

SECTION 9. JURISDICTIONAL ANNEX

9.17 TOWN OF RAMAPO

This jurisdictional annex to the Rockland County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Town of Ramapo with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of the Town of Ramapo, describes who participated in the planning process, assesses the Town’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

9.17.1 Hazard Mitigation Planning Team

The Town of Ramapo identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many Town departments. The Program Coordinator of the Office of Emergency Preparedness and Safety represented the community on the Rockland County HMP Planning Partnership and 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.

Table 9.17-1 summarizes Town officials who participated in the development of the annex and in what capacity. Additional documentation of the Town’s planning activities through Planning Partnership meetings is included in Volume I.

Table 9.17-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Joshua Hans / Program Coordinator, Office of Emergency Preparedness and Safety Address: 237 Route 59, Suffern, NY 10901 Phone Number: (347) 455-1750 Email: hansj@ramapo.org	Name/Title: Mona Montal / Chief of Staff Address: 237 Route 59, Suffern, NY 10901 Phone Number: (845) 558-7553 Email: montalm@ramapo.org
National Flood Insurance Program Floodplain Administrator	
Name/Title: Ian Smith / Chief Building Inspector Address: 237 Route 59, Suffern, NY 10901 Phone Number: (845) 357-5100 x326 Email: smithl@ramapo.org	
Additional Contributors	
Name/Title: Joshua Hans / Program Coordinator, Office of Emergency Preparedness and Safety Method of Participation: Completed required worksheets; submitted data for building permits; completed mitigation strategies, hazard history, and NFIP surveys; reviewed draft annex	
Name/Title: Mona Montal / Chief of Staff Method of Participation: Completed building permit data collection; reviewed draft annex	
Name/Title: Ian Smith / Chief Building Inspector Method of Participation: Assisted with completion of NFIP survey; reviewed draft annex	
Name/Title: Michael Klatsky Method of Participation: Attending Risk Assessment and Mitigation Actions Workshops	

9.17.2 Municipal Profile

The Town of Ramapo, established in 1791, is located in Rockland County, 28 miles northwest of New York City (Town of Ramapo 2023). The Town has a total area of 61.9 square miles, of which 61.2 square miles is land and 0.7 square miles is water.

The Towns and hamlets within the Town include: the hamlets of Antrim, Hillcrest, Monsey, Ramapo, Sandyfield, Sterlington, Suffern Park, Tallman, and Viola; and the Towns of Airmont, Chestnut Ridge, Hillburn, Kaser, New Hempstead, New Square, Montebello, Sloatsburg, Suffern, and Wesley Hills. The Town contains several water bodies, including segments of the Ramapo River, Cranberry Pond, and Potake Pond.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. 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. Data from the 2017-2021 American Community Survey indicates that 14.7 percent of the population is five years of age or younger, 9.6 percent is 65 years of age or older, 2.6 percent is non-English speaking, 33.2 percent is below the poverty threshold, and five percent is considered disabled.

9.17.3 Jurisdictional Capability Assessment and Integration

The Town of Ramapo performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for the Town of Ramapo to identify opportunities for integration of mitigation concepts that can be incorporated into municipal procedures.

Planning, Legal, and Regulatory Capability and Integration

Table 9.17-2 summarizes the regulatory tools that are available to the Town of Ramapo.

Table 9.17-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	Chapter 376 Zoning, Article XIV Administration and Code Enforcement	State, Local	Building Inspector
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> This chapter provides for the Building Inspector and Assistant Building Inspectors, Code Enforcement Officers, or Fire Inspectors, as the Town Board may appoint and deem necessary to enforce the New York State Uniform Fire Prevention and Building Code in the Town of Ramapo, pursuant to § 138 of the Town Law of the State of New York.				
Zoning Code	Yes	Chapter 376 Zoning	Local	Planning Board of the Town of Ramapo
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Zoning Law implements the policies for land use in the Town of Ramapo Comprehensive Plan and is adopted for the protection and promotion of the public health, safety, morals and general welfare of the community to guide future growth and development; to provide adequate light, air, and privacy; and to promote safety from fire, flood, and other dangers; among other objectives.				
Subdivision Code	Yes	Chapter 376 Zoning, Article II Zoning Districts and Zoning Map	Local	Town Board
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Town has a Planned Unit Development District Ordinance (PUD) that they may place on any tract of land which may consist of one or more tax parcels, in common ownership, within the Northeast Corridor of the Town that are a combined and contiguous minimum of 20 acres within the Town of Ramapo (lands may be separated by a public or private road/highway), are accessible by a public street and have been recommended for PUD development by the Town’s Comprehensive Plan. Applicants must submit a preliminary PUD plan clearly showing a preliminary stormwater management plan and a survey of the property, including mapped floodplains.				
Site Plan Code	Yes	Chapter 376 Zoning, Article IX Site Development Plan Review	Local	Planning Board of the Town of Ramapo
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> In considering and acting upon site development plans, the Planning Board of the Town of Ramapo shall take into consideration the public health, safety and welfare, the comfort and convenience of the public in general and of the prospective occupants of the proposed development and of the immediate neighborhood in particular and may prescribe such appropriate conditions and safeguards as deemed necessary. To the greatest possible extent, development will be in harmony with the natural environment and adequate compensatory devices will be prescribed to offset potential significant deterioration resulting from the project.				
Stormwater Management Code	Yes	Chapter 237 Stormwater Management and Sediment Control and Erosion	Local	Stormwater Management Officer
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the Town of Ramapo.				
Post-Disaster Recovery/ Reconstruction Code	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Real Estate Disclosure	Yes	New York State (NYS) mandate, Property Condition Disclosure Act, NY Code – Article 14 §460-467	State, Local	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The NYS mandate requires sellers to disclose to potential buyers whether their property is located in a designated floodplain.				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Growth Management	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Environmental Protection Ordinance(s)	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Flood Damage Prevention Ordinance	Yes	Chapter 149 Flood Damage Prevention	Federal, State, Local	Building Inspector
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Town Board of the Town of Ramapo finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents and that such damages may include destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. The Town Board adopted this ordinance to minimize the threat of such damages and to promote the public health, safety, and property, and appointed the Building Instructor to administer and implement the ordinance. The ordinance requires two feet of freeboard when base flood elevation data are available and three feet when it is not.				
Wellhead Protection	Yes	Chapter 96 Aquifer and Well Field Protection Zone	Local	Department of Public Works, Building Inspector
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> In adopting the Aquifer and Well Field Protection Zone Ordinance, the Town Board is desirous of preventing the introduction to the watershed of materials that pose a threat to the watershed and hence public health and safety. These include chemicals, petroleum products and by-products, salts, and hazardous substances. Since many of the uses generating such products are prohibited by Chapter 376, Zoning, of the Code of the Town of Ramapo, this chapter requires the identification of any potential point of introduction primarily through the site plan review process.				
Emergency Management Ordinance	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Climate Change Ordinance	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Other: Freeboard	Yes	-	Local, State	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> New York State requires new one- and two-family residences to be built with two feet of freeboard and all other construction types with one foot of freeboard. The Town’s Flood Damage Prevention Ordinance exceeds this requirement by requiring two feet of freeboard when flood elevation data are available and three feet when it is not.				
Planning Documents				
General/Comprehensive Plan	Yes	Town of Ramapo Comprehensive Plan (2004)	Local	Town Board, Planning Board
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Town of Ramapo Comprehensive Plan is intended to provide a blueprint for the community’s future in relation to goals and objectives applicable to various matters ranging from quality of life to natural resources to community services. The Plan included initiatives to encourage additional drainage facilities with new development and to eliminate an industrial zone near floodplains.				
Capital Improvement Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Disaster Debris Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Floodplain Management or Watershed Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Stormwater Management Plan	Yes	2022-2023 Final Stormwater Report	Local	Department of Public Works
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Stormwater Report records the efforts of the Department of Public Works to fulfill its Stormwater Management Program Plan goals throughout the calendar year. It includes observation such as how many violations occur annual, how many acres are disturbed due to construction, and identification of drainage facilities issues.				
Open Space Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Urban Water Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Habitat Conservation Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Economic Development Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Community Wildfire Protection Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Community Forest Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Transportation Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Agriculture Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Tourism Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Business/ Downtown Development Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Other (for example NYRCR, etc.)	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Response/Recovery Planning				
Comprehensive Emergency Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Continuity of Operations Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Substantial Damage Response Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Threat & Hazard Identification & Risk Assessment	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Post-Disaster Recovery Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Public Health Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A				

Development and Permitting Capability

Table 9.17-3 summarizes the capabilities of the Town of Ramapo 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? <ul style="list-style-type: none"> If you issue development permits, what department is responsible? If you do not issue development permits, what is your process for tracking new development? 	Yes	Building, Planning and Zoning
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Floodplain development permits

Indicate if your jurisdiction implements the following	Yes/No	Comment:
Do you have a buildable land inventory? <ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	No	-
Describe the level of build-out in your jurisdiction.	N/A	The Town is mostly developed. However, the Town may define a Planned Unit Development District as desired. The Town includes State Parks, which limits future development.

Administrative and Technical Capability

Table 9.17-4 summarizes potential staff and personnel resources available to the Town of Ramapo and their current responsibilities that contribute to hazard mitigation.

Table 9.17-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
<i>Administrative Capability</i>		
Planning Board	Yes	The Town of Ramapo Planning Board consists of seven members and meets once a month. The Planning Board reviews and grants approvals for site plans and subdivisions. They also make recommendations to the Zoning Board of Appeals and Town Board on various zoning and planning matters.
Zoning Board of Appeals	Yes	The Town of Ramapo Zoning Board of Appeals consists of six members and meets once a month. The Zoning Board considers appeals for variances from the zoning ordinance, appeals of the Building Inspector, special permit applications and requests for zoning interpretations.
Planning Department	Yes	The Department of Public Works is responsible for the delivery of various Town services to the Public. The Director of Public Works is responsible for the proper administration and operation of the four divisions that make up the Department of Public Works.
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	Members Regional Watershed Council
Open Space Board/Committee	No	Open Space Initiative is run by the Supervisor
Economic Development Commission/Committee	No	Rockland Economic Development Council Rockland Business Association
Public Works Department	Yes	The Department of Public Works is responsible for the delivery of various Town services to the Public. The Director of Public Works is responsible for the proper administration and operation of the four divisions that make up the Department of Public Works.
Construction/Building/Code Enforcement Department	Yes	The Department of Public Works is responsible for the delivery of various Town services to the Public. The Director of Public Works is responsible for the proper administration and operation of the four divisions that make up the Department of Public Works. The Building Inspector is responsible for enforcing the code.
Emergency Management/Public Safety Department	Yes	The Office of Emergency Preparedness & Safety (OEP) will help manage, plan, and coordinate emergency response and emergency planning and preparedness for the Town of Ramapo.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Protocol for storm sewer inspection and clean-out twice per year

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Mutual aid agreements	Yes	MUA with the Rockland County Towns of Suffern and Spring valley are full-force and have DPW and Police. Town has 100-man Police and large Highway Department The Town provides 8 Towns with the following services: Police, Highway, Building services and as needed for the Towns of Suffern and Spring Valley
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other: Community Design Review Committee (CDRC)	Yes	This committee, consisting of the Director of Building, Planning and Zoning, the Town Engineer, and Town Planning Consultant, meets once a month to review applications being submitted to the Planning Board. This committee recommends changes prior to the applicant appearing before the Planning Board.
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Contract out Planning services – Fredrick P. Clark
Engineers or professionals trained in building or infrastructure construction practices	Yes	Department of Building Planning and Zoning
Planners or engineers with an understanding of natural hazards	Yes	Department of Public Works, Engineering Division
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Highway and Building Departments
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	Town relies on Rockland County GIS
Environmental scientist familiar with natural hazards	Yes	Several staff knowledgeable about the hazard areas
Surveyor(s)	Yes	Contracted
Emergency Manager	Yes	Police Chief
Grant writer(s)	Yes	Stormwater Consortium – applies for grants Noted on the Finance Department website
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

Fiscal Capability

Table 9.17-5 summarizes financial resources available to the Town of Ramapo.

Table 9.17-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	Yes – Fire and EMS
User fees for water, sewer, gas or electric service	User fees for street lights; Water is private company but Town taxes the water; Sewer fee on the tax bill; Gas/Electric is ConEdison – Town and County have a tax
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	No
Withhold public expenditures in hazard-prone areas	Open space bonding
Other federal or state Funding Programs	Consolidated Local Street and Highway Improvement Program (CHIPS) NYSDOT for highway; Federal Highway
Open Space Acquisition funding programs	Yes, Open Space Initiative (30 percent open space) – through bonds
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

Education and Outreach Capability

Table 9.17-6 summarizes the education and outreach resources available to the Town of Ramapo.

Table 9.17-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment:
Public information officer or communications office	No	-
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	Yes	The Town maintains a website has links to the municipal newsletter, local laws and planning documents, the annual budget, county websites, and emergency services.
Social media for hazard mitigation education and outreach	Yes	The Town has Facebook, Twitter (X), and Instagram available to share hazard mitigation education and outreach materials.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Town has contracted with OnSolve, LLC. To use the CodeRED® Emergency Notification System
Natural disaster/safety programs in place for schools	Yes	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	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?	No	-
If yes, please describe.	-	-

Community Classifications

Table 9.17-7 summarizes classifications for community programs available to the Town of Ramapo.

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	-	-
New York State Department of Environmental Conservation (NYSDEC) Climate Smart Community	No	-	-
National Weather Service Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

— = 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 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 9.17-8 summarizes the adaptive capacity for each identified hazard of concern and the Town’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement.

Table 9.17-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Temperature	Moderate
Flood	Moderate
Landslide	Moderate
Severe Weather	Moderate
Severe Winter Weather	Moderate
Wildfire	Moderate

9.17.4 National Flood Insurance Program Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 9.17-1 is responsible for maintaining this information.

NFIP Summary

Table 9.17-9 summarizes the NFIP statistics for the Town of Ramapo.

Table 9.17-9. Town of Ramapo NFIP Summary of Policy and Claim Statistics

# Policies	44
# Claims (Losses)	422
Total Loss Payments	\$1,972,984
# Repetitive Loss Properties (NFIP definition)	0
# Repetitive Loss Properties (FMA definition)	40
# Severe Repetitive Loss Properties	0
# Policies Within the 1 percent Annual Chance Flood Boundary	0

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA, December 2023

Note: RL count may include properties also identified as SRL.

Flood Vulnerability Summary

Table 9.17-10 provides a summary of the NFIP program in the Town of Ramapo.

Table 9.17-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	There are several streets and roads that have recently been flood prone during heavy rains.
Do you maintain a list of properties that have been damaged by flooding?	There is no specific list.
Do you maintain a list of property owners interested in flood mitigation?	The town does not maintain a list of property owners interested in flood mitigation.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Unknown
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	The Town does not make these determinations.*
How many Substantial Damage determinations 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?	Some town properties have been mitigated by raising structures above flood levels. This was funded by town budget.

NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	No. More frequent and intense rainfall has changed the risk profile.
NFIP Compliance	
What local department is responsible for floodplain management?	Building, Planning, and Zoning Department. The Chief Building Inspector is the Floodplain Administrator.
Are any certified floodplain managers on staff in your jurisdiction?	Yes. The town’s consulting firm has CFMs.
Do you have access to resources to determine possible future flooding conditions from climate change?	Via resources from federal and state
Does your floodplain management staff need any assistance or training to support its floodplain management program? <ul style="list-style-type: none"> If so, what type of assistance/training is needed? 	Yes. More up to date mapping to reflect real world conditions.
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?	Through the permitting process
What are the barriers to running an effective NFIP program in the community, if any?	Lack of mapping resources and funding
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <ul style="list-style-type: none"> If so, state the violations. 	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	May 20, 2016
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 149
What is the date that your flood damage prevention ordinance was last amended?	2012
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> If exceeds, in what ways? 	Meets the minimum requirements
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. Through local zoning laws- the planning and zoning board review items.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The town is not a member of the CRS program. We are interested in finding out more information about the program.

*Note: *The Town reported it does not have a process to make substantial damage determinations; however, during this planning process, it was confirmed that substantial damage determination provisions are established in both the adopted NFIP ordinance and adopted building code. This response has not been changed to accurately reflect the tools leveraged by the Town to mitigate risks.*

9.17.5 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 appreciating a jurisdiction’s overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 9.17-11 through Table 9.17-13.

Table 9.17-11. Number of Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			Total
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	
2019				
Total Permits	33	69	0	102
Permits within SFHA	0	0	0	0
2020				
Total Permits	79	36	0	115
Permits within SFHA	0	0	0	0
2021				
Total Permits	78	55	0	133
Permits within SFHA	0	0	0	0
2022				
Total Permits	79	49	0	128
Permits within SFHA	0	0	0	0
2023				
Total Permits	At the time of the plan update, the Town was unable to provide 2023 data.			
Permits within SFHA				

SFHA = Special Flood Hazard Area (1 percent flood event)

Table 9.17-12. Recent Major Development and Infrastructure from 2018 to Present

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
The Town has had no recent major development or infrastructure between 2018 to present.					

* Only location-specific hazard zones or vulnerabilities identified.

Table 9.17-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

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
There are no known or anticipated major development of infrastructure in the Town in the next five years.					

* Only location-specific hazard zones or vulnerabilities identified.

9.17.6 Jurisdictional Risk Assessment

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of the Town of Ramapo’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the Town are shown in Figure 9.17-1 through Figure 9.17-2. 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 are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Ramapo has significant exposure. The maps show the location of potential new development, where available.

Figure 9.17-1. Town of Ramapo Flood and Dam Inundation Hazard Area Extent and Location

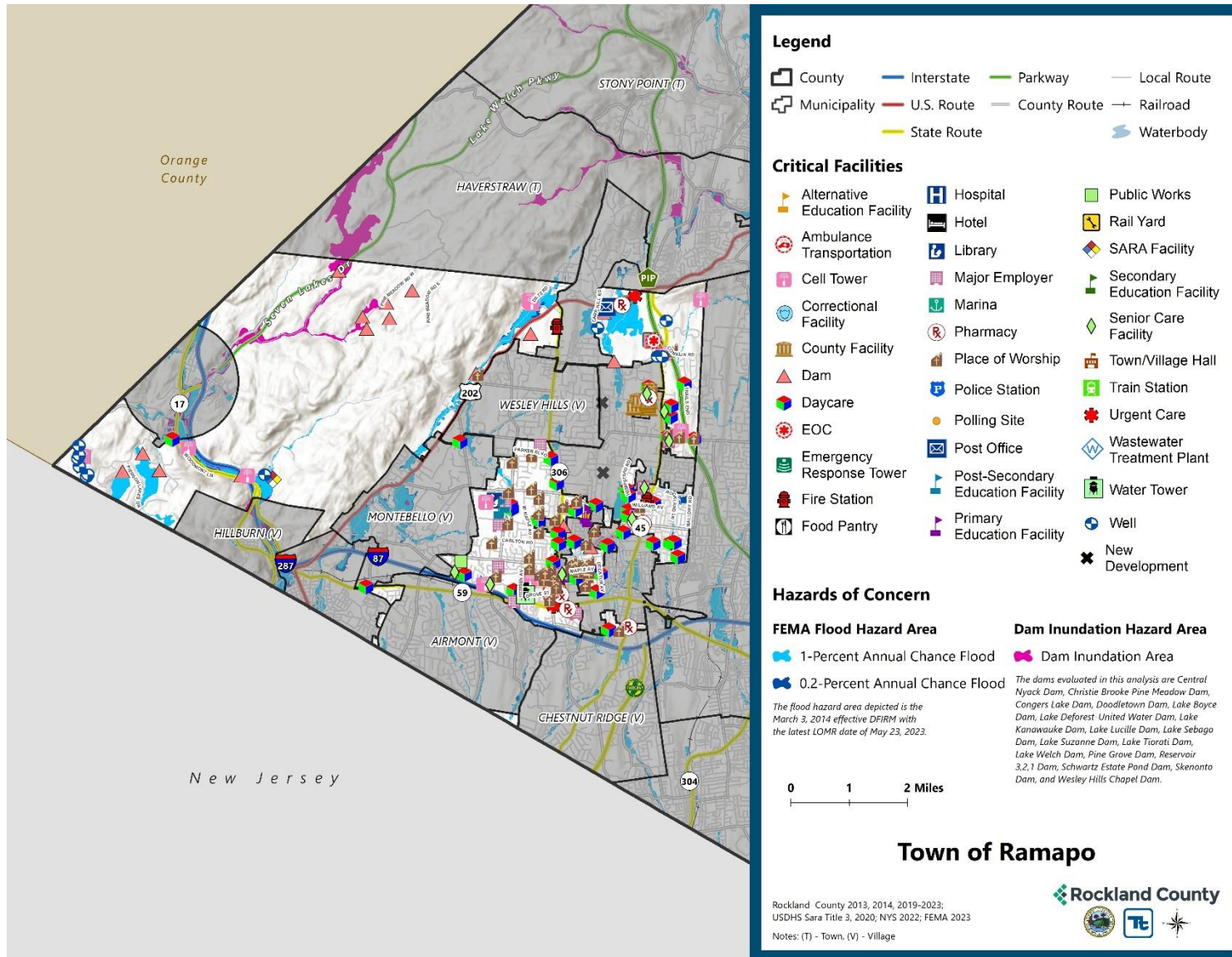
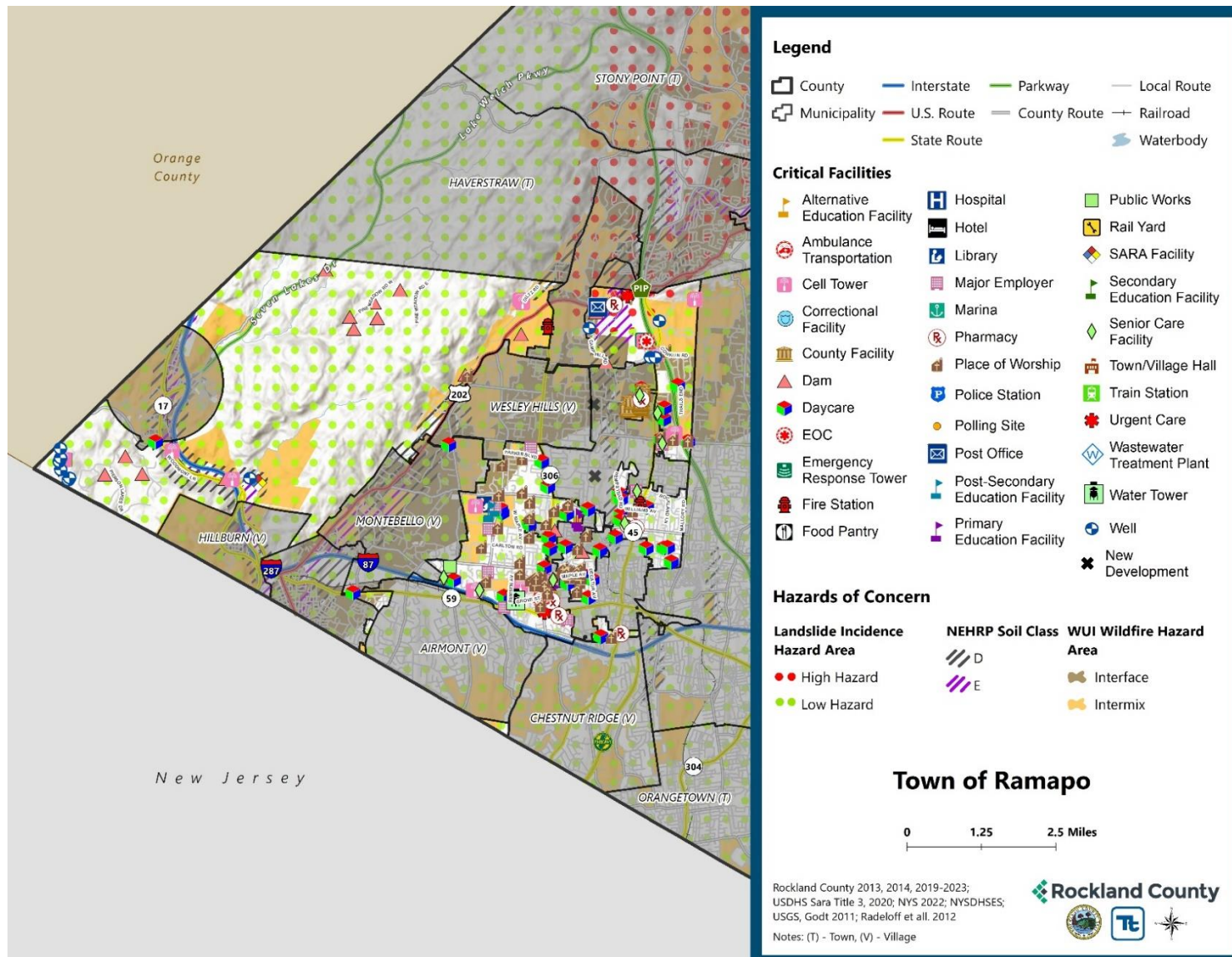


Figure 9.17-2. Town of Ramapo Landslide, Earthquake, and Wildfire Hazard Area Extent and Location



Hazard Event History

The history of natural and non-natural hazard events in the Town of Ramapo is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 9.17-14 provides details on loss and damage in the Town during hazard events since the last hazard mitigation plan update.

Table 9.17-14. Hazard Event History in the Town of Ramapo

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Summary of Damage and Losses in the Town
Jan 20, 2020 - May 11, 2023	New York Covid-19 (3434-EM-NY, 4480-DR-NY)	Yes	The Covid-19 pandemic resulted in nationwide shutdowns, social distancing and masking requirements, and immunization efforts. Since the start of the pandemic, roughly 950 deaths have been reported in Rockland County. The federal Public Health Emergency expired in May 2023 but illness continues to occur as the virus shifts to becoming endemic.	\$229,620.67 in damages
August 4, 2020	New York Tropical Storm Isaias (4567-DR-NY)	Yes	The center of Isaias passed about 65 miles west of New York City at 3 pm on August 4, 2020. Tropical storm force winds extended well east of the center of circulation. In addition, 1 to 3 inches of rainfall, highest west, were recorded across the county. These types of winds and rainfall across the area resulted in numerous trees and tree limbs being downed, power outages, damages to homes and automobiles, and disruption to transit.	\$225,563.42 in damages
September 1-3, 2021	New York Remnants of Hurricane Ida (3572-EM-NY, 4615-DR-NY)	Yes	Extremely heavy rainfall associated with the remnants of Hurricane Ida overspread southeast New York during the evening of September 1 and continued through the early morning hours of September 2. Rainfall totals ranged from 5-8 inches across much of the region, with much of that rain falling in just a few hours. This resulted in widespread catastrophic flash flooding.	\$48,721.18 in damages and still ongoing
July 9-10, 2023	Severe Storm	No	Severe storms and flooding resulted in road closures, including portions of the Palisades Interstate Parkway, throughout Rockland County.	The municipality is currently involved in a FEMA project as a result of damages incurred from this event.

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 Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following summarizes presents key risk assessment results for the Town of Ramapo.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Ramapo reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Town indicated the following:

- During the review of the hazard/vulnerability risk ranking, the Town indicated the rankings were accurate.

Table 9.17-15 shows Ramapo’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 9.17-15. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Disease Outbreak	Medium
Drought	Medium
Earthquake	Low
Extreme Temperature	Medium
Flood	Medium
Landslide	Low
Severe Weather	High
Severe Winter Weather	High
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 9.17-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 9.17-16. Critical Facilities Flood Vulnerability

Name	Type	Exposure		Addressed by Proposed Action	Already Protected to 0.2 percent Flood Level (describe protections)
		1 percent Event	0.2 percent Event		
Lake Suzanne Dam	Dam	Yes	Yes	2024-RamapoT-04	No
Minisceongo Golf Course Dam	Dam	Yes	Yes	2024-RamapoT-04	No
Potake Lake Dam	Dam	Yes	Yes	2024-RamapoT-04	No
Ramapo Foundry Dam	Dam	Yes	Yes	2024-RamapoT-04	No
Tivoli Lake Dam	Dam	Yes	Yes	2024-RamapoT-04	No

Name	Type	Exposure		Addressed by Proposed Action	Already Protected to 0.2 percent Flood Level (describe protections)
		1 percent Event	0.2 percent Event		
Tora High School Dam	Dam	Yes	Yes	2024-RamapoT-04	No
Sprint PCS 58	Cell Tower	Yes	Yes	2024-RamapoT-05	No
Sprint PCS 71	Cell Tower	Yes	Yes	2024-RamapoT-05	No
Sprint PCS 87	Cell Tower	Yes	Yes	2024-RamapoT-05	No
AT&T Wireless 115	Cell Tower	Yes	Yes	2024-RamapoT-05	No

Source: Rockland County 2023, FEMA

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in or could impact the Town of Ramapo:

- Potake Lake Dam – Suez Water New York
- Tivoli Lake Dam – Pierson Lake Homeowner’s Association
- Lake Sebago Dam – New York Office of Parks, Recreation and Historic Preservation, Palisades Interstate Park Commission
- Lake Suzanne Dam – Rockland County Highway Department

Identified Issues

After review of the Town of Ramapo’s hazard event history, hazard rankings, hazard location, and current capabilities, the Town of Ramapo identified the following vulnerabilities within their community:

- Rainfall events of more than three inches pose significant risks to life, property, and safety in the Town of Ramapo. Response to this type of event is a multi-stakeholder endeavor that requires inter-agency coordination. A flash-flood emergency plan managed by the Town of Ramapo would be the mitigation strategy to address this coordination gap on a local level.
- Main feeder power lines are vulnerable to winter storms and high winds. This causes power outages when lines are compromised during storms.
- Frequently during rainfall events, the Piermont and New Hempstead branches of the former Conrail railroad system sees significant flooding. This flooding is likely caused due to the natural topography of the surrounding neighborhoods because the railroad was built as close to sea level as possible as is constructed at the lowest point in every community to avoid any elevations.
- There are multiple dams, which are critical infrastructures, located in the 1- and 0.2-percent flood hazard areas. The Town also has potential impacts from multiple high-hazard potential dams (Potake Lake Dam, Tivoli Lake Dam, Lake Sebago Dam, Lake Suzanne Dam). These structures have the potential to impact those living nearby.
- Critical facilities located in the floodplain are not only susceptible to flood damage but also create unnecessary complications for the municipality during an emergency event and post-disaster recovery.
- Repetitively flooded properties place an undue stress on the property owner and Town and efforts should be made to mitigate them.

- The municipality does not have a Substantial Damage Management Plan in place, nor do they have a standard process in place when conducting substantial damage determinations. The municipality has substantial damage determination provisions in both the adopted NFIP ordinance and adopted building code, but staff are unaware of these provisions and do not leverage them.
- The Town does not have a formalized list of damaged properties or property owners which may be interested in flood mitigation measures, such as elevation or acquisition.
- The Town does not have any organizations that conduct outreach to socially vulnerable populations and underserved populations.
- The current comprehensive plan does not integrate hazard mitigation or hazard areas.
- There is an inadequately sized culvert in Spring Valley which contributes to flooding.
- There are flood prone roadways in the Town.
- The Town is currently not in the CRS program.
- The Town does not have backup power at several pump stations and in the event of a power outage, the pump stations will not function properly.

**This issue was identified as a specific area of concern based on resident response to the Rockland County Hazard Mitigation Citizen survey.*

9.17.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritizes actions to address over the next five years.

Past Mitigation Initiative Status

Table 9.17-17 indicates progress on the Town's mitigation strategy identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Additional Mitigation Efforts

In addition to the mitigation initiatives completed in Table 9.17-17, the Town of Ramapo did not identify any mitigation efforts completed since the last HMP.

Table 9.17-17. Status of Previous Mitigation Actions

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2024 HMP or Discontinue 2. If including action in the 2024 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
Ramapo-1	Quarry Ridge Flood Control	Flood, Severe Storm, Nor'easter	Attorney's Office – Property manager	<p>Flooding along the Mahwah River in the Squires Gate region of the Town of Suffern - floods frequently.</p> <p>The Quarry Ridge flood control project is a unique re-utilization of a closed stone quarry. The purpose of the flood control project is to reduce the frequency of flooding along the Mahwah River in the Squires Gate region of the Town of Suffern, NY.</p>	<p>1. No Progress / Discontinued</p> <p>2. Project was part of a development that was cancelled</p>	<p>1. Discontinued</p> <p>2. Not Applicable</p> <p>3. Project was part of a development that was cancelled</p>
Ramapo-2	Spring Valley Culvert Upgrades	Flood, Severe Storm, Nor'easter	Town Engineer, County Engineer, Town of Spring Valley	<p>Inadequate culvert in Spring Valley.</p> <p>Upgrade culvert in Spring Valley (upstream of Pascack Brook By-Pass Flood Mitigation Project).</p>	<p>1. No Progress</p> <p>2. Project has not progressed due to other Town obligations.</p>	<p>1. Include</p> <p>2. Keep as is</p> <p>3. N/A</p>
Ramapo-3	Comprehensive Plan Update	All Hazards	Town Planning Department, County Planning Department, Town Planning Department	<p>The current comprehensive plan does not integrate hazard mitigation or hazard areas.</p> <p>Integrate hazard mitigation and hazard areas into local comprehensive plans; a courtesy review of draft plans by the County Planning Department.</p>	<p>1. No Progress</p> <p>2. Plan has not been updated due to other Town matters.</p>	<p>1. Include</p> <p>2. Keep as is</p> <p>3. N/A</p>

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2024 HMP or Discontinue 2. If including action in the 2024 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
Ramapo-4	Public Workshops	All Hazards	Town Engineer/DPW	Currently, the Town does not have a program to discuss zoning and planning issues that arise as a result of natural hazards and hazard mitigation. Hold periodic workshops regarding zoning and planning issues that arise regarding natural hazards and hazard mitigation.	1. Discontinued 2. Planning and zoning requirements are listed on applications.	1. Discontinue 2. N/A 3. Planning and zoning requirements are listed on applications.
Ramapo-5	Flood Prone Roadways	Flood, Severe Storm	Town DPW, County DPW	Flood prone roadways in the Town - need to develop solutions to resolve the issue. Develop specific mitigation solutions for flood prone road systems (roads, bridges, intersections, drainage, etc.) under the leadership of County DPW.	1. No Progress 2. Town needs to identify which roadways to focus on.	1. Include 2. Keep as is 3. N/A
Ramapo-6	Certified Floodplain Managers	Flood, Severe Storm	Town Floodplain Administrator	Floodplain management and ordinance enforcement staff are not Certified Floodplain Managers. Require staff involved in floodplain management and ordinance enforcement to become Certified Floodplain Managers (CFMs).	1. Discontinued 2. The Town's consulting firm has CFMs.	1. Discontinue 2. N/A 3. The Town's consulting firm has CFMs.
Ramapo-7	Community Rating System	Flood, Severe Storm	Town Floodplain Administrator	The Town is currently not in the CRS program. Join the Community Rating System (CRS).	1. No Progress 2. The Town has not been able to evaluate the benefits, would is still considering joining the program.	1. Include 2. Keep as is 3. N/A

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2024 HMP or Discontinue 2. If including action in the 2024 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
Ramapo-8	Pascack Brooke Easement	Flood, Severe Storm, Severe Winter Storm	County Drainage Agency	<p>The bank erosion threatens at a minimum one home and potentially others.</p> <p>Mitigation measures are now required and engineered concrete structures are needed to stabilize the banks along with erosion control measures that include plantings.</p>	<p>1. No Progress / Discontinued</p> <p>2. As per DPW and town attorney- there are no easements for this area making this the responsibility of the home owners and not the Town.</p>	<p>1. Discontinue</p> <p>2. Not Applicable</p> <p>3. As per DPW and town attorney- there are no easements for this area making this the responsibility of the home owners and not the Town.</p>
Ramapo-9	Emergency Generators at Critical Facilities	All Hazards	Town DPW	<p>The Town does not have backup power at several pump stations and in the event of a power outage, the pump stations will not function properly.</p> <p>Install permanently mounted generators at pump stations including Rodman Place, Longbow Road, Hawk Street, Sergio Court, and Bayard Lane. This project will help ensure the continued operations of the Town's Sanitary Sewer system during storm events involving power outages. Additionally, it will improve the Town's ability to respond to emergencies as the labor force and equipment will be available for assisting with other Town Emergency Protective Measures.</p>	<p>1. In Progress</p> <p>2. Purchased and install backup power at the Town fuel facility, DPW and sewer buildings.</p>	<p>1. Include</p> <p>2. Purchase and install permanently mounted generators at pump stations including Rodman Place, Longbow Road, Hawk Street, Sergio Court, and Bayard Lane. This project will help ensure the continued operations of the Town's Sanitary Sewer system during storm events involving power outages. Additionally, it will improve the Town's ability to respond to emergencies as the labor force and equipment will be available for assisting with other Town Emergency Protective Measures.</p> <p>3. Not Applicable</p>

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2024 HMP or Discontinue 2. If including action in the 2024 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
Ramapo-10	Continuity of Communications	All Hazards	Hatzoloh Ambulance Company (Kaser and Monsey)	<p>Hatzoloh does not have a backup phone system. In the event of an emergency, there can be issues with connecting to emergency responders.</p> <p>Hatzoloh (Town-funded ambulance company) plans to set up a backup phone system that will be able to maintain the integrity of the Hatzoloh phone number at all times so that incoming calls will get through even in a state of emergency and so that dispatchers will be able to contact emergency responders without issues.</p>	<p>1. No Progress / Discontinued 2. Redundancy has been provided through other means.</p>	<p>1. Discontinue 2. Not Applicable 3. Redundancy has been provided through other means.</p>
Ramapo-11	Emergency Equipment	All Hazards	Hatzoloh Ambulance Company (Kaser and Monsey)	<p>Inadequate equipment for Hatzoloh.</p> <p>Purchase equipment enabling Hatzoloh to save lives such as generators, light towers, Command Vehicles.</p>	<p>1. No Progress / Discontinued 2. No longer needed.</p>	<p>1. Discontinue 2. Not Applicable 3. There is no longer a needed for these items to be purchased.</p>

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2024 HMP or Discontinue 2. If including action in the 2024 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
Ramapo-12	Review Codes and Ordinances	All Hazards	Building Inspector/Planning Board/Zoning Board	<p>Current codes and ordinances do not identify hazards.</p> <p>The Town would like to review and potentially update their existing local codes/ordinances against the identified hazards to determine whether there needs to be any amendments to address identified hazards and, where a need is identified; modify/amend the codes/ordinances as applicable.</p>	<p>1. Ongoing Capability</p> <p>2. Codes and ordinances are reviewed continuously to identify room for amendments.</p>	<p>1. Discontinue</p> <p>2. N/A</p> <p>3. Ongoing capability. Codes and ordinances are reviewed continuously to identify room for amendments.</p>
Ramapo-13	Elevate Pump Station Electrical Components	Flood	DPW/Sewer Department	<p>The Town owns critical assets located in the floodplain that become inundated during flood events.</p> <p>Elevate the electrical components to all critical assets including the pump stations and potable wells located in the floodplain, specifically the Sewer Pump Station off Camp Hill Road and Scuffy Day Camp North Well, to the 500-year flood elevation.</p>	<p>1. In Progress</p> <p>2. Pump Station off Camp Hill is under review as Northern Ramapo development plan moves ahead.</p>	<p>1. Include</p> <p>2. Include mention of any newly identified critical facilities in the floodplain and reword action as appropriate.</p> <p>3. Not Applicable</p>

Proposed Hazard Mitigation Initiatives for the HMP Update

Ramapo participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Ramapo would like to pursue in the future to reduce the effects of hazards. The actions 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 the Town’s priorities.

Table 9.17-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 9.17-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 9.17-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	3	1	-	1	3	1	1	-	-	3
Disease Outbreak	1	-	-	1	1	-	1	-	-	1
Drought	2	-	-	1	2	-	1	-	-	1
Earthquake	2	1	-	1	2	1	1	-	-	2
Extreme Temperature	2	1	-	1	2	1	1	-	-	2
Flood	7	4	-	2	7	4	2	-	3	4
Landslide	3	1	-	1	3	1	1	-	-	2
Severe Weather	5	2	1	1	5	3	1	-	1	4
Severe Winter Weather	2	1	1	1	2	2	1	-	-	3
Wildfire	2	1	-	1	2	1	1	-	-	2

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 structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and 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

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 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 9.17-19. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Community Objectives	Total	High / Medium / Low
2024-RamapoT-01	Flash Flood Emergency Plan	1	1	1	1	1	1	0	1	1	1	1	1	1	0	12	High
2024-RamapoT-02	Underground Powerlines	0	1	1	1	0	0	0	1	0	1	1	0	1	0	7	Medium
2024-RamapoT-03	Piermont Railway Flood Mitigation	0	1	1	1	1	0	0	0	1	1	1	0	0	0	7	Medium
2024-RamapoT-04	Dam Owner Partnership	1	1	1	1	1	1	0	1	1	1	1	1	1	0	12	High
2024-RamapoT-05	Critical Facilities in the Floodplain	1	1	1	1	1	0	0	1	1	0	1	1	1	0	10	Medium
2024-RamapoT-06	Repetitive and Severe Repetitive Loss Properties	1	1	1	1	1	0	1	1	1	1	1	1	0	1	12	High
2024-RamapoT-07	Substantial Damage Management Plan	0	1	1	1	1	1	0	1	1	1	1	1	1	0	11	High
2024-RamapoT-08	Flood Mitigation Interest	1	1	1	1	1	1	1	1	1	0	1	1	1	1	13	High
2024-RamapoT-09	Socially Vulnerable Populations Outreach	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
2024-RamapoT-10	Comprehensive Plan Update	1	1	1	1	1	1	0	1	1	1	0	1	0	1	11	High
2024-RamapoT-11	Spring Valley Culvert	1	1	1	1	1	0	1	1	1	1	1	1	1	0	12	High
2024-RamapoT-12	Flood Prone Roadways	0	1	1	1	1	0	1	0	1	0	1	1	0	1	9	Medium
2024-RamapoT-13	Community Rating System (CRS) Program	0	1	1	1	1	1	0	1	1	0	1	1	0	1	10	Medium
2024-RamapoT-14	Emergency Generators at Critical Facilities	0	1	1	1	1	0	0	1	1	1	0	1	1	1	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action 2024-RamapoT-01. Flash Flood Emergency Plan

Action Name:	2024-RamapoT-01. Flash Flood Emergency Plan		
Description of the Problem:	Rainfall events of 3+ inches pose significant risks to life, property, and safety in the Town of Ramapo.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire	
Description of the Solution:	Create a flash-flood emergency plan.		
Lead Agency:	Office of Emergency Preparedness and Safety		
Supporting Agencies:	Town Administration, Surrounding Jurisdictions, Rockland County		
Estimated Cost:	Medium		
Potential Funding Sources:	Town Budget, EMGP		
Implementation Timeline:	Within 4 years		
Goals Met:	1, 2, 3, 5, 7		
Benefits:	This plan will be a multi-stakeholder endeavor that requires inter-agency coordination. The plan will identify areas most impacted by heavy rain and flash flood events and assign roles and responsibilities to responding agencies.		
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	Areas that vulnerable to frequency or severe flooding events will be identified within the plan. Populations in these areas will be recognized and assessed.		
Impact on Critical Facilities/Lifelines:	This action will identify measures to protect life, property, and the environment from the impacts of heavy rain and flash flooding events. The plan will identify the roles and responsibilities of responding agencies.		
Impact on Capabilities	This action will create a new planning capability of the Town, enhancing its response and recovery capabilities.		
Impact on Future Development:	Not applicable		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

Alternatives	Action	Evaluation
	No action	Current problem remains
	Write plan without consulting primary stakeholders	Input may be incomplete
	Focus only on areas currently experiencing flash flooding	Plan will only be applicable for a period of time

Action 2024-RamapoT-02. Underground Powerlines

Action Name:	2024-RamapoT-02. Underground Powerlines	
Description of the Problem:	Main feeder power lines are vulnerable to winter storms and high winds. This causes power outages when lines are compromised during storms.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input type="checkbox"/> Flood <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input checked="" type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire
Description of the Solution:	Bury above-ground utility lines to mitigate damages.	
Lead Agency:	Town Administration	
Supporting Agencies:	Town Engineering, Utility Provider, Town Public Works, Rockland County	
Estimated Cost:	High	
Potential Funding Sources:	FEMA BRIC, Town Budget	
Implementation Timeline:	5+ years	
Goals Met:	2, 5	
Benefits:	This action will remove or reduce critical facility and community lifeline vulnerability to hazards, ensure continuity of operations, and remove or reduce safety risks for first responder.	
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Impact on Socially Vulnerable Populations:	Relocating the identified structures will benefit socially vulnerable populations, as individuals within these populations rely on resources from various government facilities, transportation facilities, and medical and senior care facilities. Protection of critical facilities provides an opportunity for first responders, utility workers, and emergency managers to stage and deploy resources to vulnerable and hazard prone areas.	
Impact on Critical Facilities/Lifelines:	The utilization of power is critical during an emergency. This action protects public health and safety and ensures continued operation of a critical facility and its essential functions during a power outage.	
Impact on Capabilities	The action will increase the Town’s capabilities during power outage events.	

Impact on Future Development:	Future development in the area will need to be connected to utility lines, which provide power. This action results in protection of a critical facility that could support future development.		
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides a method of mitigating impacts from severe storms.		
Priority: <i>Check one</i>	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action	Evaluation	
	No action	Current problem remains	
	Insulate power lines	May lead to overheating	
	Knock snow and ice off power lines	May knock down wires and interrupt power distribution	

Action 2024-RamapoT-03. Piermont Railway Flood Mitigation

Action Name:	2024-RamapoT-03. Piermont Railway Flood Mitigation	
Description of the Problem:	Frequently during rainfall events, the Airmont and New Hempstead branches of the former Conrail railroad system sees significant flooding. This flooding is likely caused due to the natural topography of the surrounding neighborhoods because the railroad was built as close to sea level as possible as is constructed at the lowest point in every community to avoid any elevations.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire
Description of the Solution:	Conduct a study to identify best method of flood mitigation to reduce aerial floods. A possible method would be to construct underground storm water runoff tanks underneath the railway to help collect runoff and prevent the flooding and ground instability.	
Lead Agency:	Town Administration	
Supporting Agencies:	Metro North Railroad, Village of Airmont, Village of New Hempstead, Village of Spring Valley, County of Rockland	
Estimated Cost:	High, \$500 million	
Potential Funding Sources:	CDBG, US ACE, FEMA HMGP, BRIC	
Implementation Timeline:	5+ years	
Goals Met:	2, 4, 5	
Benefits:	This action will create a reduction in land impacted by flooding conditions by performing a study to identify the most feasible mitigation methods to collect runoff.	
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)

Impact on Socially Vulnerable Populations:	Not applicable. This railroad system is no longer in operation and the lands on which it traverses does not impact socially vulnerable populations.		
Impact on Critical Facilities/Lifelines:	Not applicable. This railroad system is no longer in operation and the lands on which it traverses does not impact critical facilities.		
Impact on Capabilities	The resulting study from this action will be a new capability for the Town, despite the railway no longer being in operation.		
Impact on Future Development:	The reduction in flooding on the land of the old railroad system may provide area for future land development opportunities.		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. As sea level rises due to climate change, the area of the flood hazard may expand.		
Priority: Check one	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No action		Current problem remains
	Construct floodwall along river		Cost prohibitive
	Raise banks of river to increase storage capacity		Cost prohibitive

Action 2024-RamapoT-04. Dam Owner Partnership

Action Name:	2024-RamapoT-04. Dam Owner Partnership		
Description of the Problem:	There are multiple dams, which are critical facilities, located in the 1- and 0.2-percent flood hazard areas that contain or are adjacent to existing development. The Town also has potential impacts from multiple high-hazard potential dams (Potake Lake Dam, Tivoli Lake Dam, Lake Sebago Dam, Lake Suzanne Dam) located outside of its boundaries.. The municipality does not own all the dams in its jurisdictions and cannot itself implement mitigation actions to the structures.		
Hazard(s) of Concern: Check all that apply	<input checked="" type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire	
Description of the Solution:	Work with the owners of the dams to ensure inspections and safety procedures are up to date. Identify mitigation actions to ensure the integrity of the dams and that it is protected up to the 0.2-percent flood hazard area.		
Lead Agency:	Office of Emergency Preparedness and Safety		
Supporting Agencies:	Town Administration, Dam Owners, NYSDEC		
Estimated Cost:	Low		
Potential Funding Sources:	Town Budget		
Implementation Timeline:	Within five years		

Goals Met:	1, 2, 3, 5		
Benefits:	This action will improve the safety and security of those who live within the dam inundation areas of the dams and increase the resilience of responding agencies. It will also increase communication between the municipality and the dam owners, which can be important during hazard events or other emergencies.		
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	The action will result in better preparedness within the Special Flood Hazard Area and inundation areas where significant risk to socially vulnerable populations exist.		
Impact on Critical Facilities/Lifelines:	Dams are considered a critical facility. This action will create an understanding of the safety procedures in place for each identified dam.		
Impact on Capabilities	This action will improve planning and response capabilities through the understanding of responsibilities and procedures.		
Impact on Future Development:	Depending on the result of this partnership, future development near the dams may be provided with better protection from dam failure events due to improved procedures and communication, as well as any physical improvements to the structures		
Climate Change Considerations:	Climate change may result in an increase in the frequency and severity of weather-related disaster events, which may contribute to the likelihood of a dam failure event. This action will increase the capabilities to respond to these events.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No Action		Town will be unaware of any safety concerns for the dam or its condition
	Utilize information from NYSDEC		Owners may not be required to submit a safety plan to the State
	Utilize information from the National Inventory of Dams		Not all dams are listed on the inventory

Action 2024-RamapoT-05. Critical Facilities in the Floodplain

Action Name:	2024-RamapoT-05. Critical Facilities in the Floodplain		
Description of the Problem:	Critical facilities located in the floodplain are not only susceptible to flood damage but also create unnecessary complications for the municipality during an emergency event and post-disaster recovery. The Town does not have the authority to implement mitigation actions to all of these structures.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire	

Description of the Solution:	Coordinate with the facility managers at Sprint Wireless, AT&T Wireless, the Sewer Pump Station off Camp Hill Road and Scuffy Day Camp North Well, to support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or relocation to protect structures from future damage. Phase 1: Identify most cost-effective mitigation option Phase 2: Work with facility manager to implement selected action based on available funding and local match ability.		
Lead Agency:	Floodplain Administrator		
Supporting Agencies:	Town Administration, Facility Managers		
Estimated Cost:	High		
Potential Funding Sources:	FEMA BRIC, HMGP, Town Budget, Private Owners		
Implementation Timeline:	5 years		
Goals Met:	1, 2, 3		
Benefits:	This action will remove or reduce critical facility and community lifeline vulnerability to the flood hazard and remove or reduce safety risks for first responders.		
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	Retrofitting or relocating the identified structures will benefit socially vulnerable populations, as individuals within these populations rely on resources from various government facilities, transportation facilities, and medical and senior care facilities.		
Impact on Critical Facilities/Lifelines:	Noting the number of facilities located within the flood hazard area may encourage the consideration of relocating critical facilities and lifelines from the flood hazard area and deter the development of any additional facilities in the flood hazard area.		
Impact on Capabilities	This action will enhance the Town’s current NFIP capabilities.		
Impact on Future Development:	Noting the number of facilities located within the flood hazard area may encourage the consideration of relocating critical facilities and lifelines from the flood hazard area and deter the development of any additional facilities in the flood hazard area.		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. As sea level rises due to climate change, the area of the flood hazard may expand.		
Priority: <i>Check one</i>	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No action		Current problem continues
	Floodproof existing structures		May not necessarily reduce risk
	Construct floodwalls to stop flood issues		Will most likely interrupt natural floodplain function

Action 2024-RamapoT-06. Repetitive and Severe Repetitive Loss Properties

Action Name:	2024-RamapoT-06. Repetitive and Severe Repetitive Loss Properties		
Description of the Problem:	The Town does not have any Repetitive Loss or Severe Repetitive Loss properties, based on NFIP definitions. However, there are 40 Repetitive Loss properties based on the FMA definition of this term. These properties exhibit elevated vulnerability and may face increasing risks to flood damage due to changes in precipitation intensity and frequency, raising the possibility for these properties to become Repetitive/Severe Repetitive Loss Properties. These properties may require a disproportionate amount of municipal resources after hazard events if they are damaged.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire	
Description of the Solution:	The Town will promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL) and Severe Repetitive Loss (SRL), such as acquisition/relocation or elevation depending on feasibility. The parameters for this initiative would be funding, benefits versus cost, and willing participation of property owners.		
Lead Agency:	Floodplain Administrator		
Supporting Agencies:	Rockland County		
Estimated Cost:	Medium		
Potential Funding Sources:	FEMA FMA, FMA SWIFT, Town Budget, County Budget, Property Owners		
Implementation Timeline:	3 years		
Goals Met:	1, 2, 3		
Benefits:	This action would foster comprehensive floodplain management by removing at risk properties from the flood hazard area or elevating properties to reduce the flood risk.		
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.		
Impact on Critical Facilities/Lifelines:	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.		
Impact on Capabilities	This action will enhance the Town’s current NFIP capabilities.		
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

Alternatives	Action	Evaluation
	No action	Current problem continues
	Construct flood walls/barriers around vulnerable areas	Costly and can divert floodwaters to other areas
	Deployable flood barriers for vulnerable areas	Requires a great deal of work to implement prior to each event

Action 2024-RamapoT-07. Substantial Damage Management Plan

Action Name:	2024-RamapoT-07. Substantial Damage Management Plan	
Description of the Problem:	<p>Officials in NFIP-participating communities are responsible for regulating all development in SFHAs by issuing permits and enforcing local floodplain requirements, including Substantial Damage, for the repairs of damaged buildings. After any disaster event, they must:</p> <ul style="list-style-type: none"> • Determine where the damage occurred within the community and if the damaged structures are in an SFHA. • Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration. • Determine if repairing plus improving the damaged structure equals or exceeds 50 percent of the structure’s pre-damage value. • Require permits for floodplain development. <p>The municipality does not have a Substantial Damage Management Plan in place, nor do they have a formal process in place when conducting substantial damage determinations. The municipality has substantial damage determination provisions in both the adopted NFIP ordinance and adopted building code, but staff are unaware of these provisions and do not leverage them.</p>	
Hazard(s) of Concern: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input checked="" type="checkbox"/> Severe Winter Storm <input checked="" type="checkbox"/> Wildfire
Description of the Solution:	<p>The municipality will develop a Substantial Damage Management Plan, following the six-step planning process in 2021 Developing a Substantial Damage Management Plan (https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf). This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.</p> <p>The municipality will also take part in workshops and training sessions offered by NYSDEC to train staff on the existing provisions in the NFIP ordinance and building code.</p>	
Lead Agency:	Floodplain Administrator	
Supporting Agencies:	Public Works, Office of Emergency Preparedness and Safety, Building Department	
Estimated Cost:	Low	
Potential Funding Sources:	Town Budget	
Implementation Timeline:	Within five years to develop the plan; ongoing to maintain and update the plan	
Goals Met:	1, 2, 5, 7	

Benefits:	This plan will provide a process in making Substantial Damage Determinations and allow the municipality to make these determinations and meet NFIP requirements more quickly.		
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	Substantially damaged structures are required to be rebuilt to be compliance with current codes. Socially vulnerable populations may not have the financial means to make these improvements. This action may allow for the identification of potential resources to address substantial damages to structures owned by socially vulnerable populations.		
Impact on Critical Facilities/Lifelines:	A Substantial Damage Management Plan would include all critical facilities and lifelines in the municipality.		
Impact on Capabilities	This action improves disaster recovery capabilities.		
Impact on Future Development:	A Substantial Damage Management Plan would include all existing, current, and future development in the municipality.		
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No Action		-
	Rely on state or federal resources following disaster events		Resources may not be available during major widespread events
	Establish MOUs with outside agencies to conduct Substantial Damage Determinations		A plan outlining responsibilities is still necessary to prevent missing important requirements

Action 2024-RamapoT-08. Flood Mitigation Interest

Action Name:	2024-RamapoT-08. Flood Mitigation Interest		
Description of the Problem:	The Town does not have a formalized list of damaged properties or property owners which may be interested in flood mitigation measures, such as elevation or acquisition. Without this information, the Village does not have a streamlined way to assess overall trends in damages/impacts to these properties to determine properties of the highest risk of flood damage. It also does not track communications with property owners or the implementation or interest in potential mitigation efforts.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire	
Description of the Solution:	The Floodplain Administration will develop a list for inventorying system or properties damaged by flood events and property owners who are interested in flood mitigation measures, such as elevation or acquisition.		
Lead Agency:	Floodplain Administrator		

Supporting Agencies:	Planning Board, Zoning Board, Town Administration		
Estimated Cost:	Staff time, Low		
Potential Funding Sources:	Town Budget		
Implementation Timeline:	Within 2 years		
Goals Met:	1, 2, 3, 5		
Benefits:	Keeping a list of damaged properties and property owners interested in flood mitigation efforts may lead to the elimination of flood damage to homes and residences, which creating an open space for the municipality and increasing flood storage.		
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	Collecting data regarding homeowners that reside within flood prone areas provides an opportunity to introduce location-specific opportunities for assistance. Removing homes from the floodplain immediately removes the risk to life and property.		
Impact on Critical Facilities/Lifelines:	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.		
Impact on Capabilities	This action will create a new Town capability, while enhancing its current NFIP capabilities.		
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. Areas experiencing flooding conditions may increase. Removing structures from the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No action		Current problem remains
	Only share opportunities when notified of grant funding		May not be enough time to garner interest or write application
	Wait for information from the State on flood-damaged properties		May be a delay in notice

Action 2024-RamapoT-09. Socially Vulnerable Populations Outreach

Action Name:	2024-RamapoT-09. Socially Vulnerable Populations Outreach	
Description of the Problem:	The Town does not have any organizations that conduct outreach to socially vulnerable populations and underserved populations. During hazard events, the public may need to quickly access information about evacuation routes and shelters, or other steps they can take to protect themselves and their property. Residents may also need information about what services are available or offline due to flooding from intense precipitation, dam failure, severe storms, and snow melt; where to receive a vaccination or other healthcare in the event of a disease outbreak; public cooling or heat centers, such as libraries, during extreme temperatures; and evacuation areas for earthquakes, landslides, and wildfires. Socially vulnerable and underserved populations may rely on these types of services more heavily than other segments on the population. Furthermore, they may be less able to access these resources due to a variety of potential obstacles, such as mobility issues or language barriers.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Dam/Levee Failure <input checked="" type="checkbox"/> Disease Outbreak <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input checked="" type="checkbox"/> Severe Winter Storm <input checked="" type="checkbox"/> Wildfire
Description of the Solution:	Create outreach materials, or utilize those from Rockland County, on hazard risks for socially vulnerable populations. Methods of distribution may include Town events, the Town newsletters, social media, the Town website, and having the materials on display for the public at Town libraries and offices. Consider hiring staff to work directly with socially vulnerable populations.	
Lead Agency:	Town Administration	
Supporting Agencies:	Rockland County	
Estimated Cost:	Low	
Potential Funding Sources:	Town Budget, HMGP	
Implementation Timeline:	Within 3 years	
Goals Met:	1, 3, 5	
Benefits:	This action will ensure there is an individual working to identify and work with the socially vulnerable populations in the Town. Furthermore, this action will create opportunities to educate and inform populations on hazard risks.	
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Impact on Socially Vulnerable Populations:	Socially vulnerable populations in the Town will become educated on hazards risks. The Town will identify an individual to identify and work with these populations to ensure the most up to date information is being shared.	
Impact on Critical Facilities/Lifelines:	Educating populations on hazard risk and how to mitigate the risks can decrease the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.	
Impact on Capabilities	This action would build upon the Village’s already existing public education and outreach program.	

Impact on Future Development:	Not applicable		
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.		
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No action		Current methods remain the only ones used
	Rely on state or federal resources		Resources may be generalized and not specific to the risks in the Town
	Use only a few methods for distribution		Using only a few methods of distribution may hinder socially vulnerable populations from receiving the guidance

Action 2024-RamapoT-10. Comprehensive Plan Update

Action Name:	2024-RamapoT-10. Comprehensive Plan Update		
Description of the Problem:	The current comprehensive plan does not incorporate hazard mitigation principles and does not have a strategy to streamline the consideration of the following hazards into its future development and growth: dam/levee failure, disease outbreak, drought, earthquake, extreme temperature, flood, landslide, severe storm, severe winter storm, or wildfire.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Dam/Levee Failure <input checked="" type="checkbox"/> Disease Outbreak <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input checked="" type="checkbox"/> Severe Winter Storm <input checked="" type="checkbox"/> Wildfire	
Description of the Solution:	The Town will update its comprehensive plan. Ensure that the local comprehensive plan incorporates hazard mitigation techniques through a courtesy review or draft plans by the County Planning Department.		
Lead Agency:	Town Planner		
Supporting Agencies:	Town Administration, Town Planning Board, Rockland County		
Estimated Cost:	Staff time, Low		
Potential Funding Sources:	Town Budget		
Implementation Timeline:	Within five years		
Goals Met:	1, 2, 5, 6, 7		
Benefits:	This action will have the Town update its comprehensive plan, which has not been updated in many years. The integration of hazard mitigation principles will present the opportunity for the Town to identify areas of the Town which may be impacted by hazards and plan for future land use accordingly.		
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	

CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Impact on Socially Vulnerable Populations:	The inclusion of hazard mitigation principles into the comprehensive plan may include discussions on how hazard risks may impact socially vulnerable populations in the Town.	
Impact on Critical Facilities/Lifelines:	Updating the comprehensive plan to include hazard mitigation principles may present an opportunity to discuss hazard risks to critical facilities and lifelines in the Town.	
Impact on Capabilities	This action will update an already existing planning capability of the Town, making it more resilient.	
Impact on Future Development:	This action will have a direct impact on future land use in the Town, as the comprehensive plan guides land use principles in the Town.	
Climate Change Considerations:	As impacts from climate change are increasingly felt, the contents in the Town’s comprehensive plan will need to be updated.	
Priority: <i>Check one</i>	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium <input type="checkbox"/> Low
Alternatives	Action	Evaluation
	No action	Current problem remains
	Integrate hazard mitigation principles in only plan elements	The plan will miss integration opportunities in the comprehensive plan main document
	Integrate hazard mitigation principles in only comprehensive plan main document	The plan will miss integration opportunities in the plan elements

Action 2024-RamapoT-11. Spring Valley Culvert

Action Name:	2024-RamapoT-11. Spring Valley Culvert	
Description of the Problem:	There is an inadequately sized culvert in Spring Valley which contributes to flooding after severe storms.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire
Description of the Solution:	The Town Engineer will complete an engineering survey of culverts in Spring Valley that are undersized and contribute to flooding to determine the proper size necessary to provide stormwater capacity. The Town DPW will complete the necessary upsizing for those culverts noted to be undersized.	
Lead Agency:	Town Engineer	
Supporting Agencies:	Town Board, Highway Department	
Estimated Cost:	High	
Potential Funding Sources:	MS4 Grant, Town Budget, FEMA BRIC, HMGF	
Implementation Timeline:	Within 3 years	
Goals Met:	1, 2, 5	

Benefits:	Overall flooding will be reduced, which will result in less frequency of road closures and reduced damage occurring to culverts and roadways during severe events. Businesses are likely to remain in place if they are able to remain open, or re-open sooner following a flood.		
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	<input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Resource Protection (NR)	<input checked="" type="checkbox"/> Structural Flood Control Projects (SP)
Impact on Socially Vulnerable Populations:	<input type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Property Protection (PP)	<input type="checkbox"/> Emergency Services (ES)
Impact on Critical Facilities/Lifelines:	<input type="checkbox"/> Public Information (PI)		
Impact on Capabilities	Areas that were previously vulnerable to frequency or severe flooding events will be less likely to be impacted by flooding events. Populations living in these areas will have fewer impacts due to flooding.		
Impact on Future Development:	Transportation routes will be more likely to remain open, access to health and medical facilities will be maintained, both for healthcare workers and the population who requires treatment for injuries and illness, and stormwater management infrastructure will be better suited to handle flooding events.		
Climate Change Considerations:	This action will upgrade the stormwater management capabilities of the Town.		
Priority: <i>Check one</i>	Future development in the impacted area will be less likely to be flooded.		
Alternatives	Climate change is likely to result in more frequent and severe rainfall events. This action upsizes culvert sizes to meet changing stormwater needs as the result of climate change.		
	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
	Action	Evaluation	
	No action	Current problem remains	
	Remove roadway	Roadway cannot be removed	
	Raingardens	Raingardens are unlikely to be able to absorb enough stormwater to prevent flooding during severe rainfall events.	

Action 2024-RamapoT-12. Flood Prone Roadways

Action Name:	2024-RamapoT-12. Flood Prone Roadways		
Description of the Problem:	The Town reports that there are several streets and roads that have recently been flood prone during heavy rains.		
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure	<input checked="" type="checkbox"/> Flood	<input type="checkbox"/> Landslide
	<input type="checkbox"/> Disease Outbreak	<input type="checkbox"/> Severe Storm	<input type="checkbox"/> Severe Winter Storm
	<input type="checkbox"/> Drought	<input type="checkbox"/> Wildfire	
	<input type="checkbox"/> Earthquake		
	<input type="checkbox"/> Extreme Temperature		
Description of the Solution:	The Town will identify which roadways are being impacted and develop specific mitigation solutions for flood prone road systems (roads, bridges, intersections, drainage, etc.) under the leadership of County DPW.		
Lead Agency:	Town Public Works		
Supporting Agencies:	County Public Works		

Estimated Cost:	Medium	
Potential Funding Sources:	FEMA BRIC, HMGP, Town Budget	
Implementation Timeline:	Within five years	
Goals Met:	2	
Benefits:	This action will identify measures to protect infrastructure in the transportation lifeline, which will lead to the assurance of clear roadways for evacuations, regular travel, and emergency responses.	
Mitigation Action Type: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Impact on Socially Vulnerable Populations:	This action will assist socially vulnerable populations whose properties are impacted by flood prone roads.	
Impact on Critical Facilities/Lifelines:	This action will identify measures to protect infrastructure in the transportation lifeline, which will lead to the assurance of clear roadways for evacuations, regular travel, and emergency responses.	
Impact on Capabilities	Not applicable	
Impact on Future Development:	Future development in the impacted area will be less likely to be flooded.	
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events.	
Priority: <i>Check one</i>	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low
Alternatives	Action	Evaluation
	No action	Current problem continues
	Relocate all flood prone road systems	Not feasible
	Raise all flood prone roads	Cost prohibitive

Action 2024-RamapoT-13. Community Rating System (CRS) Program

Action Name:	2024-RamapoT-13. Community Rating System (CRS) Program	
Description of the Problem:	The Town is currently not in the CRS program. The CRS Program would incentivize the Village to implement activities and initiatives that reduce its risk to flood damage, while making residents eligible for flood insurance discounts.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Severe Storm <input type="checkbox"/> Severe Winter Storm <input type="checkbox"/> Wildfire

Description of the Solution:	The Town will evaluate the benefits and costs of participating in CRS program. If feasible, the Town will join the program and begin implementing standards that exceed NFIP requirements.		
Lead Agency:	Floodplain Administrator		
Supporting Agencies:	Town Board, Planning, Office of Emergency Preparedness and Safety		
Estimated Cost:	Low		
Potential Funding Sources:	Town Budget		
Implementation Timeline:	2 years		
Goals Met:	2, 3, 5		
Benefits:	The participation in the CRS benefits communities by offering discounted rates for flood insurance premiums, which addresses the three goals of the program: reduce and avoid flood damage to insurable property, strengthen and support the insurance aspects of the National Flood Insurance Program, and foster comprehensive floodplain management.		
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR)	<input type="checkbox"/> Natural Systems Protection (NSP)	
	<input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR)	<input type="checkbox"/> Natural Resource Protection (NR)	
	<input type="checkbox"/> Property Protection (PP)	<input type="checkbox"/> Structural Flood Control Projects (SP)	
	<input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Emergency Services (ES)	
Impact on Socially Vulnerable Populations:	The participation in the Community Rating System (CRS) benefits communities by offering discounted rates for flood insurance premiums, which may be more affordable for some socially vulnerable populations.		
Impact on Critical Facilities/Lifelines:	Not applicable		
Impact on Capabilities	This action would enhance the Village’s floodplain management capabilities.		
Impact on Future Development:	Future development would need to adhere to any increased standards established as part of joining the CRS program such as increased freeboard and elevation certificate requirements.		
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. These changes are likely to increase flood risks.		
Priority: <i>Check one</i>	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No action		-
	Adopt aspects of the CRS program into the floodplain management program		Increased floodplain management capabilities but no reduction in flood insurance premiums
	Abandon any floodplain management practices not required by NFIP		Reduction in floodplain management capabilities and increase in risk.

Action 2024-RamapoT-14. Emergency Generators at Critical Facilities

Action Name:	2024-RamapoT-14. Emergency Generators at Critical Facilities	
Description of the Problem:	The Town does not have backup power at several pump stations and in the event of a power outage caused by a dam/levee failure, earthquake, extrem temperature event, flood, landslide, severe storm, severe winter storm, or wildfire, the pump stations will not function properly.	
Hazard(s) of Concern: <i>Check all that apply</i>	<input checked="" type="checkbox"/> Dam/Levee Failure <input type="checkbox"/> Disease Outbreak <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Temperature	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Severe Storm <input checked="" type="checkbox"/> Severe Winter Storm <input checked="" type="checkbox"/> Wildfire
Description of the Solution:	Install permanently mounted generators at pump stations including Rodman Place, Longbow Road, Hawk Street, Sergio Court, and Bayard Lane. This project will help ensure the continued operations of the Town's Sanitary Sewer system during storm events involving power outages. Additionally, it will improve the Town's ability to respond to emergencies as the labor force and equipment will be available for assisting with other Town Emergency Protective Measures.	
Lead Agency:	Town Public Works	
Supporting Agencies:	Town Administration, Engineering, Office of Emergency Preparedness and Safety	
Estimated Cost:	High	
Potential Funding Sources:	FEMA HMPG, BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Town Budget	
Implementation Timeline:	5+ years	
Goals Met:	1, 2, 5	
Benefits:	The benefits of this action include reduced risk of flooding and resulting damage to facilities and less risk of interruption to potable water services. This action protects public health and safety and ensures continued operation of a critical facility and its essential functions during a power outage.	
Mitigation Action Type: <i>Check all that apply</i>	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category: <i>Check all that apply</i>	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Impact on Socially Vulnerable Populations:	Vulnerable areas that may otherwise experience a loss of water during heavy rain or flooding will be more likely to retain services. Protection of critical facilities provides an opportunity for first responders, utility workers, and emergency managers to stage and deploy resources to vulnerable and hazard prone areas.	
Impact on Critical Facilities/Lifelines:	Hydration lifeline is more likely to remain intact.	
Impact on Capabilities	The action will increase the Town's capabilities during power outage events.	
Impact on Future Development:	Communities with sound and resilient infrastructure encourage commercial and residential development. This action results in protection of a critical facility that could support future development.	
Climate Change Considerations:	Climate change is likely to increase severe weather events such as flooding, wind, and extreme temperatures that result in power failures. This action accounts for a likely increase in power failure events. Consideration should be taken regarding the increase in heavy rain and flood events as a result of climate change.	

Priority: <i>Check one</i>	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> Low
Alternatives	Action		Evaluation
	No Action		-
	Microgrid		Costly and difficult to implement.
	Solar panels and battery backup		Solar power is unlikely to be able to provide battery power for extended power failure events.