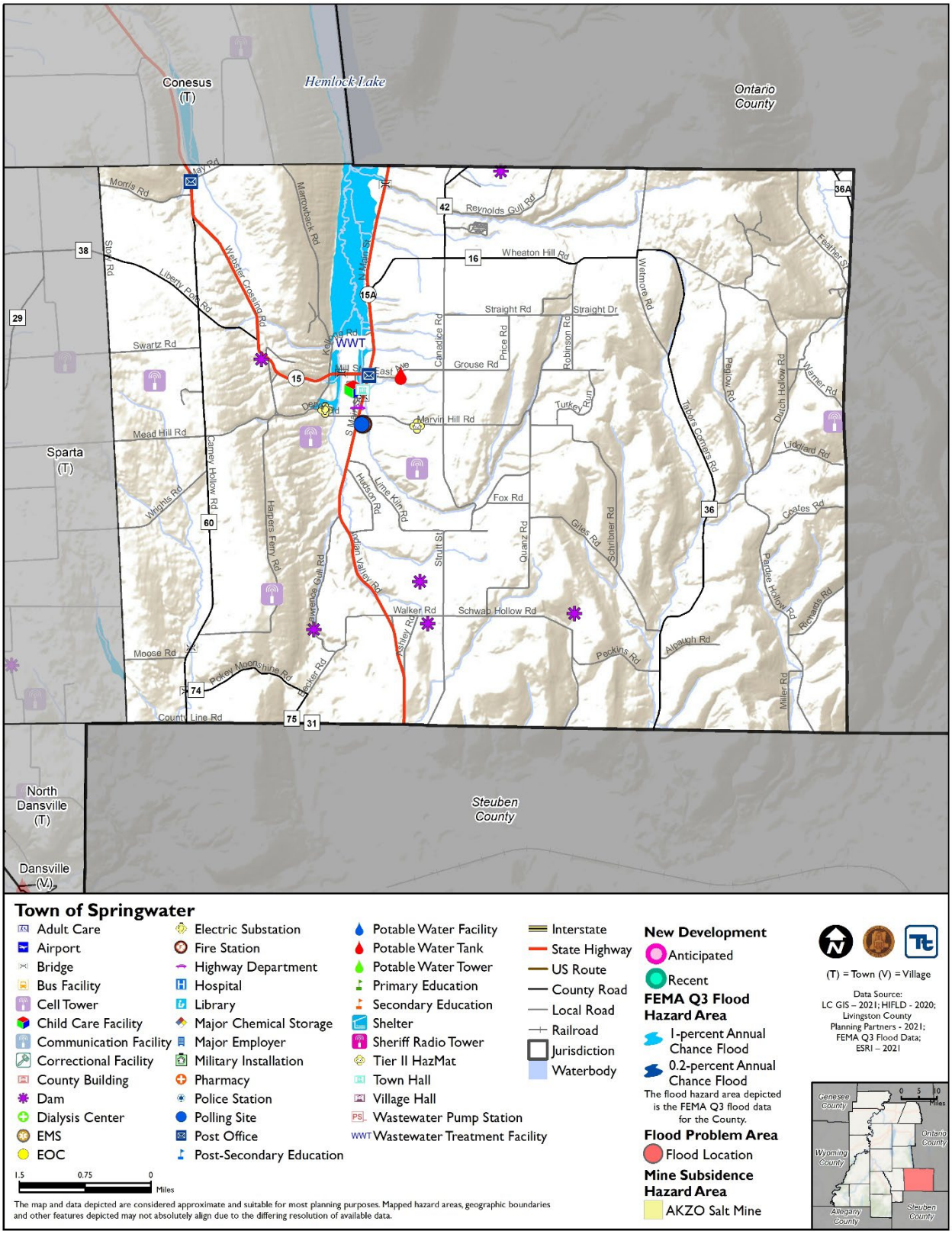


Figure 9.25-2. Town of Springwater Hazmat and Wildfire Hazard Areas

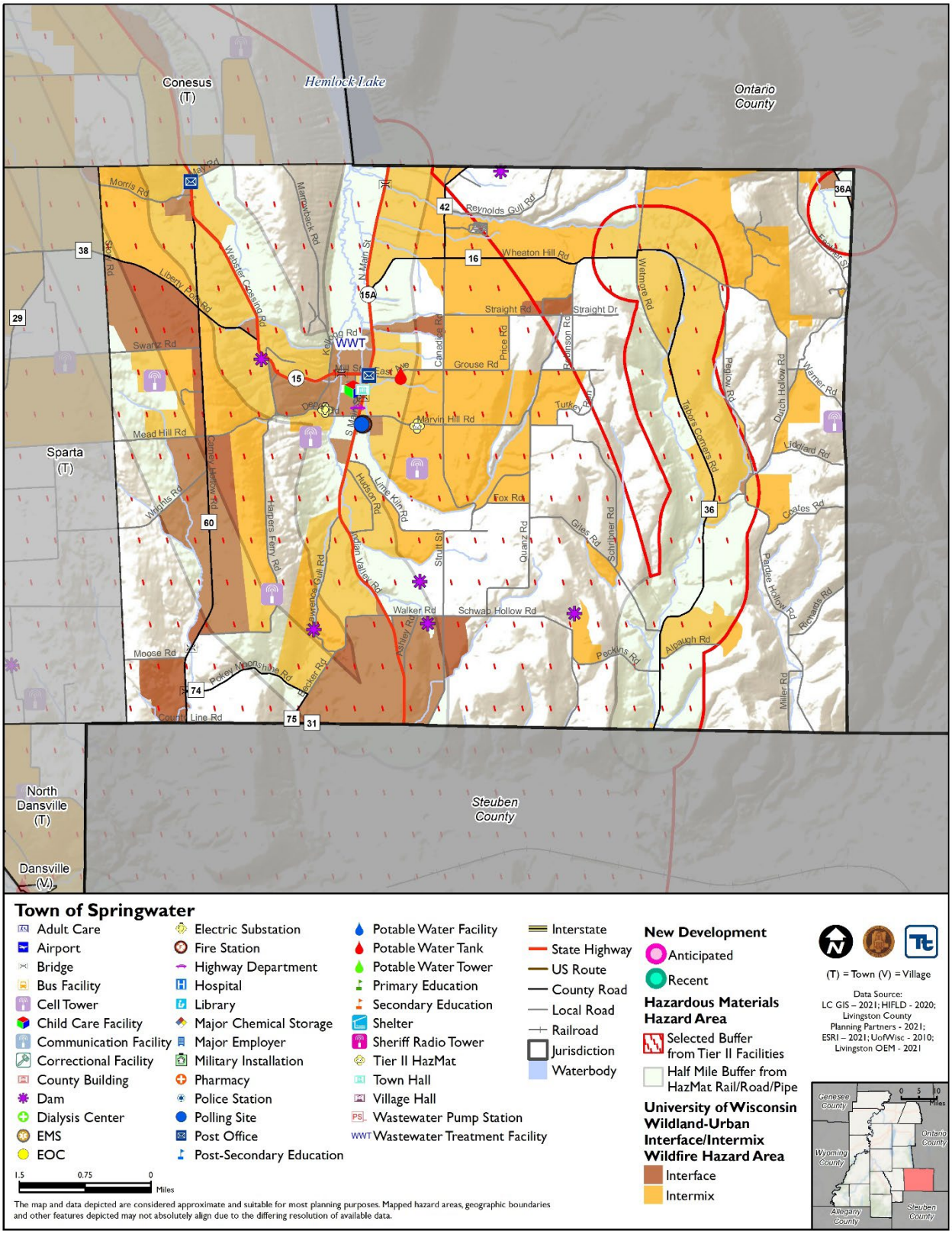
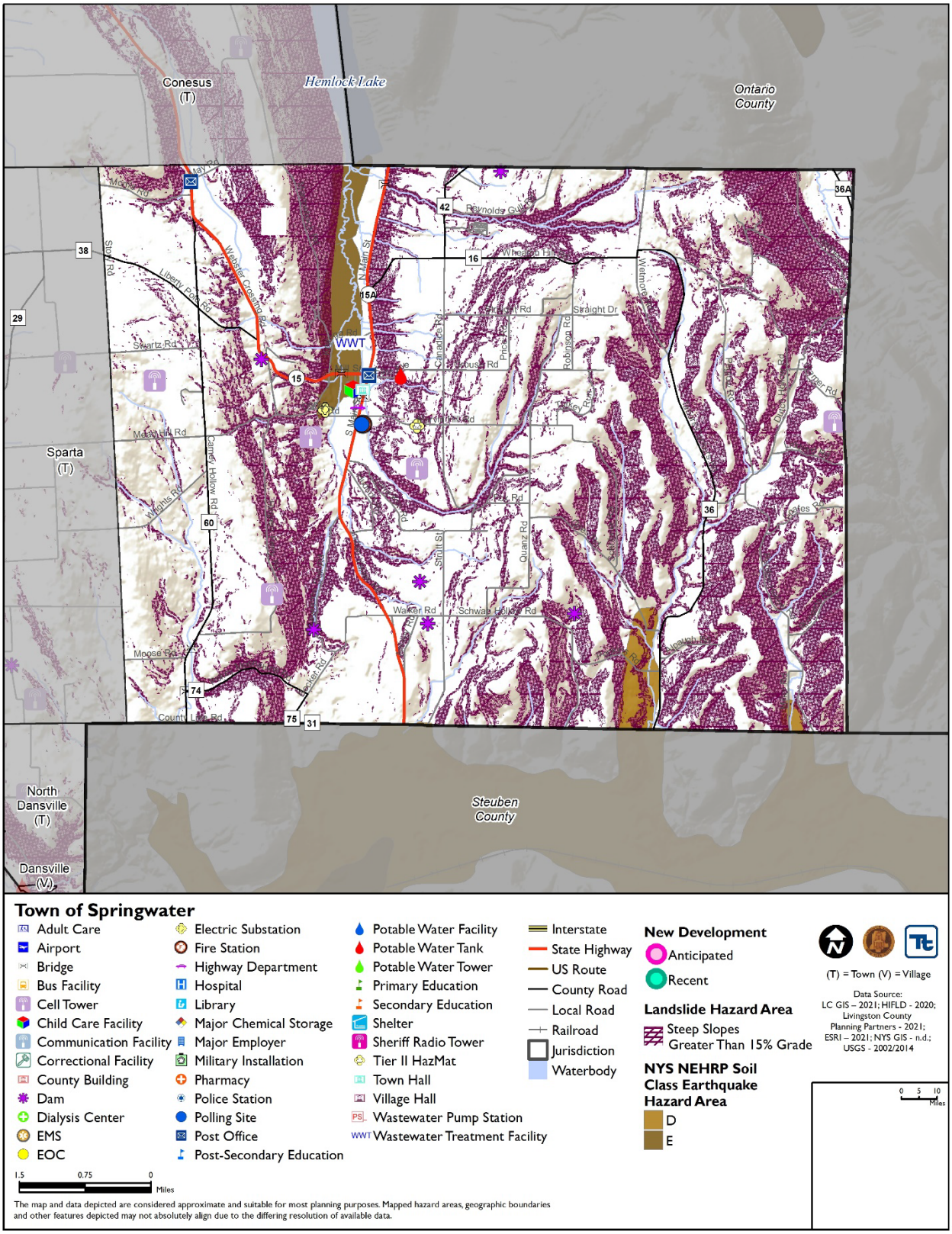


Figure 9.25-3. Town of Springwater Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of Springwater's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.25-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.25-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	None
8/27/2020	Flash Flood	-	None
1/12/2020	Flood	-	None
11/1/2019	Flood	-	None
10/15/2019	Flood	-	None
10/27/2019	Flood	-	None
9/21/2018	Lightning	-	None
4/4/2018	Blizzard	-	None
7/20/2017	Tornado	-	None
3/8/2017	High Wind	-	None
9/9/2015	Thunderstorm Wind	-	None

Notes:

EM *Emergency Declaration (FEMA)*

FEMA *Federal Emergency Management Agency*

DR *Major Disaster Declaration (FEMA)*

N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of Springwater's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Springwater. The Town of Springwater has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not indicate any changes to the calculated risk ranking.

Table 9.25-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	Low	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	High	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.25-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
Town Hall	Municipal Building	X	X	No	2022- Town of Springwater-003

Identified Issues

After review of the Town of Springwater's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of Springwater has identified the following vulnerabilities within their community:

- The Town Hall is in the special flood hazard area and is vulnerable to flooding.

9.25.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.25-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TSW-1	Armor and increase resiliency of road ditches with a greater than 4% slope.	All	None provided in the 2015 HMP	County and Town Highway	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-2	Enlarge and replace culvert pipes to the box culverts to allow for better flow capacity, and to reduce Town flooding concerns.	Flood	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TSW-3	Implement a routine stream and creek maintenance program to decrease debris, deposition, and other recurring streamway concerns.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TSW-4	Develop a coordinated watershed inspection program for the entire County. Currently, only Conesus Lake has one. A county-wide program would study all watersheds and municipal water supplies, and create a fair, uniform, and systematic set of standards.	All	None provided in the 2015 HMP	County Health Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-5	Prepare a "master emergency response plan" for each town to coordinate activities of all emergency response agencies in the event of a disaster. These town-wide plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.	All	None provided in the 2015 HMP	County EMS	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-6	Support community programs to assist elderly and vulnerable populations during utility failures. Encourage residents to check on elderly and other vulnerable neighbors.	All	None provided in the 2015 HMP	County Office for the Aging	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-7	Create a coordinated ditch stabilization program for the southern part of the County, specifically the Towns of Mount Morris, Groveland, Conesus, Springwater, Sparta, West Sparta, North Dansville, Ossian, Nunda, and Portage. The higher relief in these towns makes this program a priority.	Flood	None provided in the 2015 HMP	County and Municipal Highway Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TSW-8	Line some streambanks, especially those in the southern part of the County, with retaining walls for erosion control.	Flood	None provided in the 2015 HMP	County and Municipal Highway Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-9	Provide back-up power generators for: Highway Department/DPW Garages and related installations.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.
TSW-10	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-11	Conduct a hydrilla management analysis to determine whether chemical treatments or introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-12	Implement hydrilla control measures to prevent further spread of the invasive species, and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-13	Support mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Generic action. The Town will develop actions to mitigate specific structures in the future.
TSW-14	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. Parameters for feasibility for this initiative would include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering	No Progress	1. 2. 3.	1. Discontinue 2. 3. Generic action. The Town will develop actions to mitigate specific structures in the future.
TSW-15	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks, and what can be done in the way	All Hazards	None provided in the 2015 HMP	Supervisor's Office	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. 3.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	of mitigation and preparedness, including flood insurance.						
TSW-16	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed minimum NFIP standards and criteria through NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TSW-17	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. Countywide action; Town will support as needed
TSW-18	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk; specifically through the following:	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to update the Flood Damage Prevention Ordinance; planning to update zoning ordinance and comprehensive plan 3.
TSW-19	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county capability
TSW-20	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long-term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. NFIP policy base does not support administrative requirements of participation.
TSW-21	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. Part of previous action.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TSW-22	Designate an NFIP Floodplain Administrator (FPA) and other local officials who would benefit, to become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. Action to ensure FPA is trained. 3.
TSW-23	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Completed as part of the HMP update
TSW-24	Work with County and power companies to identify roads within the Town considered "critical" that would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TSW-25	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TSW-26	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Include in the 2022 HMP. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Springwater has not identified any mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of Springwater participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.25-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X	X		X	X	X	X			
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X		X		X	X			
Severe Winter Storm		X		X		X	X			
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.25-16 summarizes the comprehensive range of specific mitigation initiatives the Town of Springwater would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.25-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of Springwater-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022- Town of Springwater -002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022- Town of Springwater -003	Protect Town Hall from Flooding	**Problem:** Town Hall is in the Special Flood Hazard Area and is exposed to the flood hazard. **Solution:** The Town will conduct an engineering analysis determine best methods to protect Town Hall from flooding. The Town Engineer will implement appropriate mitigation measures.	Yes	No	Flood	1, 2	Within 3 years	Engineer	FEMA HMGP, BRIC, USDA Community Facilities Grant Program, EMPG	Ensure continuity of operations at this critical facility	High	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022- Town of Springwater -004	Upgrade Culverts	**Problem**: Culverts throughout the Town are undersized and need to be upgraded. **Solution**: The Town will assess the culverts in the Town to determine which need to be upgraded, will develop designs to replace the culverts with ones of adequate size, as applicable.	No	No	Flood; Severe Storm	1, 2	Within 3 years	Highway	CHIPS; BRIC; HMGP; Staff time; Town budget	Reduced damage to culverts and roadways; roads remain passable during storm events	High	High	SIP	PP
2022- Town of Springwater -005	Highway Department Backup Power	**Problem:** Highway operations at the Garage/DPW building cannot continue without power. **Solution:** Purchase and install a backup power generator.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Within 1 year	Supervisor, Engineer	Town budget; HMGP	Continued highway operations during and after an emergency	$50K	High	SIP	PP
2022- Town of Springwater -006	Public Outreach Campaign	**Problem:** Residents may be unaware of the steps they can take to protect their homes and property. **Solution:** Develop and implement an enhanced all-hazards, public outreach/ education/mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Supervisor	Staff Time	Less reliance on emergency response organizations	Low	High	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022- Town of Springwater -007	Bury Power Lines	**Problem:** Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages. **Solution:** Work with utility companies and developers to bury utility lines underground, wherever possible.	No	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Engineer	Staff Time; HMGP; BRIC	Power service is maintained during emergencies	High	Med.	SIP	PP

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*

- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.25-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of Springwater-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022- Town of Springwater -002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022- Town of Springwater -003	Protect Town Hall from Flooding	1	1	1	1	1	1	0	1	1	0	0	1	1	1	11	High
2022- Town of Springwater -004	Upgrade Culverts	0	1	1	1	1	1	1	0	0	1	1	0	1	1	10	High
2022- Town of Springwater -005	Highway Department Backup Power	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022- Town of Springwater -006	Public Outreach Campaign	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022- Town of Springwater -007	Bury Power Lines	0	1	0	1	1	1	0	0	0	1	1	0	0	1	7	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.25.9 Action Worksheets

The following action worksheets have been developed by the Town of Springwater to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Protect Town Hall from Flooding		
Project Number:	2022- Town of Springwater -003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Town Hall is in the Special Flood Hazard Area and is exposed to the flood hazard.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will conduct an engineering analysis determine best methods to protect Town Hall from flooding. The Town Engineer will implement appropriate mitigation measures.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☒	No ☐	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	0.2% annual chance flood	**Estimated Benefits (losses avoided):**	Ensure continuity of operations at this critical facility
Useful Life:	50 years	**Goals Met:**	1,2
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 3 years
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	FEMA HMGP, BRIC, USDA Community Facilities Grant Program, EMPG
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Construct New Building	High	High cost; unknown if land is available
	Engineering analysis	High	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Protect Town Hall from Flooding	
Project Number:	2022- Town of Springwater -003	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Highway Department Backup Power		
Project Number:	2022- Town of Springwater -005		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Highway operations at the Garage/DPW building cannot continue without power.		
Action or Project Intended for Implementation			
Description of the Solution:	Purchase and install a backup power generator.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Continued highway operations during and after an emergency
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$50K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Supervisor	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Highway Department Backup Power	
Project Number:	2022- Town of Springwater -005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Bury Power Lines		
Project Number:	2022- Town of Springwater -007		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	Overhead power lines can be damaged by falling debris and ice accumulation, causing power outages.		
Action or Project Intended for Implementation			
Description of the Solution:	Work with utility companies and developers to bury utility lines underground, wherever possible.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Power service is maintained during emergencies
Useful Life:	50 years	**Goals Met:**	1
Estimated Cost:	High	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	Medium	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	6 months	**Potential Funding Sources:**	Staff time for analysis and outreach; HMGP and BRIC for project work
Responsible Organization:	Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install backup power at each facility	High	Cost prohibitive
	Bury utility lines	High	Most effective

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Bury Power Lines	
Project Number:	2022- Town of Springwater -007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Agency Champion	0	
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	

9.26 TOWN OF WEST SPARTA

This section presents the jurisdictional annex for the Town of West Sparta. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the Town of West Sparta and who in the Town participated in the planning process; an assessment of the Town of West Sparta's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.26.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of West Sparta's hazard mitigation plan primary and alternate points of contact. The Town of West Sparta followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including the Supervisor and Highway Superintendent. The Supervisor represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the Town of West Sparta's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.26-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Susan Erdle, Town Supervisor Address: 8302 Kysorville/Byersville Rd., Dansville, NY 14437 Phone Number: 585 519-5111 Email: townsupervisor@townofwestsparta.org	Name/Title: Doug Reniff, Highway Superintendent Address: 8302 Kysorville/Byersville Rd., Dansville, NY 14437 Phone Number: 585 281-1340 Email: highwaysuperintendent@townofwestsparta.org
NFIP Floodplain Administrator	
Name/Title: Mark Mullikin, Code Enforcement Officer Address: 8302 Kysorville/Byersville Rd., Dansville, NY 14437 Phone Number: 585 519-3321 Email: codeenforcement@townofwestsparta.org	
Additional Contributors	
None	

9.26.2 Municipal Profile

According to the U.S. Census Bureau, the Town encompasses a total area of 33.4 square miles, and is bordered by the Towns of Groveland, Mount Morris, North Dansville, Nunda, Ossian, and Sparta. According to the U.S. Census, the 2020 population for the Town of West Sparta was 1,156, a 7.89 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 2.9 percent of the population is 5 years of age or younger and 18 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.26.3 Jurisdictional Capability Assessment and Integration

The Town of West Sparta performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.26.3). The Town of West Sparta's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of West Sparta. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.26-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	Local Law 2 of 2007	State and Local	CEO
How does this reduce risk? Buildings are constructed / altered in a sound professional manner					
Zoning/Land Use Code	Yes	No	Land Development Code, Local Law 1 of 2012	Local	Zoning Officer Planning Department
How does this reduce risk? ***Consider the following:*** • *Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use?* • *Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?* • *Does it contain natural overlay zones that set conditions?* • *Does the ordinance require developers to take additional actions to mitigate natural hazard risk?* • *Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?*					
Subdivision Ordinance	Yes	No	Subdivision law Local Law 1 of 2006	Local	Zoning Officer Planning Board
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Site Plan Ordinance	Yes	No	Included in the Land Development Code, Local law 1 of 2012	Local and County	Planning Board
How does this reduce risk? Subdivisions are done in an organized way taking into consideration environmental issues and emergency access.					
Stormwater Management Ordinance	Yes	Yes	Erosion and Sediment Control Law, Local law 3 of 2006	Local	Zoning Officer Planning Board
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No			
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	Yes	No	Comprehensive Plan 2006 Land Development Code	Local	Planning Board Zoning officer
How does this reduce risk? Lot sizes and uses are specified to regulate orderly growth					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Flood Damage Prevention Law Local Law 1 of 2010	Federal, State, County and Local	Z
How does this reduce risk? Prevents development that could be threatened by flood conditions					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	Yes	Yes	Disaster Response Plan Updated 2020		
How does this reduce risk? Chain of command is specified so that emergency situations can be dealt with in an organized fashion					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other		-			
Planning Documents					
Master Plan	Yes	No	Comprehensive Pla 2006		
How does this reduce risk? Future development is specified based on environmental, geographical, and community needs					
Capital Improvement Plan	No	No			
How does this reduce risk?					
Disaster Debris Management Plan	no	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	yes	No	Included inland Development Code 2012	Local	Planning Board Zoning officer

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	Yes	Yes	Included in the Land Development Code 2012	Local	Planning Board Zoning officer
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	Yes	No	Right To Farm law Local Law 1 of 2014	Local	Planning Board Zoning officer
How does this reduce risk? Farm using standard agricultural practices are protected thereby conserving open space					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No			
How does this reduce risk?					
Business/ Downtown Development Plan	No	No			
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Disaster Response Plan Updated 2020		Town Board
How does this reduce risk? Chain of Command and specific duties are spelled out so that emergencies can be dealt with in an organized manner.					
Strategic Recovery Planning Report	no	No			
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Yes	Hazard Mitigation Plan	County	OEM Director

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No			
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No			
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of West Sparta to oversee and track development.

Table 9.26-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	Yes	Planning Board Zoning Officer
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Planning Board Zoning Officer
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of West Sparta and their current responsibilities which contribute to hazard mitigation.

Table 9.26-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Planning Board
Zoning Board of Adjustments	Yes	Zoning Board
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Public Works/Highway Department	Yes	Highway Superintendent
Construction/Building/Code Enforcement Department	Yes	Code Enforcement Officer

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Emergency Management/Public Safety Department	No	County
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Stormwater maintenance
Mutual aid agreements	Yes	Various
Human Resources Manual	Yes	Town Employee Handbook
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	yes	Supervisor
Grant writer(s)	Yes	County Grant Writer
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of West Sparta.

Table 9.26-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes – water district
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of West Sparta.

Table 9.26-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	Yes	Supervisor
Personnel skilled or trained in website development	No	
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	Yes	Town website
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other		

Community Classifications

The table below summarizes classifications for community programs available to the Town of West Sparta.

Table 9.26-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	-	-
NYSDEC Climate Smart Community	No		
StormReady Certification	No		
Firewise Communities classification	No		
Other	No		

Note:
N/A Not applicable NP Not participating - Unavailable

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.26-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong* *Capacity exists and is in use*
Moderate *Capacity may exist; but is not used or could use some improvement*
Weak *Capacity does not exist or could use substantial improvement*

9.26.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.26-9. NFIP Summary

Town of West Sparta	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of West Sparta	2	7	$53,436.35	N/A	N/A	2

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Farmland in the Canaseraga Creek Valley, 'The Flats' between Rt 36 and Rt 63. FEMA Flood Plain Map
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No

Town of West Sparta	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of West Sparta	2	7	$53,436.35	N/A	N/A	2

NFIP Topic	Comments
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Unknown
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Planning Board Zoning Enforcement
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes; current regulations
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit review
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Land Development Code Code Enforcement Officer
What are the barriers to running an effective NFIP program in the community, if any?	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV – May 7, 2006
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law 1 of 2010 No recent amendments
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	No, does not include mandated freeboard
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Land Development Code contains a Flood Zone (overlay) with specifications for development on FEMA Flood zones

Town of West Sparta	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of West Sparta	2	7	$53,436.35	N/A	N/A	2

NFIP Topic	Comments
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Notes:
RL Repetitive Loss; SRL Severe Repetitive Loss

9.26.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, in in and out of the municipality for evacuations if needed.

Sheltering

The Town of West Sparta has not identified sheltering locations for their residents. In the event sheltering is needed, the Town will work with the County to find suitable locations.

Temporary Housing

The Town of West Sparta has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of West Sparta did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.26.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.26-10 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.26-10. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	0	0	0	0	0	0	1	0	0	0	1	0	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
None					
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.26.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of West Sparta's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of West Sparta has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.26-1. Town of West Sparta Flood and Mine Subsidence Hazard Areas

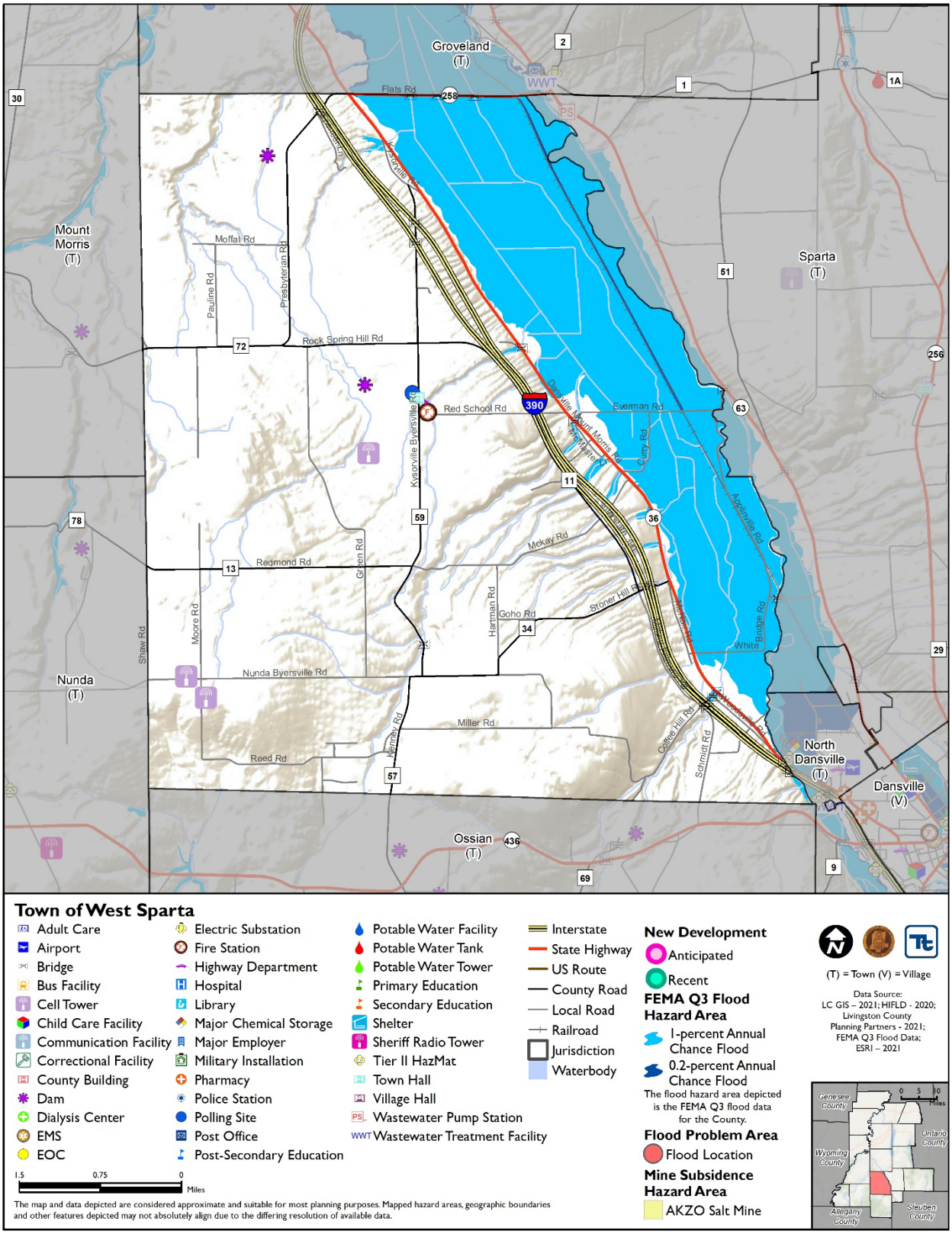


Figure 9.26-2. Town of West Sparta Hazmat and Wildfire Hazard Areas

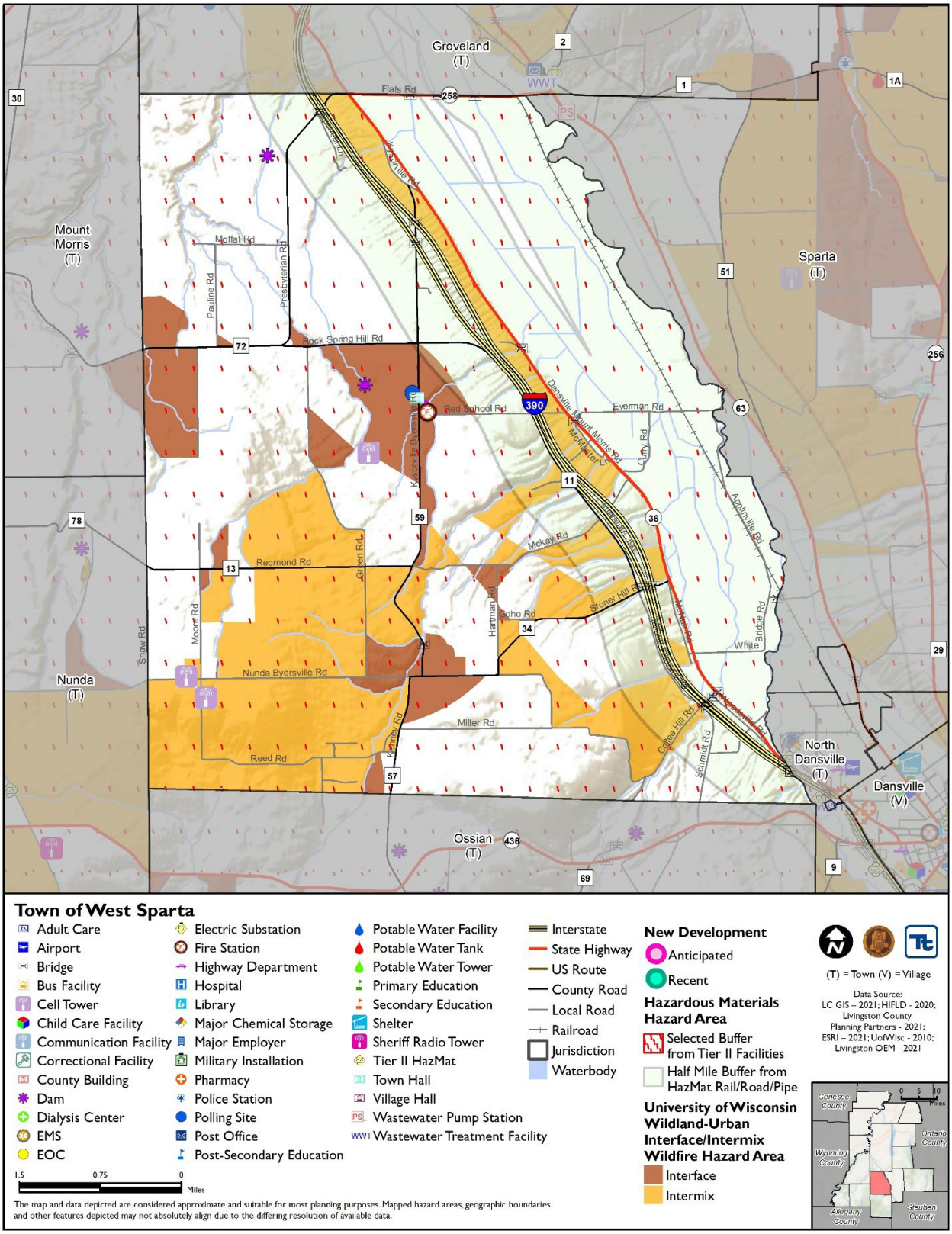
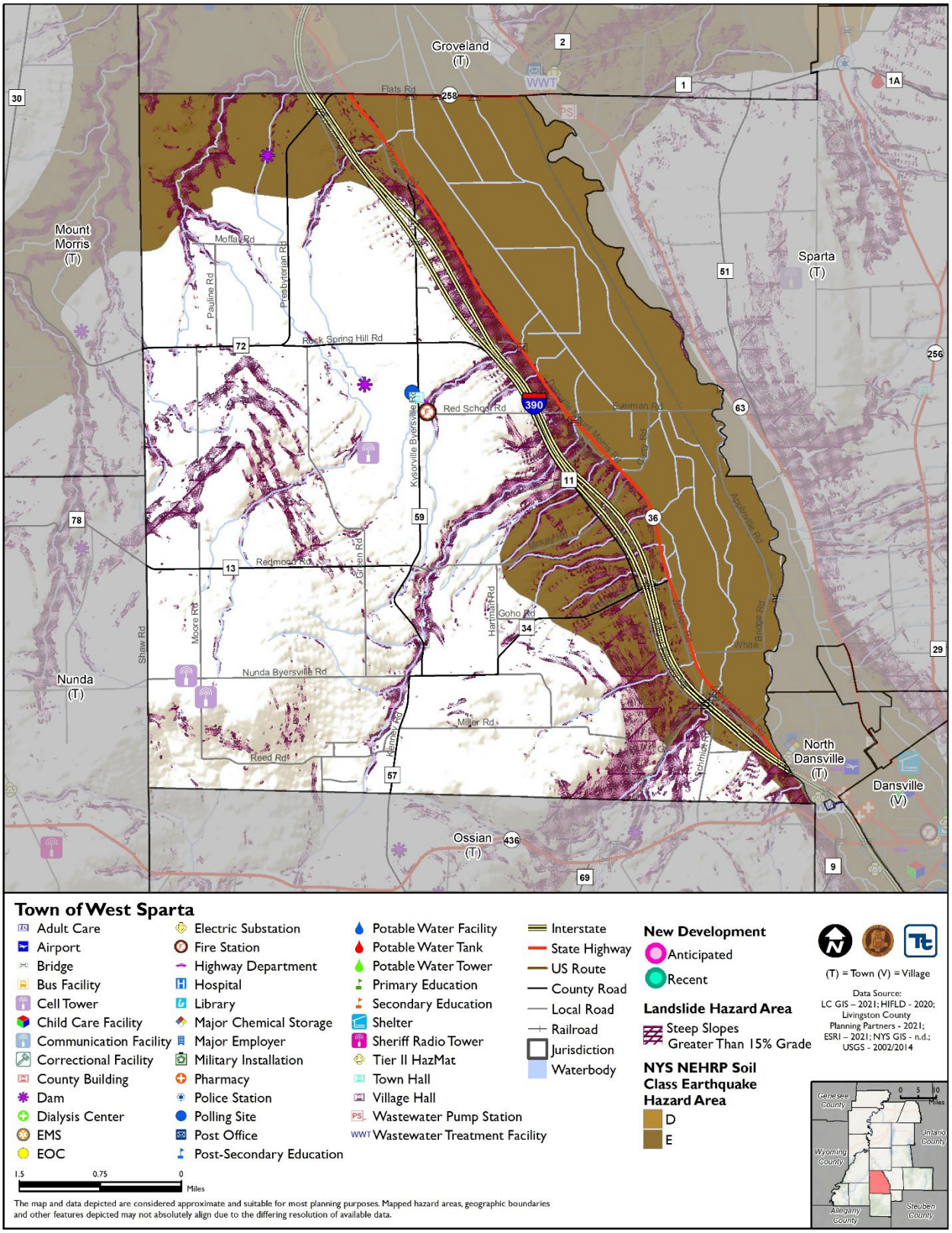


Figure 9.26-3. Town of West Sparta Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of West Sparta's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.26-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.26-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	None
8/27/2020	Flash Flood	-	None
1/12/2020	Flood	-	None
11/1/2019	Flood	-	None
10/15/2019	Flood	-	None
10/27/2019	Flood	-	None
9/21/2018	Lightning	-	None
4/4/2018	Blizzard	-	None
7/20/2017	Tornado	-	None
3/8/2017	High Wind	-	None
9/9/2015	Thunderstorm Wind	-	None

Notes:
EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of West Sparta's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each Town of West Sparta

ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of West Sparta. The Town of West Sparta has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not change the calculated rankings.

Table 9.26-12. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Low

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Medium	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.26-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
None					

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of West Sparta's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of West Sparta has identified the following vulnerabilities within their community:

- Rt 390 is a major highway which often carries truckloads of hazardous material
- The 'Flats' between Rt 36 and Rt 63 are often flooded
- Rt 258 (Flats Road) is often underwater during floods. This is the route taken by The Groveland Fire Department when called to assist in West Sparta

9.26.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.26-14. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TWS-1	Develop and routinely update a master emergency response plan, along with other municipal emergency plans, in the event of a disaster. These plans should be closely integrated with the County Emergency Response Plan, emergency response plans for school districts, and emergency response plans for individual facilities such as hospitals, clinics, and nursing homes.	All	None provided in the 2015 HMP	County EMS	Complete	Information not available.	1. Discontinue 2. 3. Complete
TWS-2	Provide backup power generators for Town Hall.	All	None provided in the 2015 HMP	Town Highway Department	Complete	Information not available.	1. Discontinue 2. 3. Complete
TWS-3	Provide backup power generators for highway department/DPW garages and related installations.	All	None provided in the 2015 HMP	Town Highway Department	No Progress	1. 2. 3.	1. Include as separate actions in the 2022 HMP. 2. 3.
TWS-4	Improve countywide communication network	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TWS-5	Acquire new, more powerful radios, walkie-talkies, etc.	All	None provided in the 2015 HMP	County Sheriff	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TWS-6	Identify methods to increase the level of encouragement and support received from Town residents and local officials regarding development of municipal emergency management plans.	All	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TWS-7	Obtain funds for increased training to improve emergency response to HazMat incidents, fires, and ice storms.	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TWS-8	Run training programs for handling HazMat. These programs should be aimed at local emergency response personnel, but interested citizens should have the opportunity to attend as well.	All	None provided in the 2015 HMP	County EMS	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing county effort
TWS-9	Prepare emergency response staff for hazard events.	Flood		County EMS	Ongoing	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			None provided in the 2015 HMP			2. 3.	3. Ongoing county effort
TWS-10	Encourage FEMA to update its FIRMs.	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Proposed as countywide action in Section 9.1.
TWS-11	Develop a flood mitigation program for flood-prone stretches of the Genesee River,	Flood	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Will support as a countywide action
TWS-12	Introduce erosion controls/stream and bank stabilization along specific watercourses, including Mud Creek, Mill Creek, and Canaseraga Creek.	Flood, Severe Storm	None provided in the 2015 HMP	County and municipal Highway Departments	No Progress	1. 2. 3.	1. Discontinue 2. 3. Specific problem areas not identified.
TWS-13	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Invasive Species	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-14	Conduct a hydrilla management analysis to determine whether chemical treatments or introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TWS-15	Implement hydrilla control measures to prevent further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	County Planning Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TWS-16	Support mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss properties should be a priority, when applicable.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Not specific enough
TWS-17	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The	All	None provided in the 2015 HMP	Town Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. Generic

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	parameters for feasibility of this initiative include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.						
TWS-18	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what individuals can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Town Supervisor's Office	Ongoing	1. 2. 3.	1. Include in the 2022 HMP 2. Update wording to Action 2022-Town of West Sparta-003. 3.
TWS-19	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-20	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-21	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in the 2022 HMP 2. Revise to Action 2022-Town of West Sparta-001. 3.
TWS-22	Develop and implement a post-event damage assessment program.	Flood; Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-23	Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long-term participation can be dedicated.	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	See following related Community Assistance Visit (CAV) initiative.						
TWS-24	Determine if a CAV or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Discontinue 2. 3. State function
TWS-25	Designate an NFIP Floodplain Administrator (FPA), and other local officials who would benefit, to become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	No Progress	1. 2. 3.	1. Include in 2022 HMP 2. Update to 2022-Town of West Sparta-002. 3.
TWS-26	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed with the HMP update
TWS-27	Work with County and power companies to identify roads within the Town considered "critical," which thus would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-28	Enhance or expand tree maintenance program and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TWS-29	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	No Progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of West Sparta did not identify any mitigation projects that were completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of West Sparta was invited to participate in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.26-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake				X			X			
Flood	X	X		X	X	X	X			
Hazardous Materials				X			X			
Invasive Species				X			X			
Landslide				X			X			
Mine Subsidence				X			X			
Pandemic				X			X			
Severe Storm		X		X		X	X			
Severe Winter Storm		X		X		X	X			
Terrorism				X			X			
Utility Failure		X		X		X	X			
Wildfire				X			X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.26-16 summarizes the comprehensive range of specific mitigation initiatives the Town of West Sparta would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.26-16. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of West Sparta-001	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of West Sparta-002	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State. **Solution:** The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR
2022-Town of West Sparta -003	Public Outreach	**Problem**: Residents may be unaware of how they can protect their property. **Solution**: Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what the program can do in the way of mitigation and preparedness,	No	No	All Hazards	3	Within 1 year	Supervisor, FPA	Town Budget	Less reliance on Town resources and staff during and after an emergency	Staff Time	High	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		including flood insurance.												
2022-Town of West Sparta-004	Flood Protection in "The Flats"	**Problem:** Rt 258 (Flats Road) is often underwater during floods. This is the route taken by The Groveland Fire Department when called to assist in West Sparta. **Solution:** Conduct a feasibility study to determine the best option for reducing flood vulnerability, and implement the solution.	No	Yes	Flood, Severe Storm, Severe Winter Storm	1, 2	Within 3 years	Engineer	Town Budget; HMGP; BRIC	Reduced flood losses; emergency responders can reach incidents	$150K	High	SIP	PP
2022-Town of West Sparta-005	Highway Department Generator	**Problem**: The Highway Department facility is critical for municipal operation, and the building needs power at all times to operate and serve the community at full capacity. **Solution**: Install a new 3 phase generator to run the main highway building.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Winter 2023	Town Board	Town budget; HMGP	Department operations can continue	$10K	High	SIP	PP
2022-Town of West Sparta-006	Highway Department Fuel Depot Generator	**Problem**: The Highway Department Fuel Depot is critical for municipal operation, and the facility needs power at all times to operate and serve the community at full capacity.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1, 2	Winter 2023	Town Board	Town budget; HMGP	Department operations can continue	$10K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Install a new 3 phase generator to run the main highway fuel depot.												

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*

- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.26-17. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of West Sparta-001	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of West Sparta-002	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of West Sparta -003	Public Outreach	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	High
2022-Town of West Sparta-004	Flood Protection in "The Flats"	1	1	1	1	1	1	0	0	1	0	1	1	1	1	11	High
2022-Town of West Sparta-005	Highway Department Generator	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of West Sparta-006	Highway Department Fuel Depot Generator	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.26.9 Action Worksheets

The following action worksheets have been developed by the Town of West Sparta to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Highway Department Generator		
Project Number:	2022-Town of West Sparta-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The Highway Department facility is critical for municipal operation, and the building needs power at all times to operate and serve the community at full capacity.		
Action or Project Intended for Implementation			
Description of the Solution:	Install a new 3 phase generator to run the main highway building.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Department operations can continue
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$10K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Winter 2023
Estimated Time Required for Project Implementation:	Days after initiation	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Highway Department Generator	
Project Number:	2022-Town of West Sparta-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Highway Department Fuel Depot Generator		
Project Number:	2022-Town of West Sparta-006		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Utility Failure		
Description of the Problem:	The Highway Department Fuel Depot is critical for municipal operation, and the facility needs power at all times to operate and serve the community at full capacity.		
Action or Project Intended for Implementation			
Description of the Solution:	Install a new 3 phase generator to run the main highway fuel depot.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	TBD	**Estimated Benefits (losses avoided):**	Department operations can continue
Useful Life:	30 years	**Goals Met:**	1,2
Estimated Cost:	$10K	**Mitigation Action Type:**	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Winter 2023
Estimated Time Required for Project Implementation:	Days after initiation	**Potential Funding Sources:**	Town budget; HMGP
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital Budget
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	High	Unstable energy source
	Generator	High	Best option
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	2022-Town of West Sparta-006	
Project Number:	Highway Department Fuel Depot Generator	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

9.27 TOWN OF YORK

This section presents the jurisdictional annex for the Town of York. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of York's risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.27.1 Hazard Mitigation Planning Team

The following individuals, shown in Table 9.27-1 have been identified as the Town of York's hazard mitigation plan primary and alternate points of contact. The Town of York followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Town departments, including: the Supervisor, the Town Clerk, Code Enforcement Officer, and Highway Superintendent. The Code Enforcement Officer represented the community on the Livingston County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.27-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Carl Peter, Code Enforcement Officer Address: 2668 Main St., P.O. Box 187, York, NY 14592 Phone Number: 585-245-2687 Email: carlpeter@frontiernet.net	Name/Title: Christine Harris, Town Clerk Address: 2668 Main St., P.O. Box 187, York, NY 14592 Phone Number: 585-243-3128 ext. 2 Email: yorkclrk@rochester.rr.com
NFIP Floodplain Administrator	
Name/Title: Carl Peter, Code Enforcement Officer Address: 2668 Main St., P.O. Box 187, York, NY 14592 Phone Number: 585-245-2687 Email: carlpeter@frontiernet.net	
Additional Contributors	
Name/Title: Gerald Deming, Supervisor Method of Participation: Provided information	
Name/Title: Dustin Geiger, Fire and Emergency Medical Services Manager Method of Participation: Attended meetings, provided information	
Name/Title: George Warden, Jr., Highway Superintendent Method of Participation: Provided information	

9.27.2 Municipal Profile

According to the U.S. Census Bureau, the Town encompasses a land area of 49.1 square miles. The Town of York shares a border with the Towns of Avon, Caledonia, Covington, Geneseo, Groveland, Leicester and the Counties of Genesee, and Wyoming.

According to the U.S. Census, the 2020 population for the Town of York was 3,182, a 1.15 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.2 percent of the population is 5 years of age or younger and 16.3 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.27.3 Jurisdictional Capability Assessment and Integration

The Town of York performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.27.3). The Town of York's identified opportunities for integration of mitigation concepts to be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of York. Section 5 (Capability Assessment) provides an overview of the planning, legal and regulatory capabilities. The following table summarizes what is present in the jurisdiction and discusses if the mechanisms have been or could be leveraged to reduce risk.

Table 9.27-2. Planning, Legal, and Regulatory Capability

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations					
Building Code	Yes	Yes	2020 NYS Code	State and Local	Zoning/Code Enforcement Officer
How does this reduce risk?					
Zoning/Land Use Code	Yes	No	L.L. #2 of 2018	Local	Zoning/Code Enforcement Officer

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? Identifies types of structures that can be built in the town, including in hazard areas.					
Subdivision Ordinance	Yes	No	L.L. #2 of 2018	Local	Zoning/Code Enforcement Officer
How does this reduce risk?					
Site Plan Ordinance	Yes	No	Town Zoning Ordinance	Local and County	Zoning/Code Enforcement Officer
How does this reduce risk? By thoughtfully managing development within Town.					
Stormwater Management Ordinance	No	Yes		Local	
How does this reduce risk?					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No		No	
How does this reduce risk?					
Real Estate Disclosure	Yes	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent
How does this reduce risk? In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of $500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.					
Growth Management	No	No		Local	
How does this reduce risk?					
Environmental Protection Ordinance	No	Yes			
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	L.L #2 OF 1981 and 1987	Federal, State, County and Local	Zoning/Code Enforcement Officer
How does this reduce risk? Attempts to lower the risk of flooding from development.					
Wellhead Protection	No	No			
How does this reduce risk?					
Emergency Management Ordinance	No	Yes			
How does this reduce risk?					
Climate Change Ordinance	No	No			
How does this reduce risk?					
Other	No	-			
Planning Documents					
Master Plan	No	No			
How does this reduce risk?					
Capital Improvement Plan	No	No			
How does this reduce risk?					

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Disaster Debris Management Plan	No	No			
How does this reduce risk?					
Floodplain Management or Watershed Plan	No	No			
How does this reduce risk?					
Stormwater Management Plan	No	No			
How does this reduce risk?					
Open Space Plan	No	Yes			
How does this reduce risk?					
Urban Water Management Plan	No	No			
How does this reduce risk?					
Habitat Conservation Plan	No	No			
How does this reduce risk?					
Economic Development Plan	No	No			
How does this reduce risk?					
Shoreline Management Plan	No	Yes, in jurisdictions with CEHA areas	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas	Yes, in jurisdictions with CEHA areas	
How does this reduce risk?					
Community Wildfire Protection Plan	No	No			
How does this reduce risk?					
Community Forest Management Plan	No	No			
How does this reduce risk?					
Transportation Plan	No	No			
How does this reduce risk?					
Agriculture Plan	No	No		County	
How does this reduce risk?					
Climate Action/ Resiliency/Sustainability Plan	No	No			
How does this reduce risk?					
Tourism Plan	No	No		County	
How does this reduce risk?					
Business/ Downtown Development Plan	No	No		County	
How does this reduce risk?					
Other					
Response/Recovery Planning					
Emergency Operations Plan	No	Yes			
How does this reduce risk?					
Strategic Recovery Planning Report	No	No			

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk?					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	Yes			
How does this reduce risk?					
Post-Disaster Recovery Plan	No	No		Federal	
How does this reduce risk?					
Continuity of Operations Plan	No	No			
How does this reduce risk?					
Public Health Plan	No	No		County	
How does this reduce risk?					
Other		-			

Development and Permitting Capability

The table below summarizes the capabilities of the Town of York to oversee and track development.

Table 9.27-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? • If yes, what department is responsible? • If no, what is your process for development?	No	Code Enforcement Officer
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? • If yes, describe. • If no, quantitatively describe the level of buildout in the jurisdiction.	No	

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of York and their current responsibilities which contribute to hazard mitigation.

Table 9.27-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Review through Site Plan Review
Zoning Board of Adjustments	Yes	Review through Variance Criteria
Planning Department	No	
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	Yes	Liv. Co. Economic Dev.
Public Works/Highway Department	Yes	Town Highway, water/sewer dept

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Construction/Building/Code Enforcement Department	Yes	Code Enforcement Office
Emergency Management/Public Safety Department	Yes	York Highway Dept.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	
Mutual aid agreements	No	
Human Resources Manual	Yes	Town Handbook
Other		
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	CPL – Town Engineering Firm
Engineers or professionals trained in building or infrastructure construction practices	Yes	CPL – Town Engineering Firm
Planners or engineers with an understanding of natural hazards	Yes	CPL – Town Engineering Firm
Staff with expertise or training in benefit/cost analysis	Yes	CPL – Town Engineering Firm
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Livingston County Planning Dept.
Scientist familiar with natural hazards	No	
Surveyor(s)	No	
Emergency Manager	Yes	Livingston County Emergency Management Dept.
Grant writer(s)	Yes, County	County
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Fiscal Capability

The table below summarizes financial resources available to the Town of York.

Table 9.27-5. Fiscal Capabilities

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of York.

Table 9.27-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office	No	
Personnel skilled or trained in website development	Yes	Website Manager
Is hazard mitigation information available on your website?	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Other programs already in place that could be used to communicate hazard-related information	No	
Warning Systems / Services (mass notification system, outdoor warning signals)	No	
Natural disaster/safety programs in place for schools	No	
Other	No	

Community Classifications

The table below summarizes classifications for community programs available to the Town of York.

Table 9.27-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	5/9	Not available
NYSDEC Climate Smart Community	No		
StormReady Certification	No		

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Firewise Communities classification	No		
Other			

Note:
N/A Not applicable
NP Not participating
- Unavailable

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction's rating.

Table 9.27-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
Hazardous Materials	Moderate
Invasive Species	Moderate
Landslide	Moderate
Mine Subsidence	Moderate
Pandemic	Moderate
Severe Storm	Strong
Severe Winter Storm	Strong
Terrorism	Moderate
Utility Failure	Moderate
Wildfire	Moderate

**Strong Capacity exists and is in use*
Moderate Capacity may exist; but is not used or could use some improvement
Weak Capacity does not exist or could use substantial improvement

9.27.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

Table 9.27-9. NFIP Summary

Town of York	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of York	7	0	$0.00	N/A	N/A	4

NFIP Topic	Comments
Flood Vulnerability Summary	

Town of York	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of York	7	0	$0.00	N/A	N/A	4

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding?	Flats Rd, parts of Chandler, Casey Rds
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No, N/A
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Review and potential Insurance Discussion
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigation properties, how were the projects funded?	0
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Zoning and Code Officer
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	None
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Involvement of Town Engineer
What are the barriers to running an effective NFIP program in the community, if any?	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Local Law #2 of 1981 & 1987
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	The Town of York does not have additional regulations above NYS regulations.

Town of York	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of York	7	0	$0.00	N/A	N/A	4

NFIP Topic	Comments
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No, We have not had instances of buildings in a flood zone.
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No, Not at this time.

Source: NYS DHSES 2021

Notes:

RL Repetitive Loss; SRL Severe Repetitive Loss

9.27.5 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town uses the major roads, including County Road 36 and County Road 63, in and out of the municipality for evacuations if needed.

Sheltering

The Town identified the following facilities as potential emergency shelters.

Table 9.27-10. Potential Emergency Shelters

Site Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
York Central School	2576 Genesee St., York NY	Unknown	No	Yes	Yes	School nurse	Cafeteria
York Town Hall	2668 Main St., York NY	100	No	Yes	No	None	None

Temporary Housing

The Town of York has not identified sites for the placement of temporary housing for residents displaced by a disaster or potential sites suitable for relocating structures out of the floodplain and/or building new homes once properties in the floodplain are acquired. In the event temporary housing is needed, the Town will work with the County to find suitable locations.

Permanent Housing

While the Town of York did not identify potential locations for permanent housing, as part of the planning process, a countywide buildable land analysis was conducted and presented in Section 4 (County Profile). The Town can utilize this analysis to identify potential locations.

9.27.6 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.27-11 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. New and proposed development in the Town are not expected to impact vulnerability.

Table 9.27-11. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)														
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	2	0	2	0	1	0	5	0	1	0	4	0	1	0
Multi-Family	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	7	0	1	0	1	1	1	0	3	0	2	0
Total Permits Issued	2	0	10	0	2	0	6	1	2	0	7	0	3	0

Property or Development Name	**Type of Development**	**# of Units / Structures**	**Location (address and/or block and lot)**	**Known Hazard Zone(s)***	**Description / Status of Development**
Recent Major Development and Infrastructure from 2015 to Present					
Craig Station Creamery	Industrial	2	1840 Craig. Rd., York NY	None	Cheese Manufacturing / Closed
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
None					

SFHA Special Flood Hazard Area (1% flood event)

** Only location-specific hazard zones or vulnerabilities identified.*

9.27.7 Jurisdictional Risk Assessment

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Section 5.2 (Methodology and Tools) and Section 5.4 (Hazard Ranking) for a detailed summary for the Town of York's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps were generated to illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Town of York has significant exposure. The maps also show the location of potential new development, where available. These maps are illustrated below.

Figure 9.27-1. Town of York Flood and Mine Subsidence Hazard Areas

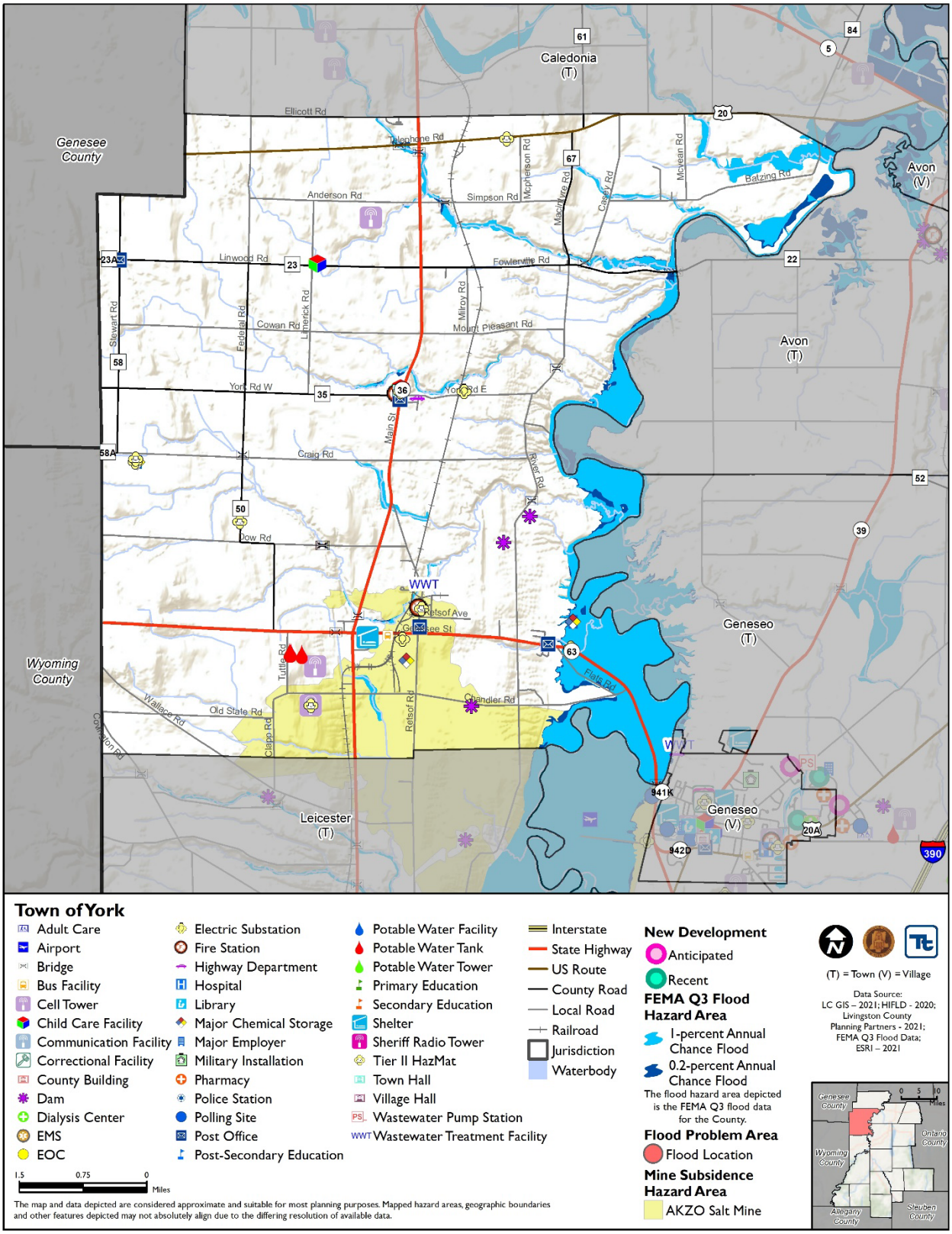


Figure 9.27-2. Town of York Hazmat and Wildfire Hazard Areas

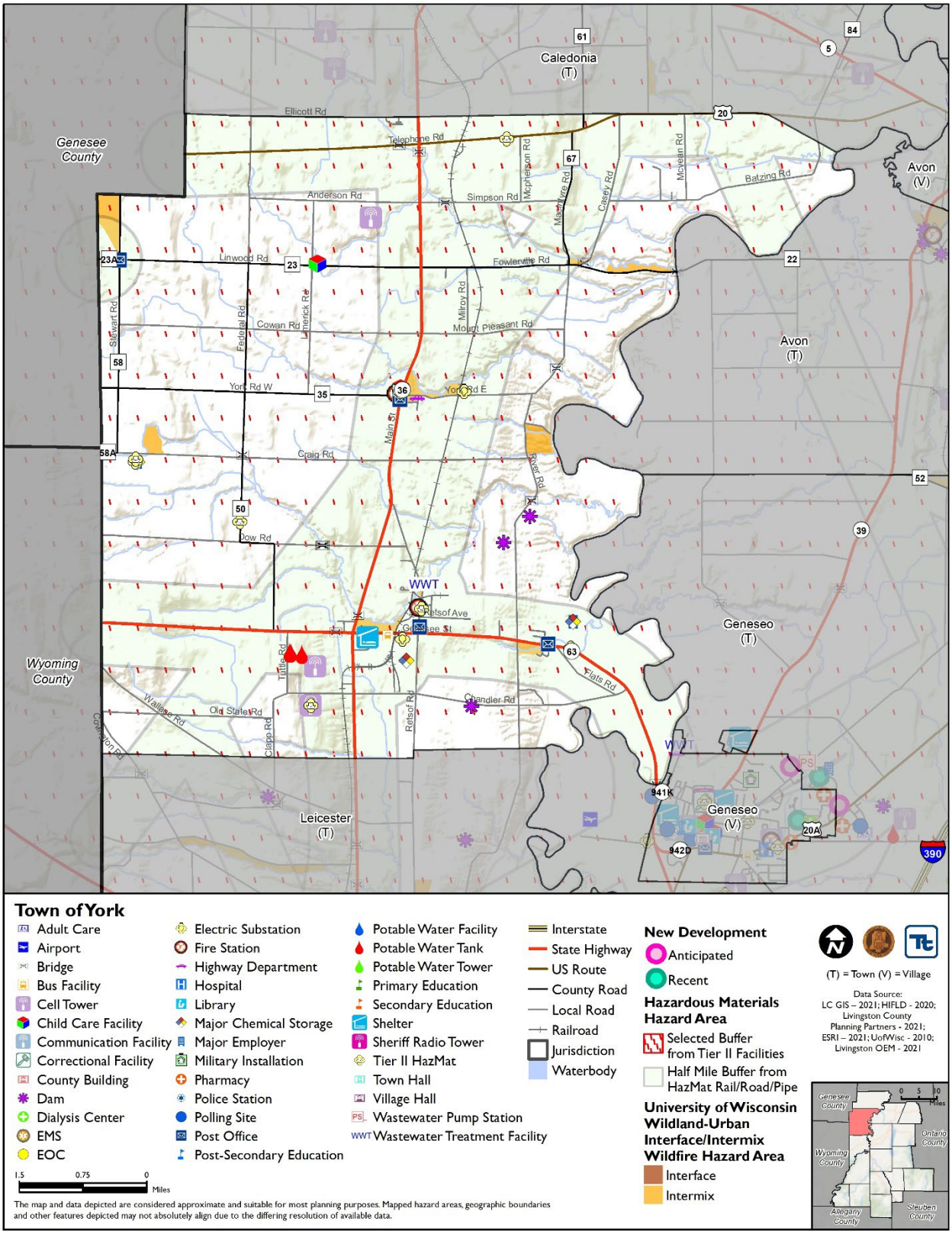
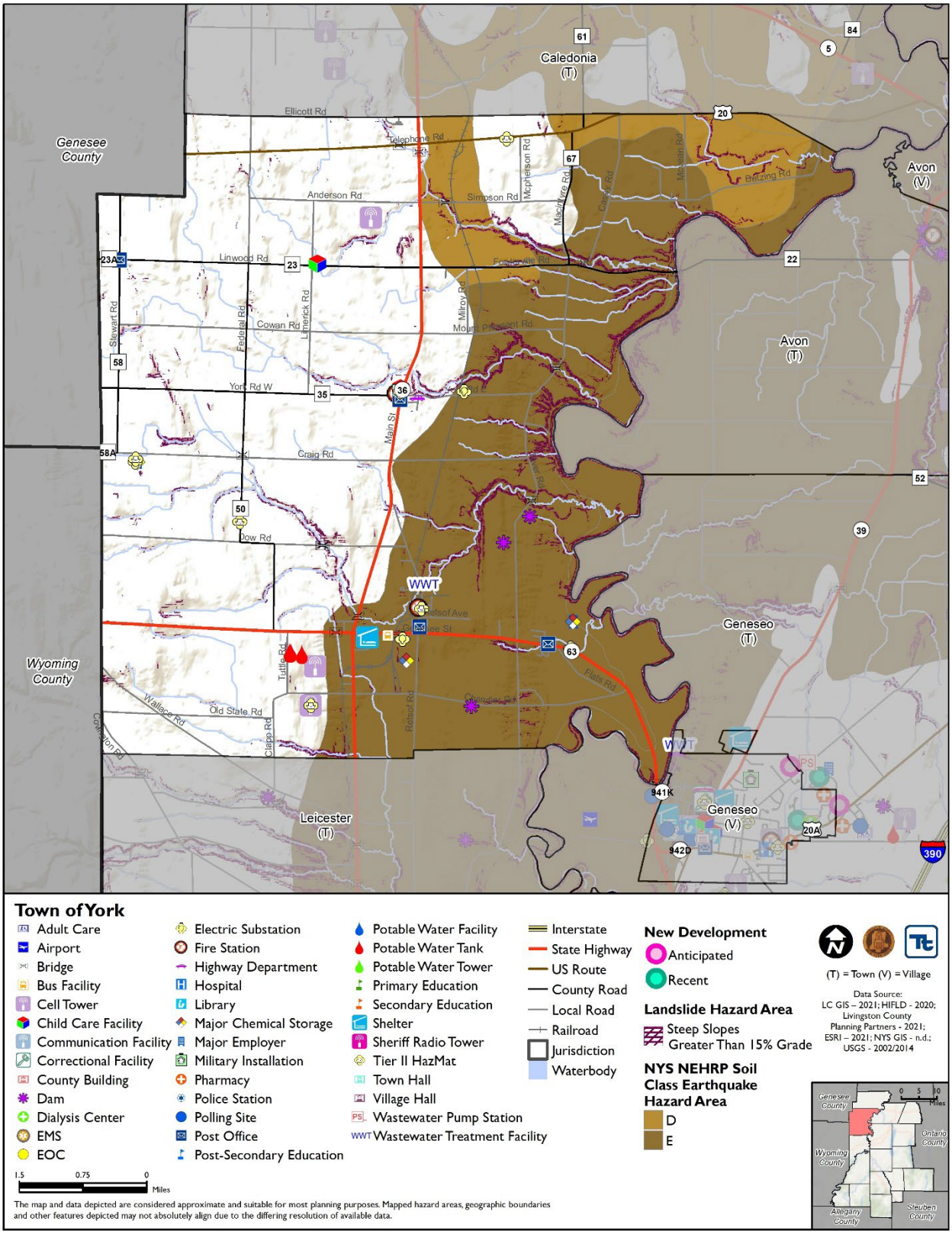


Figure 9.27-3. Town of York Earthquake and Landslide Hazard Areas



Hazard Event History

Livingston County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Town of York's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Livingston County. Table 9.27-12 provides details regarding municipal-specific loss and damages the Town experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.27-12. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Emergency Declaration?	Municipal Summary of Damages and Losses
2020 & 2021	COVID 19 Pandemic	DR 3434 and 4480	Negative social, health, and economic impacts such as population loss, resident infections, resident deaths, mandatory business closures, school closings, decreases in the local labor market, and household supply shortages
11/15/2020	High Wind	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
8/27/2020	Flash Flood	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
1/12/2020	Flood	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
11/1/2019	Flood	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
10/15/2019	Flood	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
10/27/2019	Flood	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
9/21/2018	Lightning	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
4/4/2018	Blizzard	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
7/20/2017	Tornado	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
3/8/2017	High Wind	-	Though the event impacted Livingston County, the Town of York did not have reported damages.
9/9/2015	Thunderstorm Wind	-	Though the event impacted Livingston County, the Town of York did not have reported damages.

Notes:

EM *Emergency Declaration (FEMA)*
FEMA *Federal Emergency Management Agency*
DR *Major Disaster Declaration (FEMA)*
N/A *Not applicable*

Hazard Ranking and Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the Town of York's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Livingston County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of York. The Town of York has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town did not make any changes to the calculated rankings.

Table 9.27-13. Hazard Ranking Input

Drought	Earthquake	Flood	Hazardous Materials	Invasive Species	Landslide	Mine Subsidence
Low	High	Low	High	Medium	Low	Medium

Pandemic	Severe Storm	Severe Winter Storm	Wildfire	Terrorism	Utility Failure
Medium	High	Medium	Low	Low	High

Note: The scale is based on the hazard rankings established in Section 5.3 and modified as appropriate during review by the jurisdiction

Critical Facilities

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.27-14. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Complies with NYS Standards	Addressed by Proposed Action
		1% Event	0.2% Event		
Arkema	Chemical Storage	X	X	X	2022-Town of York-002

Source: Livingston County Planning Partners 2021; HIFLD 2020

Identified Issues

After review of the Town of York's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Town of York has identified the following vulnerabilities within their community:

- Raw sewage enters homes in the Hamlet of Retsof
- The Arkema facility is in the special flood hazard area and vulnerable to flooding
- Hazards can make town facilities and staff unavailable to provide services.
- Operations at Town Hall could not continue without power.

- Water service is dependent on power, and the water treatment plant does not have backup power.
- Residents may be unaware of how they can protect their property.
- The town lacks an updated flood damage prevention ordinance.
- The floodplain administrator for the town is in need of training on current NFIP requirements in the State.
- Retsof Avenue continually floods.

9.27.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.27-15. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
TY-1	Increase all driveway culvert pipes to 18-inch diameters to more effectively handle water flow from storms.	Flood	None provided in the 2015 HMP	Town Highway Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-2	Develop and test Town Continuity of Operations (COOP)/Continuity of Government (COG) Plans.	All	None provided in the 2015 HMP	County Planning Department	No progress	1. 2. 3.	1. Include in the 2022 HMP 2. Keep wording – Action 2022-Town of York-003 3.
TY-3	Replace and upgrade stormwater and sanitary-related infrastructure and roads, with particular focus on the Hamlet of Retsof.	Flood, Severe Storm	None provided in the 2015 HMP	Town Planning	In progress	1. 2. 3.	1. Include in the 2022 HMP 2. Keep wording – Action 2022-Town of York-001 3.
TY-4	Replace and upsize culverts on Dow Road to handle current flood risks and impacts.	Flood	None provided in the 2015 HMP	Town Highway Department	Complete	Information not available	1. Discontinue 2. 3. Complete
TY-5	Replace and upsize culverts on Craig Road to handle current flood risks and impacts.	Flood	None provided in the 2015 HMP	Town Highway Department	Complete	Information not available	1. Discontinue 2. 3. Complete
TY-6	Improve drainage capabilities of Wallace Road. Specifically, study runoff problems from impermeable surfaces that cause flooding, and implement mitigation solutions.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-7	Pave and increase road base on priority Town roads, which are in poor condition due to farming loads and hazard impacts. These priority roads include Craig Road, Dow Road, River Road, Cowen Road, Mt. Pleasant Road, Anderson Road, Federal Road, and Limerick Road.	All	None provided in the 2015 HMP	County and Town Highway Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Work is done on an ongoing basis
TY-8	Improve stormwater and drainage capabilities of Town roads in order of priority and need. Specifically, study runoff problems from impermeable surfaces that cause flooding and implement mitigation solutions.	Flood	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing effort; too general
TY-9	Develop a coordinated watershed inspection program for the entire County. Currently, only Conesus Lake has one. A county-wide program would study all	All	None provided in the 2015 HMP	County Health Department	No progress	1. 2. 3.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	watersheds and municipal water supplies and create a fair, uniform, and systematic set of standards.						3. County effort
TY-10	Encourage/lobby NY State Departments and Agencies to discount/reduce fees for license registrations for Emergency Response personnel, such as volunteer firefighters, ambulance workers, etc.	All	None provided in the 2015 HMP	County EMS	No progress	1. 2. 3.	1. Discontinue 2. 3. County effort
TY-11	Provide backup power generators for town hall (identified as an initiative for the Town in the 2007 plan).	All	None provided in the 2015 HMP	Town Highway	No progress	1. 2. 3.	1. Include in the 2022 HMP 2. Keep wording – Action 2022-Town of York-004 3.
TY-12	Provide backup power generators for water treatment plant (identified as an initiative for the Town in the 2007 plan).	All	None provided in the 2015 HMP	Town Highway Department	In progress	1. 2. 3.	1. Include in the 2022 HMP 2. Keep wording – Action 2022-Town of York-005 3.
TY-13	Municipalities should disclose risks of flood zones to property owners.	All	None provided in the 2015 HMP	Municipalities	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-14	Upgrade security for critical facilities and community assets (identified as an initiative for the Town in the 2007 plan).	All	None provided in the 2015 HMP	SWCD	No progress	1. 2. 3.	1. Discontinue 2. 3. Not an identified need
TY-15	Develop materials and conduct education and outreach to work with farmers to implement best management practices (BMP) to address stormwater runoff from fields.	Flood, Severe Storm	None provided in the 2015 HMP	County Planning Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-16	Conduct a hydrilla management analysis to determine whether chemical treatments or introduction of grass carp would be a more effective control measure.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TY-17	Implement hydrilla control measures to prevent further spread of the invasive species and to eventually reduce its impact on the County's water systems.	Invasive Species	None provided in the 2015 HMP	County Planning Department	No progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TY-18	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect them from future damage; repetitive loss and severe repetitive loss	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	properties should be a priority, when applicable.						
TY-19	Assess and prioritize feasible non-structural flood hazard mitigation alternatives for at-risk properties within the floodplain (including those that have been identified as repetitive loss) such as acquisition/relocation, or elevation. The parameters for feasibility of this initiative include the following: funding, benefits versus costs, and willing participation of property owners. Implement as funding becomes available.	Flood, Severe Storm, Wildfire, Winter Storm	None provided in the 2015 HMP	Town Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-20	Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what the program can do in the way of mitigation and preparedness, including flood insurance.	All Hazards	None provided in the 2015 HMP	Supervisor's Office	No progress	1. 2. 3.	1. Include in 2022 HMP 2. Keep wording 3.
TY-21	Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in special-hazard flood areas), floodplain identification and mapping, and flood insurance outreach to the community. Further meet and/or exceed minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified in subsequent initiatives.	Flood	None provided in the 2015 HMP	NFIP FPA	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-22	Support and participate in county-led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1).	All Hazards	None provided in the 2015 HMP	County Departments	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-23	Begin the process to promote or adopt higher regulatory and zoning standards to manage flood hazard risk.	Flood	None provided in the 2015 HMP	NFIP FPA	No progress	1. 2. 3.	1. Include in 2022 HMP 2. See Action 2022-Town of York-007 3.
TY-24	Develop and implement a post-event damage assessment program.	All Hazards		Engineering Department	No progress	1.	1. Discontinue 2.

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** **3. Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			None provided in the 2015 HMP			2. 3.	3. County capability
TY-25	Support participation in the NFIP CRS program by attending CRS workshop(s) if offered within the County. Join the CRS program if adequate resources to support long-term participation can be dedicated. See following related CAV initiative.	Flood	None provided in the 2015 HMP	NFIP FPA	No progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TY-26	Determine if a CAV or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	Flood	None provided in the 2015 HMP	NFIP FPA	No progress	1. 2. 3.	1. Discontinue 2. 3. No longer a priority
TY-27	Designate a NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New York State Stormwater and Floodplain Managers Association (NYSSFMA), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Flood	None provided in the 2015 HMP	NFIP FPA	No progress	1. 2. 3.	1. Include in the 2022 HMP 2. Update wording. See Action 2022-Town of York-008 3.
TY-28	Develop and maintain mapping of all natural hazard risk areas in the Town, FEMA-delineated or otherwise, to support land use decision making (e.g., Planning Board, site plan review process,).	Flood, Wildfire	None provided in the 2015 HMP	Engineering Department	Complete	Information not available	1. Discontinue 2. 3. Completed as part of the HMP update
TY-29	Work with County and power companies to identify roads within the Town considered "critical," which thus would be the first priority for clearing after an event involving downed power lines.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability; work with County 911 Center
TY-30	Enhance or expand tree maintenance program, and coordinate with utility companies.	Severe Storm; Severe Winter Storm	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2. 3.	1. Discontinue 2. 3. Ongoing capability
TY-31	Work with utility companies and developers to bury utility lines underground, wherever possible.	Severe Storm;	None provided in the 2015 HMP	Engineering Department	Ongoing	1. 2.	1. Discontinue 2. 3. Ongoing capability

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	**Evaluation of Success** **1. Cost** **2. Level of Protection** 3. **Damages Avoided; Evidence of Success**	Next Steps 1. Project to be included in 2022 HMP or Discontinue 2. If including action in the 2022 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
		Severe Winter Storm				3.	

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of York did not identify any mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2015 HMP.

Proposed Hazard Mitigation Initiatives for the HMP Update

The Town of York participated in a mitigation action workshop in September 2021 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

The table below indicates the range of proposed mitigation action categories.

Table 9.27-16. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				X			X			
Earthquake	X			X	X		X			
Flood	X	X		X	X	X	X			
Hazardous Materials	X	X		X	X	X	X			
Invasive Species				X			X			
Landslide	X			X	X		X			
Mine Subsidence				X			X			
Pandemic	X			X	X		X			
Severe Storm	X	X		X	X	X	X			
Severe Winter Storm	X	X		X	X	X	X			
Terrorism	X			X	X		X			
Utility Failure	X	X		X	X	X	X			
Wildfire	X			X	X		X			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

Table 9.27-17 summarizes the comprehensive range of specific mitigation initiatives the Town of York would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.27-17. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of York -001	Separate Sanitary from Stormwater – Tenth Street	**Problem**: Sanitary sewage enters basements through floor drains. **Solution**: Separate sanitary from stormwater system.	No	Yes	Flood, Hazmat, Utility Failure	1, 2	May 2022	Town Board	State; USDA	Reduce health risk	$1.3 million	High	SIP	PP
2022-Town of York -002	Protect Arkema from Flooding	**Problem**: The Arkema facility is in the special flood hazard area and vulnerable to flooding **Solution**: The FPA will work with Arkema management to identify protective measures the company can take to protect its facilities.	Yes	Yes	Flood	3	Within 3 months	FPA	Staff Time	Reduced risk to major employer/ critical facility	Low	High	EAP	PI
2022-Town of York -003	Continuity Plan	**Problem**: Hazards can make town facilities and staff unavailable to provide services. **Solution**: Develop and test Town Continuity of Operations (COOP)/Continuity of Government (COG) Plans.	No	No	All Hazards	1	Within 1 year	Supervisor	Staff Time	Operations maintained during and after an emergency	Low	Med.	LPR	PR
2022-Town of York -004	Backup Generator – Town Hall	**Problem**: Operations at Town Hall could not continue without power **Solution**: Provide backup power generators for town hall.	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Supervisor, Engineer	BRIC, HMGP, Town Budget	Continuity of operations	$50K	High	SIP	PP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2022-Town of York -005	Backup Generator – Water Treatment Plant	**Problem**: Water service is dependent on power, and the water treatment plant does not have backup power **Solution**: Provide backup power generators for water treatment plant	Yes	No	Severe Storm, Severe Winter Storm, Utility Failure	1	Within 1 year	Supervisor, Engineer	BRIC, HMGP, Town Budget	Potable water available to Town residents	$50K	High	SIP	PP
2022-Town of York -006	Public Outreach	**Problem**: Residents may be unaware of how they can protect their property. **Solution**: Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what the program can do in the way of mitigation and preparedness, including flood insurance.	No	No	All Hazards	3	Within 1 year	Supervisor, FPA	Town Budget	Less reliance on Town resources and staff during and after an emergency	Staff Time	High	EAP	PI
2022-Town of York-007	Update Flood Damage Prevention Ordinance	**Problem**: The town lacks an updated flood damage prevention ordinance. **Solution**: The town will adopt an updated flood damage prevention ordinance to meet state and federal NFIP standards.	No	No	Flood	2	Within 6 months	NFIP Floodplain Administrator	Town Budget	Meeting state and federal standards	Staff time	High	LPR	PR
2022-Town of York-008	NFIP Administrator Training	**Problem:** The floodplain administrator for the town is in need of training on current NFIP requirements in the State.	No	No	Flood	3	Within 1 year	NFIP Floodplain Administrator	Town Budget	Increase education and training on floods in the town	Staff time	High	LPR	PR

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The floodplain administrator will review the list of upcoming trainings on the NYSDEC website and sign up to attend.												
2022-Town of York-009	Retsof Ave. Culvert/ Drainage Project	**Problem:** Continual flooding of the Retsof Ave. area **Solution:** Upgrade culvert and install drainage swale to divert water from roadways and homes.	No	Yes	Flood, Severe Storm	1, 2	Within 1 year	Supervisor, Engineer	Town Budget; HMGP	Reduced flood damages; emergency response vehicles can pass on roadway	$20K	High	SIP	PP

Notes:
Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OEM	*Office of Emergency Management*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:
The time required for completion of the project upon implementation

Cost:
The estimated cost for implementation.

Benefits:
A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:
Yes *Critical Facility located in 1% floodplain*

Mitigation Category:
- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*

- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities*

CRS Category:

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 9.27-18. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2022-Town of York -001	Separate Sanitary from Stormwater – Tenth Street	1	1	1	1	1	1	-1	1	0	0	1	1	1	1	10	High
2022-Town of York -002	Protect Arkema from Flooding	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2022-Town of York -003	Continuity Plan	0	0	1	1	1	1	1	0	0	0	1	1	0	1	8	Med.
2022-Town of York -004	Backup Generator – Town Hall	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of York -005	Backup Generator – Water Treatment Plant	0	1	1	1	1	1	0	0	0	1	1	1	1	1	10	High
2022-Town of York -006	Public Outreach	0	1	1	1	1	1	1	0	0	0	1	1	1	0	9	Med.
2022-Town of York-007	Update Flood Damage Prevention Ordinance	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of York-008	NFIP Administrator Training	1	1	1	1	1	0	1	0	0	1	0	1	0	1	9	High
2022-Town of York-009	Retsof Ave. Culvert/ Drainage Project	0	1	1	1	1	1	0	1	0	0	1	1	0	1	9	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

9.27.9 Action Worksheets

The following action worksheets have been developed by the Town of York to aid in the submittal of grant applications to support the funding of high priority proposed actions.

Action Worksheet			
Project Name:	Separate Sanitary from Stormwater – Tenth Street		
Project Number:	2022-Town of York -001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Hazmat, Utility Failure		
Description of the Problem:	Sanitary sewage enters basements through floor drains.		
Action or Project Intended for Implementation			
Description of the Solution:	Separate sanitary from stormwater system.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	1 percent annual chance flood	**Estimated Benefits (losses avoided):**	Reduce health risk
Useful Life:	50 years	**Goals Met:**	1, 2
Estimated Cost:	$1.3 million	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	May 2022
Estimated Time Required for Project Implementation:	8 months	**Potential Funding Sources:**	NYS; USDA
Responsible Organization:	Town Board	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Additional jetting of system	$1,000	Temporary solution
	Lining the inside of the pipe and installation of storm sewer to disconnect existing homeowners from storm runoff	Unknown	Infeasible
	Separate sanitary from stormwater system	$1.3 million	Selected alternative

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Separate Sanitary from Stormwater – Tenth Street	
Project Number:	2022-Town of York -001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Retsof Ave. Culvert/ Drainage Project		
Project Number:	2022-Town of York-009		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Continual flooding of the Retsof Ave. area		
Action or Project Intended for Implementation			
Description of the Solution:	Upgrade culvert and install drainage swale to divert water from roadways and homes.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	1 percent annual chance flood	**Estimated Benefits (losses avoided):**	Reduced flood damages; emergency response vehicles can pass on roadway
Useful Life:	30-40 years	**Goals Met:**	1, 2
Estimated Cost:	$20,000	**Mitigation Action Type:**	SIP
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	1 week	**Potential Funding Sources:**	Town Budget; HMGP
Responsible Organization:	Supervisor, Engineer	**Local Planning Mechanisms to be Used in Implementation if any:**	Capital improvement

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire all properties in area	$1 million+	Costly; not necessary; loss tax base
	Drainage work	$20,000	Selected project

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Evaluation and Prioritization		
Project Name:	Retsof Ave. Culvert/ Drainage Project	
Project Number:	2022-Town of York-009	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	0	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	