



9.9 Town of Putnam Valley

This section presents the jurisdictional annex for the Town of Putnam Valley. It includes resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. This annex includes a general overview of the municipality and who in the Town participated in the planning process; an assessment of the Town of Putnam Valley’s risk and vulnerability; the different capabilities utilized in the Town; and an action plan that will be implemented to achieve a more resilient community.

9.9.1 Hazard Mitigation Planning Team

The following individuals have been identified as the Town of Putnam Valley’s hazard mitigation plan primary and alternate points of contact.

Table 9.9-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Sam Oliverio, Jr., Supervisor 265 Oscawana Lake Road, Putnam Valley, NY 10579 (845) 526-2121; cell (914) 414-5768 SOliverio@putnamvalley.com	Larry Cobb, Sr.; Highway Superintendent 265 Oscawana Lake Road, Putnam Valley, NY 10579 (845) 526-3333, cell (845) 721-0878 LCobb@putnamvalley.com
NFIP Floodplain Administrator	
Richard Quaglietta 265 Oscawana Lake Road, Putnam Valley, NY 10579 845-526-2327 rquaglietta@putnamvalley.com	

9.9.2 Municipal Profile

The Town of Putnam Valley was incorporated in 1839 as the Town of Quincy, when it was separated from the Town of Philipstown, and it took the name "Putnam Valley" in 1840 as a result of inhabitants being unfavorably impressed with John Quincy Adams. In 1861, a small part of the town of Carmel was added to Putnam Valley.

Town government is run by the Town Board as the executive, administrative, and legislative body of the town. The Town Board represents the will and voice of the people.

Putnam Valley has a land area of approximately 27,300 acres. The Town is situated in the southwest portion of Putnam County and is bordered by the Town of Philipstown to the west and northwest; the Town of Kent to the northeast; and the Town of Carmel to the southeast. To the south of Putnam Valley are the Towns of Yorktown, Cortlandt, and the City of Peekskill, all in Westchester County. The Town has a total area of 43 square miles, of which 41.4 square miles is land and 1.6 square miles is water.

According to the 2010 U.S. Census, the population of the Town of Putnam Valley was 11,809.

9.9.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. Table 9.9-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figure 9.9-1 at the end of this annex illustrates the geographically delineated hazard areas and the location of potential new development, where available.





Table 9.9-2. Recent and Expected Future Development

Type of Development	2015		2016		2017		2018		2019	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)										
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family	6	0	3	0	4	0	4	0	4	0
Multi-Family	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0
Total	6	0	3	0	4	0	4	0	4	0
Property or Development Name	Type of Development	# of Units / Structures		Location (address and/or block and lot)		Known Hazard Zone(s)*		Description / Status of Development		
Recent Major Development and Infrastructure from 2015 to Present										
HYH Subdivision	Residential	15 lot residential subdivision		-		N/A		Acquired as open space		
Rose Hill Cemetery	Non-Residential	Develop 4.84 ac. of 59.7 ac. parcel to create 1,888 grave sites, access driveway, modify existing drainage, construct a stormwater management pond and create a meditation area		-		N/A		Developed		
New soccer camp	-	226 kid-soccer camp 26K sq ft bldg		-		N/A		90% developed		
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years										
Living Springs- possible cell tower	-	-		-		N/A		-		

SFHA Special Flood Hazard Area (1% flood event)

* Only location-specific hazard zones or vulnerabilities identified.

9.9.4 Capability Assessment

The Town of Putnam Valley performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 6 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.



- The municipality’s understanding of local capacity for adapting to current and future risks and changing conditions.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized in Capability Assessment (Section 9.9.4). The Town of Putnam Valley identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Putnam Valley and where hazard mitigation has been integrated.

Table 9.9-3. Planning, Legal, and Regulatory Capability

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
Codes, Ordinances, & Requirements							
Building Code	Yes	Ch. 132	Local and State	Building Department	Yes	No	-
<p>Comment: <i>NYS Uniform and Energy Code 2020; Regulated at local and state levels. The Uniform Code (19 NYCRR Parts 1219 to 1229) now includes the 2015 editions of the code books published by the International Code Council (the “2015 I-Codes”), as amended by the publication entitled the 2017 Uniform Code Supplement (publication date: July 2017).. Article 18 of the Executive Law (§§ 370 through 383) establishes the State Fire Prevention and Building Code Council, directs the Code Council to promulgate and maintain the Uniform Code, and charges each city, town, and village in the State (with the exception of the City of New York) with the duty of administering and enforcing the Uniform Code within its municipal boundaries.</i></p> <ul style="list-style-type: none"> • <i>Chapter 132, Building Construction and Fire Prevention. The Town Board of the Town of Putnam Valley, Putnam County, New York, hereby accepts applicability of the New York State Uniform Fire Prevention and Building Code.</i> 							
Zoning Code	Yes	Ch. 165	Local	Building Department	Yes	No	-
<p>Comment: <i>Article IX, Section 2, of the State Constitution and by the various state enabling statutes. In New York, the zoning enabling acts continue to require that zoning be undertaken “in accord with a well-considered plan”¹¹ or “in accordance with a comprehensive plan.”¹² Unless the town, city or village has adopted a comprehensive plan document using the more recently-enacted statutes (described later herein), local officials must refer to the extensive body of case law to determine how zoning can meet the more general “comprehensive plan” requirement. **May be impacted by State wetland regulations which protect wetlands greater than 12.4 acres and established buffer zones. Regulated at local level</i></p> <ul style="list-style-type: none"> • <i>Chapter 165, Zoning. The zoning regulations and districts as herein established have been designed to implement and promote the Master Plan for the Town of Putnam Valley for the purpose of promoting the health, safety and general welfare of the town.</i> • <i>In the Town’s PD Preservation District, development is discouraged on land with ecologically important resources, land subject to flooding, areas with excessive slopes or other land features that could, if not properly protected, endanger human life or property.</i> • <i>The purpose and intent of the Wetlands and Watercourses (W) Overlay District is to implement programs and policies of the Master Plan and Chapter 144, Freshwater Wetlands, of the Code of the Town of Putnam Valley, as they relate to preserving resources for flood protection, erosion control, wildlife habitat, pollution treatment, open space, groundwater and surface water quality, recreation and other benefits associated therewith.</i> • <i>In reviewing plans for development in hillside areas and along designated ridgelines, the Planning Board shall act to ensure the retention of major natural topographic features, such as drainage swales, steep slopes, watershed areas, floodplain, view corridors and scenic vistas.</i> • <i>No material which is dangerous due to potential hazard of explosion, fire or radioactivity shall be used, stored, manufactured, processed or assembled except in accordance with applicable regulations of the State of New York.</i> 							
Subdivisions Regulations	Yes	Ch. 158	Local	Planning/Zoning	No	No	-
<p>Comment: <i>Subdivision is defined in the State enabling Statutes as: the division of any parcel of land into a number of lots, blocks, or sites as specified i a local ordinance, law or regulation, with or without streets or highways, for the purpose of sale, transfer of ownership, or development. There is not a requirement by NYS for subdivisions. Each municipality is permitted to further define subdivision for its own purposes in connection with its subdivision review procedure. The enabling statutes provide that a plat showing a division of land which is subject to a</i></p>							



SECTION 9.9: TOWN OF PUTNAM VALLEY

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action? If yes, add Mitigation Action #.	
<i>municipality's subdivision regulations, may not also be subject to review under its site plan review authority. (general city law s. 32 & 33, Town Law s. 276 & 277, Village Law s. 7-728 & 7-730).</i>							
Stormwater Management Regulations	Yes	Ch. 102 – Stormwater Management Ch. 155 – Soil Erosion and Sediment Control	Federal, State, Local	Susan Manno	MS4	No	-
<p>Comment: <i>Codes Rules and Regulations of the State of New York, Title 6. Department of Environmental Conservation, Chapter X. Division of Water Resources, Subchapter A. General Article 3. State Pollutant Discharge Elimination System, Part 750. State Pollutant Discharge Elimination System (SPDES) Permits. New York Environmental Conservation Law, Article 17, Titles 7, 8 and Article 70. New development and redevelopment projects that result in a land disturbance of one acre or greater, including projects less than one acre if they are part of a larger common plan of development or sale or if controlling such activities in a particular watershed is require a permit by the Department.</i></p> <ul style="list-style-type: none"> <i>Chapter 102, Stormwater Management and Erosion and Sediment Control. 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 this jurisdiction and to address the findings of fact stating that the Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.</i> <i>The Town will achieve the purposes of this Chapter by: A. Meeting the requirements of the minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-02-02 or as amended or revised; B. Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities, GP-02-01, or as amended or revised; C. Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels; and D. Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality.</i> <i>The municipality shall designate a Stormwater Management Officer, who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board.</i> <i>No application for approval of a land development activity shall be reviewed until the appropriate board has received a stormwater pollution prevention plan (SWPPP) prepared in accordance with the specifications in this chapter.</i> 							
Post-Disaster Recovery Regulation	No	-	Local	-	No	-	-
<p>Comment:</p>							
Real Estate Disclosure	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent	Yes	No	-
<p>Comment: <i>In addition to facing potential liability for failing to disclose under the exceptions to “caveat emptor,” a home seller must make certain disclosures under the law or pay a credit of \$500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.</i></p>							
Growth Management Regulation	No	-	Local	-	No	-	-
<p>Comment: <i>In New York State, virtually all land use regulation, which is the primarily tool for Smart Growth, takes place at the municipal level (i.e., in a city, village or town government). Land use planning is also primarily a municipal function. While State law provides for certain planning functions at the county or regional level, these mechanisms are largely advisory, whereas municipal planning is directly related to land use regulation.</i></p>							
Site Plan Review	Yes	Zoning Board of Adjustments	Local	Zoning Board of Adjustments	No	No	-
<p>Comment: <i>The authority to require site plan review is derived from the State enabling Statutes (General City Law s. 27-a, Town Law s. 247a, Village Law s. 7-725a)The local legislative body has the power to delegate site plan review to the planning board, zoning board, etc.</i></p>							
Environmental Protection	Yes	Chapter 165	State	Zoning Board	No	No	-





SECTION 9.9: TOWN OF PUTNAM VALLEY

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
<p>Comment: <i>New State Environmental Quality Review Act (SEQR) Title 6 NYCRR Part 617 Regulations are in effect as of January 1st, 2019. The Town has an EMD Zoning District for environmental protection.</i></p>							
Flood Damage Prevention Law	Yes	Ch. 136	Federal, State, Local	-	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	No	-
<p>Comment: <i>A community must adopt a Flood Damage Prevention Ordinance to participate in the National Flood Insurance Program.</i></p> <ul style="list-style-type: none"> Chapter 136, Flood Damage Prevention. The Town Board of the Town of Putnam Valley finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Town of Putnam Valley 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. It is the purpose of this Chapter to; A. Protect human life and health; B. Minimize expenditure of public money for costly flood control projects; C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public; D. Minimize prolonged business interruptions; E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, streets and bridges located in areas of special flood hazard; F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas; G. Provide that developers are notified that property is in an area of special flood hazard; and, H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. The Town of Putnam Valley Code Enforcement Officer is hereby appointed local administrator to administer and implement this chapter by granting or denying floodplain development permits in accordance with its provisions. A floodplain development permit is hereby required for all construction and other development to be undertaken in areas of special flood hazard in this community The following standards apply to all new subdivision proposals and other proposed development in areas of special flood hazard: (1) Proposals shall be consistent with the need to minimize flood damage; (2) Public utilities and facilities, such as sewer, gas, electrical and water systems, shall be located and constructed so as to minimize flood damage; and (3) Adequate drainage shall be provided to reduce exposure to flood damage. On streams with a regulatory floodway, as shown on the Flood Boundary and Floodway Map or the Flood Insurance Rate Map adopted in § 90-6, no new construction, substantial improvements or other development in the floodway (including fill) shall be permitted. The following standards apply to new and substantially improved residential structures located in areas of special flood hazard; Within Zones A1-A30, AE and AH and also Zone A if base flood elevation data are available, new construction and substantial improvements shall have the lowest floor (including basement elevated to or above two feet above the base flood elevation. <p>The following standards apply to new and substantially improved commercial, industrial and other nonresidential structures located in areas of special flood hazard; Within Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, new construction and substantial improvements of any nonresidential structure shall either: (1) Have the lowest floor, including basement or cellar, elevated to or above two feet above the base flood elevation; or (2) Be floodproofed so that the structure is watertight below two feet above the base flood elevation, including attendant utility and sanitary facilities, with walls substantially impermeable to the passage of water.</p>							
Municipal Separate Storm Sewer System (MS4) Regulation	Yes	Chapter 101	Federal	-	Yes	No	-
<p>Comment: <i>This requires urbanized areas (local governments) to develop a stormwater management program that will reduce the amount of pollutants carried by stormwater during storm events to waterbodies to the "maximum extent practicable". The goal of the program is to improve water quality and recreational use of waterways. A Municipal Separate Storm Sewer Systems Permit, GP-0-15-003 is required.</i></p> <ul style="list-style-type: none"> Chapter 101, Storm Sewers, adopted 12-19-2007. The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the Town of Putnam Valley through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. The objectives of this article are; A. To meet the requirements of the SPDES General Permit for Stormwater Discharges from MS4s, Permit No. GP-02-02 or as amended or revised; B. To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process or discharge non-stormwater wastes; C. To prohibit illicit connections, activities and discharges to the MS4; D. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article; and E. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4. The Stormwater Management Officer(s) [SMO(s)] shall administer, implement, and enforce the provisions of this article. Where the SMO has identified illicit discharges as defined in § 101-2 or activities contaminating stormwater as defined in § 101-7, the municipality may require implementation of best management practices (BMPs) to control those illicit discharges and activities. 							
Emergency Management	Yes	June 2017	State	Putnam Valley Volunteer Ambulance	Yes	No	-





SECTION 9.9: TOWN OF PUTNAM VALLEY

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action? If yes, add Mitigation Action #.	
		Putnam Fire/EMS Mutual Aid Plan		Corps; Volunteer Fire Department			
Comment: The development of the New York State Comprehensive Emergency Management Plan (CEMP) is required under NYS Executive Law, Article 2B.							
Climate Change	Yes	Town is initiating Climate Smart Community process	Local	-	Yes	No	-
Comment: The environmental conservation law was amended by adding ARTICLE 75 - CLIMATE CHANGE under Assembly Bill A. 8429 and Senate Bill S. 6599, dated June 18, 2019.							
Disaster Recovery Ordinance	No	-	Local	-	No	-	-
Comment:							
Disaster Reconstruction Ordinance	No	-	-	-	-	-	-
Comment:							
Other	-	-	-	-	-	-	-
Comment:							
Planning Documents							
Comprehensive Plan	Yes	Adopted 2007 (online)	State, Local	Planning Board	No	Yes	NA
<p>Comment: Optional under NYS Law, municipality may adopt a comprehensive plan or proceed through a planning process which has evolved based on case law. (Per State Legislature General City Law section 28a, Town Law s. 272a, Village Law s. 7-722) **May be impacted by State wetland regulations which protect wetlands greater than 12.4 acres and established buffer zones. Regulated at the local level</p> <ul style="list-style-type: none"> • Comprehensive Plan and Generic Environmental Impact Statement (GEIS), 2007. adopted by the Town of Putnam Valley Town Board on December 12, 2007 • There are a number of prominent ridgelines in Town that have and will continue to shape the growth of the Town. Putnam Valley's varied topography results in moderate to steep slopes over a significant portion of Town. In fact, 36% of the Town is constrained by slopes equal to or greater than 20%. • Only about 3% of the residences/businesses in Putnam Valley have a public water supply and only 5% are connected to a public sewer system for wastewater collection and disposal. The remaining homes are served by private water wells and septic systems. Septic failure and ground and surface water contamination has been a critical issue for decision makers and residents of the Town for years. • A vision resulting from the planning process is that the community should take action to protect its abundant natural resources and to conserve a network of open lands that extends throughout the town, not only to protect the quality of its water and preserve its rural character, but also to provide vital habitats to continue the Town's important role as a critical and diverse regional biodiversity area. • To achieve the Plan's vision, the following long- and short-term actions are recommended; Maintain and strengthen efforts to protect the abundant natural resources that exist in this Hudson Highlands community. Safeguarding water quality in this "Town of Lakes" is among the priority natural resource concerns. Protect the quality of our drinking water through aquifer and surface water protection. Consider the long-term sustainability of groundwater resources when determining overall housing densities in Putnam Valley, develop a coordinated approach to the resolution of long-standing public health and environmental issues related to wastewater management in the Town's lakeside communities and other densely populated locations in the Town. Promote energy efficiency and conservation, and the use of renewable energy in the town. Coordinate and streamline the development review process to enable projects that are consistent with the vision, goals, and recommendations of this plan to achieve approval in a predictable, straightforward manner. • The Plan recommends that a Conservation Subdivision design be required. The Conservation Subdivision Design approach involves the identification of open space resources present on the site to be developed (environmentally constrained land, significant habitats, agricultural land, historic or scenic views, significant woodlots, etc.). The number of permitted dwelling units within the subdivision is determined by subtracting areas of constrained land (wetlands, wetland buffers, watercourses, steep slopes, floodplains, etc.) from the gross lot area and dividing that number by the allowable density for the zoning district. • It is further recommended that wetland, waterbody, and watercourse buffer areas and floodplains also be identified as "unbuildable area." • The Plan Recommends the Town prepare for and comply with the Phase II Stormwater Management Regulations. 							





SECTION 9.9: TOWN OF PUTNAM VALLEY

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	
						If no - can it be a mitigation action? If yes, add Mitigation Action #.	
Capital Improvement Plan	Yes	Ongoing, specifically noted is highway projects	Local	-	No	No	-
Comment: A local government can decide to adopt its capital plan pursuant to General Municipal Law Section 99-g.							
Disaster Debris Management Plan	No	-	Local	-	No	-	-
Comment: Based on past experience with disaster management, it is apparent that local municipalities that have an Emergency Debris Management Plan in place are able to manage their emergency response in a more comprehensive and coordinated manner and are able to address recovery and clean up faster and more efficiently than those without plans. With that in mind, the Department developed an Emergency Management Plan Tool Kit. The NYSDEC (Department) strongly urges all municipal officials to conduct pre-disaster planning and prepare emergency debris management plans. The Department recommends that these plans should be reviewed and updated annually.							
Floodplain or Watershed Plan	No	-	Local	v	No	-	-
Comment: The State Pollutant Discharge Elimination System (SPDES) permit program is a primary way the DOW implements its watershed protection and restoration activities.							
Stormwater Plan	Yes	-	Local	SWMO	No	-	-
Comment: Local Authority - Could be an element of the Comprehensive Plan. There is a required planning process that must be followed when addressing stormwater management in regulated new development and redevelopment projects. See Stormwater Management and MS4 Regulations above. The Comprehensive Plan also addresses Stormwater Management at length, although it does not include a separate Stormwater Element.							
Open Space Plan	No	-	Local		Yes	-	-
Comment: Planning boards prepare or oversee the preparation of local comprehensive plans, which should include an open space element. The primary purpose of a local open space plan is to cause the important open lands in the community to be conserved for open space uses.							
Urban Water Management Plan	No	-	Local	-	No	-	-
Comment:							
Habitat Conservation Plan	No	-	Local	-	No	-	-
Comment: Laws related to habitat protection and biodiversity control the use and application of certain pesticides, demolition projects and clearing of vegetated areas. Identifying certain critical habitat areas could be included in the Comprehensive Plan. Critical Habitat is a part of certain State and Federal Permitting. The State had a Wildlife Action Plan requires to maintain eligibility for the State Wildlife Grant Program.							
Economic Development Plan	No	Master Plan	Local		No		
Comment: An Economic Development Plan may be prepared by a local government and be included or separate from the Comprehensive plan.**May be impacted by State wetland regulations which protect wetlands greater than 12.4 acres and established buffer zones.							
Shoreline Management Plan	No	-	Local	-	Yes	-	-
Comment: Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas 6 NYCRR Part 505, Coastal Erosion Management Regulations							
Community Wildfire Protection Plan	No	-	Local	-	No	-	-
Comment: Under the federal Farm Bill, every 10 years each state must submit a State Forest Action Plan to the U.S. Forest Service. The Plan must be approved by the State Forester, who in New York is the director of DEC's Division of Lands and Forests. The next update of the Plan must be submitted to the Forest Service by June 2020.							
Forest Management Plan	No	-	Local	-	No	-	-
Comment:							
Transportation Plan	No	-	Local	-	No	-	-
Comment:							
Agriculture Plan	No	-	Local	-	Yes	-	-



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
<i>Comment: Municipalities may develop agricultural and farmland protection plans, in cooperation with cooperative extension and other organizations, including local farmers.</i>							
Other	-	-	-	-	-	-	-
<i>Comment:</i>							
Response/Recovery Planning							
Comprehensive Emergency Management Plan	Yes	-	Local	-	Yes	-	-
<i>Comment: The development of the New York State Comprehensive Emergency Management Plan (CEMP) is required under NYS Executive Law, Article 2B. The plan is developed and maintained by the New York State Office of Emergency Management and agencies that comprise the NYS Disaster Preparedness Commission (DPC).</i>							
Strategic Recovery Planning Report	No	-	Local	-	Yes	-	-
<i>Comment:</i>							
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	Local	-	No	-	-
<i>Comment: THIRA is an annual requirement that all states must complete to remain eligible to receive federal homeland security grant funding. It also involves a hazard and capability assessment but DHSES has several methodological concerns with the THIRA process and has developed CEPA to serve as the State's system to capture and analyze hazard/capability information. However, CEPA has been engineered to support the completion of the THIRA.</i>							
Post-Disaster Recovery Plan	No	-	Local	-	No	-	-
<i>Comment:</i>							
Continuity of Operations Plan	No	-	Local	-	No	-	-
<i>Comment: According to the FEMA, "State and local governments should consider developing or updating contingency plans for the continuity of operations (COOP) of vital government functions. Jurisdictions must be prepared to continue their minimum essential functions throughout the spectrum of possible threats from natural disasters through acts of terrorism. COOP planning facilitates the performance of State and local government and services during an emergency that may disrupt normal operations.</i>							
Public Health Plan	No	-	Local	-	-	-	-
<i>Comment:</i>							
Other	-	-	-	-	-	-	-
<i>Comment:</i>							

Table 9.9-4. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Response Yes/No; Provide further detail
Development Permits. If yes, what department?	Yes- Building Department, Planning/Zoning
Permits are tracked by hazard area. For example, floodplain development permits.	Yes
Buildable land inventory If yes, please describe If no, please quantitatively describe the level of buildout in the jurisdiction.	No- Putnam Valley is characterized as "built out"

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Putnam Valley.





Table 9.9-5. Administrative and Technical Capabilities

Resources	Available? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Town Board members are liaisons (Wendy/Ralph)
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Warning Systems / Services (Mass Notification System, outdoor warning signals)	Yes	Indian Point Sirens
Maintenance programs to reduce risk	Yes	The Highway Department manages vegetation.
Mutual aid agreements	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Town Planner- Cornerstone Associates Town Engineer – Folchetti & Associates Stormwater Coordinator – Susan Manno
Engineers or professionals trained in building or infrastructure construction practices	Yes	See above
Planners or engineers with an understanding of natural hazards	Yes	See above
Staff with expertise or training in benefit/cost analysis	Yes	Planners and Engineers
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
NFIP Floodplain Administrator (FPA)	Yes	Town Code Enforcement Officer (currently Rich Quaglietta)
Surveyor(s)	No	-
Emergency Manager	Yes	County operated EOC (EMS)
Grant writer(s)	Yes	Susan Manno
Resilience Officer	No	-
Other	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Putnam Valley.

Table 9.9-6. 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
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes- recreation fee for subdivisions
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes, both environmental grant opportunities and recent HMGP



Financial Resources	Accessible or Eligible to Use (Yes/No)
Open Space Acquisition funding programs	No
Other	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Town of Putnam Valley.

Table 9.9-7. Education and Outreach Capabilities

Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Public information officer or communications office?	No
Personnel skilled or trained in website development?	Yes (Glen Baisley)
Hazard mitigation information available on your website; if yes, describe	Yes- COVID info online
Social media for hazard mitigation education and outreach; if yes, briefly describe.	Not known. Supervisor does social media.
Citizen boards or commissions that address issues related to hazard mitigation; if yes, briefly describe.	Yes, CCE
Other programs already in place that could be used to communicate hazard-related information; if yes, briefly describe.	No
Warning systems for hazard events; if yes, briefly describe.	No
Natural disaster/safety programs in place for schools; if yes, briefly describe.	Integrated in earth science course in 9 th grade
Other	No

Community Classifications

The table below summarizes classifications for community programs available to the Town of Putnam Valley.

Table 9.9-8. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4 to 8 Changes due to water access Oregon Corners area has hydrants.	New update to be out soon. No change expected
NYSDEC Climate Smart Community	Yes	-	Currently entering program
Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
Other	No	-	-

Note:

- N/A Not applicable
- NP Not participating
- Unavailable





Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.9-9. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low*
Disease Outbreak	Medium
Drought	Medium
Earthquake	Medium
Extreme Temperature	Medium
Flood	Medium
Harmful Algal Bloom	High
Severe Weather	Medium
Severe Winter Weather	Medium
Terrorism	Medium
Wildfire	Medium

*High Capacity exists and is in use
 Medium Capacity may exist; but is not used or could use some improvement
 Low Capacity does not exist or could use substantial improvement
 Unsure Not enough information is known to assign a rating

National Flood Insurance Program

This section provides specific information on the management and regulation of the regulatory floodplain.

NFIP Floodplain Administrator (FPA)

Richard Quaglietta, Building Inspector

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Town of Putnam Valley.

Table 9.9-10. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties
Putnam Valley	52	82	\$1,307,412	22

Source: FEMA 2020
 Notes: Policies, claims, and loss statistics provided by FEMA Region 2, and current as of July 28, 2020. The total number of repetitive loss properties does not include severe repetitive loss properties.
 RL Repetitive Loss

Resources

The Town’s floodplain management regulations and ordinances meet the minimum requirements set forth by both FEMA and New York State. There are other ordinances within the Town supporting the implementation of the Flood Damage Prevention Ordinance.





Rich Quaglietta is the local NFIP FPA, for which floodplain administration is an auxiliary duty. He is supported by the Town's Planning Board and Zoning Board (site plan review process), as well as an engineer, planner and MS4 consultant.

Duties and responsibilities of the NFIP Administrator are permit review, inspections, damage assessments as warranted, record keeping, and education and outreach including that associated with the Town's MS4 program.

Compliance History

The community is currently in good standing in the NFIP and has no outstanding compliance issues. According to FEMA, the most recent CAV was conducted on August 24, 2016.

The current NFIP FPA is not aware of any properties that have been declared "Substantially Damaged" in recent flood or other natural hazard events, however he is qualified to make sure determinations. The Town is not aware of any property owners who are interested in mitigation, however, intends to make outreach to RL/SRL property owners to identify possible interest in mitigation.

Regulatory

Mr. Quaglietta feels he is adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator, however, would be interested in receiving continuing education and possibly certification to support his floodplain management functions.

While the Town does not currently have a formal education and outreach program in place for floodplain management, this is partially accomplished through the MS4 program.

Mr. Quaglietta did not identify any barriers to running an effective floodplain management program in the Town. Pursuing additional training and education on matters regarding floodplain management would be of interest, in addition to getting further information on the Community Rating System (CRS) program.

Additional Areas of Existing Integration

Floodplain Management/Education and Outreach: The Town is not aware of any property owners who are interested in mitigation, however, intends to make outreach to RL/SRL property owners to identify possible interest in mitigation.

Floodplain Management: The current NFIP FPA would be interested in receiving continuing education and possibly certification to support his floodplain management functions and would participate in training workshops/seminars if offered locally.

Building Local Mitigation Capabilities: The Town has included initiative PV-8, to support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities, within the proposed mitigation strategy.

Public Education and Outreach: The Town has an active MS4 program that includes public education and outreach on stormwater management, which addresses both stormwater quality and quantity and thus supports localized flood reduction.

Capital Plans and Budgets: The Town has a Capital Planning process that includes providing funding for local mitigation projects, including those identified in the proposed mitigation strategy.



Evacuation, Sheltering, Temporary Housing, and Permanent Housing

Evacuation routes, sheltering measures, temporary housing, and permanent housing must all be in place and available for public awareness to protect residents, mitigate risk, and relocate residents, if necessary, to maintain post-disaster social and economic stability.

Evacuation Routes

The Town would follow the Indian Point Evacuation Route in the event of an incident.

Sheltering

There are no sheltering agreements currently in place. The Senior Center can take some residents and has a kitchen available. However, the kitchen is not fully functioning.

Temporary Housing

Temporary housing may be available at the Leonard Wagner Memorial Park, where water and electric service is available. The Park is home to the senior center and has a capacity of 15 persons.

Permanent Housing

No permanent housing sites were identified.

9.9.5 Hazard Event History Specific to the Town of Putnam Valley

Putnam County has a history of natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The Town of Putnam Valley history of federally declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Putnam County. Table 9.9-11 provides details regarding municipal-specific loss and damages the Town experienced during hazard events. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.9-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
February 13, 2017	Strong Wind	No	A 51 mph wind gust was measured in the County following a deepening low pressure system.	No damages reported.
September 5, 2017	Thunderstorm Wind	No	A cold front resulted in severe isolated storms in the County.	Downed trees reported on Canopus Hill Road east of Route 9.
October 24, 2017	Strong Wind	No	An arriving cold front brought strong 51 mph winds.	No damages reported.
March 1, 2018	Winter Weather/Nor'easter	No	Heavy snow system in region.	No damages reported.
May 15, 2018	Severe Weather/Tornado	No	Severe thunderstorms and tornadoes followed a cold front in the lower Hudson Valley.	Route 301 was taken out by the wind storm.
August 4, 2020	Isaias Tropical Storm	No	Tropical Storm Isaias passed through the region. Nearly all of the County, including 90% of NYSEG customers, was left	Road closures for 3 days, Power restoration took up to 6 days, cable restoration took 2-16+ days in some areas, 2



Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			without power, and the County was in a Declared State of Emergency. The National Guard was deployed to distribute water to municipalities and the damage was reported to exceed that of Superstorm Sandy.	houses had extensive damaged. 79 trees downed, cost the Town over \$120,000 in overtime and equipment

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)
- N/A Not applicable

9.9.6 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the Town of Putnam Valley’s risk assessment results and data used to determine the hazard ranking.

Critical Facilities

New York Department of Environmental Conservation (DEC) Statute 6 CRR-NY 502.4 sets forth floodplain management criteria for State projects located in flood hazard areas. The law states that no such projects related to critical facilities shall be undertaken in a Special Flood Hazard Area (SFHA) unless constructed according to specific mitigation specifications, including being raised 2’ above the Base Flood Elevation (BFE). This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>. While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood even, or worst damage scenario. For those that do not meet this criteria, the jurisdiction must identify an action to achieve this level of protection (NYS DHSES 2017).

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.9-12. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
Government	Government	X	X	008
Hollow Brook Dam	Dam	X	X	008
Lower (south) Wicopee Dam	Dam	X	X	008

Source: HAZUS

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its





potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Putnam County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Putnam Valley. The Town of Putnam Valley has reviewed the county hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Town of Putnam Valley indicated the following:

- The Town adjusted the ranking of flood from low to medium due to the frequency of flooding the municipality experiences.

Table 9.9-13. Hazard Ranking Input

Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood
Medium	Medium	Low	Medium	Medium*
Harmful Algal Bloom	Severe Weather	Severe Winter Weather	Terrorism	Wildfire
Low	High	High	Medium	Medium

Note: The scale is based on the following hazard rankings as established in Section 5.3.

**The municipality changed the initial ranking of this hazard based on event history, municipal experience, and feedback from the municipality*

Identified Issues

The 2013 FEMA Flood Insurance Study (FIS) for Putnam County did not identify any floodprone areas in the Town of Putnam Valley (FEMA FIS 2013).

In addition to those identified above, the municipality has identified the following vulnerabilities:

- The Town experiences significant flooding and associated road damage throughout the Town during major events such as Tropical Storm Floyd (1999), April 2007 storm, Irene (2011), and Sandy (2012), at a particularly in the following locations (Note that impacts to each road are highly variable depending on the event):
 - Twin Pines/Rochdale Road
 - Shamrock Drive
 - Boswell Road
 - Camp Collins Road
 - Trail of Hemlocks
 - Chapman Rod
 - Sunken Mine Road
 - Cimarron Road
 - Horton Hollow Road
 - Conopus Hollow Road
 - North Shore Road
 - Tinker Hill Road
 - Wiccopee Road
 - Porters Road
 - Woods End Road
 - Mueller Mountain Road
 - South Highlands Road
 - New Hill Road
 - Seifert Lane
 - Sylvan Road
 - Brookdale Gardens
 - Dunderberg Road
 - Coleman’s Landing Road
 - Noswal Road (private)



- The following critical or essential facilities in the Town lack back-up power:
 - Putnam Valley Central School (171 Oscawana Lake Road)
 - Putnam Valley Central School – High School (Peekskill Hollow Road) – existing generator is limited
 - Glenmar Gardens – 25 homes on their own potable water system – no generator in currently in place
 - Town Hall, just received generator
 - The new Firehouse will receive a generator (*Action 001*)

- Corner of Peekskill Hollow Road and Church Street – private property flooding during Irene and Sandy (Horan (RL) and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC and advised the Town not to touch the area

- Bridge at center of town near intersection of Peekskill Hollow Road and Oscawana Lake Road – a problem is developing with silt build ups (islands). This goes underneath the bridge that has sewer pipes located on it...the water level is getting increasingly closer to the underside of bridge and is considered an impending problem.

- Dunderberg Road and Coleman’s Landing Road (also Noswal Road – private) – flooding during Irene and Sandy, water coming up from Lake Oscawana which is silting in - flooding road and residences in the area.

- Flooding in the area downstream of Wicoppee Reservoir.

- Wicoppee Road – two drainage pipes that get washed out all of the time. Pipes get frequently clogged and are rotting out. This is City of Peekskill’s drinking water, and several historic sites are in the area (Tompkin’s Corner).

- Dunderberg Road and Oscawana Lake Road – Smaller, old dam. Lack of being able to control level results in local properties and septic systems getting flooded.

- North end of Lake Oscawana – silt islands becoming land masses, cutting another channel through the woods which will result in further erosion.

- John Allen Pond Dam – Dam in Fahnestock State Park (NYSDEC), had a hole in dam wall. Eventually the whole dam blew out.

- Wawayanda – dam rehab in progress, going into 5 years, almost completed

- Canopus Hollow Road, stream along this area has severe stream bank erosion (*Action 004*)

- The Power in town is reported to go out often, though the situation has improved with new transfer switches. Many residents have invested in generators. (*Action 010*)

Specific areas of concern based on resident response to the Putnam County Hazard Mitigation Citizen survey include:

- Roaring Brook Lake Dam and Peekskill Dam were identified as vulnerabilities.
- Residents noted that many roads in the Town are vulnerable to having felled power lines during high wind events.
- A resident noted that the traffic light at the corner of Peekskill Hollow Road and Oscawana Lake Road frequently is impacted by power outages. Bridges were also identified as a vulnerability.

9.9.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their prioritization.



Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2015 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.

DRAFT



Table 9.9-14. Status of Previous Mitigation Actions

Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.	
						Cost	Level of Protection		
PV-1	Backup Power for Critical/Essential Facilities	Severe Storm, Severe Winter Storm, Climate Change	Town of Putnam Valley, Supervisor Sam Oliverio	Backup Power for Critical/Essential Facilities: Install back-up power at the following critical facilities: <ul style="list-style-type: none"> Putnam Valley Central School, 171 Oscawana Lake Road Putnam Valley Central School, Peekskill Hollow Road Glenmar Gardens Subdivision - potable water system See Action Worksheet	In progress	Cost ~\$117K	Level of Protection N/A	Damages Avoided; Evidence of Success Continue municipal functions	1. Include in the 2020 HMP 2. Town hall recently installed a generator. The Town wishes to continue pursuing generators.
PV-2	Adam's Corners Stream Rehabilitation	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	Town Supervisor and DPW, working with PC SWCD, NYSDEC and NRCS	Adam's Corners Stream Rehabilitation: <ul style="list-style-type: none"> Location: Adam's Corner – Intersection of Church Road and Peekskill Hollow Road Problem: A large island has built up in the stream and is beginning to choke off the stream. This has greatly increased the risk of flooding to private property and structures in the area. Private property flooding during Irene and Sandy (a Repetitive Loss property and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC who advised the Town not to touch the area. Mitigation Project/Initiative: Work with County and 	No progress	Cost	Level of Protection		Damages Avoided; Evidence of Success



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection Damages Avoided; Evidence of Success	
				NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads; thus, the County would need to be involved, even leading, in the effort.				
PV-3	Oregon Corners Stream Rehabilitation	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	Town Supervisor and DPW, working with PC SWCD, NYSDEC and NRCS	<p>Oregon Corners Stream Rehabilitation:</p> <ul style="list-style-type: none"> Location: Oregon Corners - Bridge at center of town near intersection of Peekskill Hollow Road and Oscawana Lake Road Problem: A problem is developing with silt build ups (islands). This goes underneath the bridge that has sewer pipes located on it. The water level is getting increasingly closer to the underside of bridge and is considered an impending problem. Further, this has greatly increased the risk of flooding to private property and structures in the area. Mitigation Project/Initiative: Work with County and NYSDEC to address the build-up of silt and islands where they are causing 	No progress			1. Include in the 2020 HMP



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)	Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.						
				backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads; thus, the County would need to be involved, even leading, in the effort. See Action Worksheet									
PV-4	Oscawana Lake Dam Upgrades	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt), Climate Change	Town DPW, working with NYSDEC	Oscawana Lake Dam Upgrades: <ul style="list-style-type: none"> Location: Dunderberg Road and Oscawana Lake Road Problem: Smaller, old dam at Abley Park. Lack of being able to control level results in local properties and septic systems getting flooded. This stream leads down to City of Peekskill drinking water supply. Mitigation Project/Initiative: Engineer and install a bigger (deeper) flow control to be able to lower the lake by maybe 4 feet to better regulate the lake. See Action Worksheet	No progress	<table border="1"> <tr><td>Cost</td><td></td></tr> <tr><td>Level of Protection</td><td></td></tr> <tr><td>Damages Avoided; Evidence of Success</td><td></td></tr> </table>	Cost		Level of Protection		Damages Avoided; Evidence of Success		<ol style="list-style-type: none"> 1. Include in the 2020 HMP 2.
Cost													
Level of Protection													
Damages Avoided; Evidence of Success													
PV-5	Wiccopee Road Culvert Upgrades	Flood, Severe Storms, Severe Winter Storms (heavy snowmelt), Climate Change	Highway Department	Wiccopee Road Culvert Upgrades <ul style="list-style-type: none"> Location: Wiccopee Road, area downstream of Wiccopee Reservoir Problem: Ponds downstream of Wiccopee Reservoir have become silted in, and no longer help to attenuate stormwater flows out of 	No progress	<table border="1"> <tr><td>Cost</td><td></td></tr> <tr><td>Level of Protection</td><td></td></tr> <tr><td>Damages Avoided; Evidence of Success</td><td></td></tr> </table>	Cost		Level of Protection		Damages Avoided; Evidence of Success		<ol style="list-style-type: none"> 1. Include in the 2020 HMP 2.
Cost													
Level of Protection													
Damages Avoided; Evidence of Success													



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
				<p>the reservoir. Particularly vulnerable is a section of Wicopee Road where two drainage pipes get washed out all of the time. Pipes get frequently clogged and are rotting out. This is City of Peekskill's drinking water, and several historic sites are in the area (Tompkin's Corner) are at risk from flooding.</p> <ul style="list-style-type: none"> Mitigation Project/Initiative: Need to do a three-section pre-cast concrete culvert replacement. This has been reviewed with FEMA after two prior flood events. Engineer has prepared a cost estimate for this. <p>See Action Worksheet</p>				
PV-6	Canopus Hollow Road Stream Rehabilitation	Flood, Severe Storm, Climate Change	Highway Dept.; working with SWCD, NYS DEC, NRCS	<p>Canopus Hollow Road Stream Rehabilitation</p> <ul style="list-style-type: none"> Location: Canopus Hollow Road Problem: The stream along this area has severe stream bank erosion. Risk is compounded by severe rock ledges in the area. Mitigation Project/Initiative: Work with appropriate agencies to identify and engineer appropriate project(s), secure funding and implement approved mitigation solutions. 	No progress	Cost		<ol style="list-style-type: none"> 1. Include in the 2020 HMP 2.
						Level of Protection		
						Damages Avoided; Evidence of Success		
						Cost		<ol style="list-style-type: none"> 1. Include in the 2020 HMP



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Damages Avoided; Evidence of Success	
PV-7	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain	Flooding, Severe Storm	Town NFIP FPA; support from NYSOEM and FEMA	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 (5-RL) and Severe Repetitive Loss (2-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. Specifically identified properties in the following locations: <ul style="list-style-type: none"> Lovers Lane White Road Peekskill Hollow Road Church Road 	No progress	Level of Protection		2.
PV-8	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities	All Hazards	Putnam County, as supported by relevant local department leads,	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically: <ul style="list-style-type: none"> Re-Establish Local Emergency Planning Committees (LEPCs) within the County, with an emphasis on stronger municipal level participation. Workshops and Seminars to build local capabilities in floodplain management and disaster recovery, potentially to include: <ul style="list-style-type: none"> NFIP Community Rating System (CRS) 	No progress	Cost		1. Include in the 2020 HMP 2.



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
				<ul style="list-style-type: none"> ○ Benefit-Cost Analysis (BCA) ○ Substantial Damage Estimating (SDE) ○ NFIP Elevation Certificates (EC) ○ Certified Floodplain Manager (CFM) Training and Certification ● County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures 				
PV-9	Enhance Tree Management Capabilities	Severe Storm, Severe Winter Storm, Climate Change	Putnam Valley Highway Dept	Enhance Tree Management Capabilities: Enhance Town capabilities to manage trees (vegetation) that threatens utilities and public safety in Town rights-of-way.	In progress	Cost		1. Include in the 2020 HMP
						Level of Protection		
						Damages Avoided; Evidence of Success		



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Putnam Valley identified a mitigation projects that had been completed but not identified in the previous mitigation strategy in the 2015 Plan. Harmful algal blooms have been reported on several of the Town’s lakes. Though most residents are on wells, some summer homes have pumps that draw water from the lake. Aerators and carp have been put in place in the Town’s lakes and a significant water/lake improvement has been realized.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Putnam Valley participated in a mitigation action workshop in August 2020 and was provided the following publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: Putnam County Mitigation Catalogue and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.9-15 summarizes the comprehensive-range of specific mitigation initiatives the Town of Putnam Valley would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.9-16 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.9-15. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
2020-Putnam Valley-001	Roaring Brook Dam	G-1, G-3, G-5	Flood, Severe Storm	<p>Problem: The Roaring Brook Dam requires retrofitting to stabilize the Dam. Potential damage to the spillway. Stability Reports have been done and are available for view</p> <p>Solution: Undertake assessment of dam conditions. Bids for retrofitting the dam have been solicited and are expected back 11/2020</p>	Yes	Yes	Short term	Town of Putnam Valley	No cost estimate yet	Establish feasibility and alternatives for dam repair	County Funds; Town of Putnam Valley; Bridge NY; Multimodal funds	Medium	SIP	SP
2020-Putnam Valley-002	Lovers Lane Bridge	G-1, G-3, G-5	Flood, Severe Storm	<p>Problem: The bridge was blown out from flood event due to a dislodged tree, resulting in significant damage to the bridge. The bridge has been closed for 15 years and entails a significant detour.</p> <p>Solution: Replace bridge and construct to a higher standard.</p>	Yes	Yes	Long term	Town of Putnam Valley	\$450,000 repair \$550-\$600 worst case	End lengthy detour and restored service to the road.	County Funds; Town of Putnam Valley; Bridge NY; Multimodal funds	Medium	SIP	SP
2020-Putnam Valley-003	Wicopee Road	G-1, G-3, G-5	Flood, Severe Storm	<p>Problem: The culvert on Wicopee Road is deteriorated.</p> <p>Solution: Replace culvert and construct to a higher standard.</p>	Yes	Yes	Short term	Town of Putnam Valley	\$300,000	Enhanced protection of bridge	County Funds; Town of Putnam Valley; Bridge NY;	Medium	SIP	SP
2020-Putnam Valley-004	Horton Hollow/Canopus Hollow	G-1, G-3, G-5	Flood, Severe Storm	<p>Problem: The culvert on this road is undersized and cannot handle the 25-year storm event.</p> <p>Solution: Enhance design storm of existing culvert to handle new flows and existing conditions.</p>	Yes	Yes	Short term	Town of Putnam Valley	No cost estimate yet	Enhanced protection of culvert	County Funds; Town of Putnam Valley; Bridge NY; Multimodal funds	Medium	SIP	SP
2020-Putnam Valley-005 (Former PV-1)	Backup Power for Critical/Essential Facilities	G-1, G-3, G-4, G-5	Severe Storm, Severe Winter Storm	<p>Problem: High wind events and winter storms have caused the widespread loss of electrical power, including power to local schools and home subdivision water treatment. The local schools, Putnam Valley Central School 2-locations (171 Oscawana Lake Road and Peekskill Hollow Road) is a critical facility in that it provides administrative services, Emergency Operations support and acts as a shelter and</p>	Yes	Yes	6-8 months (after funds are approved)	Town of Putnam Valley	>\$100,000	We will be able to provide local emergency sheltering and warming, thus preventing dangerous relocation of citizens to another facility	HMGP; BRIC; EMPG; Town budget or school budget for local match	Medium	SIP	SP



Table 9.9-15. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				<p>warming center to the local community during events. Loss of power forces the Town to transfer operations to other locations while operating at a greatly diminished capacity. Additional Putnam Valley has a 25- home subdivision, Glenmar Gardens, which has its own potable water system. Their power goes out during severe storms severely impacting their water supply.</p> <p>Solution: Install back-up power at the following critical facilities:</p> <ul style="list-style-type: none"> Putnam Valley Central School, 171 Oscawana Lake Road Putnam Valley Central School, Peekskill Hollow Road Glenmar Gardens Subdivision - potable water system <p>Generators will have sufficient capacity to allow the Town of quickly respond to a variety of disasters i.e. Hurricane, Nor'easter, Severe Storm, Severe Winter Storm, Earthquake and others by keeping the larger facilities open. This will prove useful as a shelter, emergency operations center, warming and gather places. It will also address community's needs while allowing the School(s) continuity during routine power or brown out situation.</p> <p>For the residents of the Glenmar Gardens subdivision, a generator will afford them uninterrupted and vitally necessary water service.</p>						during a storm event.				
2020-Putnam Valley-006 (Former PV-2)	Adam's Corners Stream Rehabilitation	G-1, G-3, G-5	Flood, Severe Storm, Severe Winter Storm (heavy	Problem: Location: Adam's Corner – Intersection of Church Road and Peekskill Hollow Road A large island has built up in the stream and is beginning to choke off the stream. This has greatly increased the risk of flooding to private property and structures in the area. Private property flooding during	No	Yes	Short-term to work with County and agencies to initiative program; actual project	Town Supervisor and DPW, working with PC SWCD,	High	Restoration of natural stream function; damages to property and infrastructure - Historic	County budget, available grant funding (e.g. FEMA HMA,	Medium	NSP	NR



Table 9.9-15. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
			snowmelt)	<p>Irene and Sandy (a Repetitive Loss property and a neighbor) – believe to their engineer to be caused by stream silt build up – the stream is backing up in this area – reviewed with NYSDEC who advised the Town not to touch the area.</p> <p>Solution: Work with County and NYSDEC to address the build-up of silt and islands where they are causing backups and changing the direction of flow leading to further stream bank erosion. The Town does not have the equipment needed to do the clearing work. This area is off county roads; thus, the County would need to be involved, even leading, in the effort.</p>			implementation dependent on agreement, permitting and funding	NYSDEC and NRCS		damages include flooding to an RL property, and neighboring property	NRCS EWP), with local budget for local project support			
2020-Putnam Valley-007 (Former PV-4)	Oscawana Lake Dam Upgrades	G-1, G-3	Flood, Severe Storm, Severe Winter Storm (heavy snowmelt)	<p>Problem: Smaller, old dam at Abley Park. Lack of being able to control level results in local properties and septic systems getting flooded. This stream leads down to City of Peekskill drinking water supply.</p> <p>Solution: Engineer and install a bigger (deeper) flow control to be able to lower the lake by maybe 4’ to better regulate the lake.</p>	Yes ●	Yes	Long Term depending on engineering, permitting and funding resources	Town DPW, working with NYSDEC	High	Reduced damages to property and infrastructure	Local funding, as supported by available grant funding (e.g. NYS DEC)	High	SIP	SP
2020-Putnam Valley-008 (Former PV-7)	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain	G-1, G-5	Flooding, Severe Storm	<p>Problem: There are acute areas of vulnerability in Putnam Valley that include both areas of flood damage to individual properties as well as locations of critical facilities located in the Special Flood Hazard Area.</p> <p>Solution: 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 (5-RL) and Severe Repetitive Loss (2-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. Specifically</p>	Yes ●	No	Evaluation – Short Term; Studies – Short to long term; Project Implementation – Long Term	Town of Putnam Valley – Engineering, DPW	Low- Outreach Medium – High – Evaluation/studies of vulnerabilities to identify appropriate mitigation actions; High – project implementation	High – Reduced vulnerability of infrastructure to natural hazard damage; potential life safety	FMA; HMGP; Individual contributions	Medium	EAP	PI



Table 9.9-15. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
				<p>identified properties in the following locations:</p> <ul style="list-style-type: none"> Lovers Lane White Road Peekskill Hollow Road <p>Church Road</p>										
2020-Putnam Valley-009 (Former PV-7)	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities	G-1, G-2, G-4,	All Hazards	<p>Problem: The Town has identified a need to enhance training for officials and build capacity for emergency response and risk reduction capabilities.</p> <p>Solution: Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities, specifically:</p> <ul style="list-style-type: none"> Re-Establish Local Emergency Planning Committees (LEPCs) within the County, with an emphasis on stronger municipal level participation. Workshops and Seminars to build local capabilities in floodplain management and disaster recovery, potentially to include: <ul style="list-style-type: none"> NFIP Community Rating System (CRS) Benefit-Cost Analysis (BCA) Substantial Damage Estimating (SDE) NFIP Elevation Certificates (EC) Certified Floodplain Manager (CFM) Training and Certification County-Wide Housing Location/Relocation Planning Initiative for Disaster Displaced Residents and Structures 	No	No	Short	Putnam County, as supported by relevant local department leads	Low-Medium (locally)	High (comprehensive improvements mitigation and risk-reduction capabilities)	HMGP; County funds; existing resources	Medium	EAP	PI
2020-Putnam Valley-010	Vegetation Management Planning and	G-1, G-5	Severe Storm, Severe	<p>Problem: Removing trees along road rights-of-way. Putnam Valley was hit the hardest in Putnam county for the damage.</p>	No	Yes	Dependent on identifying and securing funding	Putnam Valley Highway Dept	\$325,000+	Improved local capabilities to manage vulnerability to	Grant funding as available, local budget	High	SIP	PR



Table 9.9-15. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
(Former PV-7)	Operational Enhancements		Winter Storm	Solution: The Town's current chipper truck dates to 1987 with only a 55 foot boom our chipper is a 1997 and only takes an 18 inch log to exceed our current capacity. A new buck truck would allow us to reach higher and be more dependable so we could remove more trees and limbs to prevent power outages and road closures.						power outages due to dangerous trees; potential life-safety issues				
2020-Putnam Valley-011	Lake Peekskill Dam Repair	G-1 G-3 G-5	Flood; Severe Storm	Problem: Lake Peekskill Dam is a town-owned concrete gravity dam built in 1928. The dam is considered a Class C high hazard dam by the NYSDEC. The dam's body monoliths do not meet NYSDEC dam safety requirements for sliding and overturning. Solution: The Town proposes stabilization efforts to bring the dam into compliance and increase the level of protection provided.	Yes	Yes	Immediately upon funding	Town of Putnam valley; Lake Committee	\$500,000+	Protection of downstream properties	NYSDEC; HMGP; Town of Putnam Valley	High	SIP	PR

Notes:

Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- EHP Environmental Planning and Historic Preservation
- FEMA Federal Emergency Management Agency
- FPA Floodplain Administrator
- HMA Hazard Mitigation Assistance
- N/A Not applicable
- NFIP National Flood Insurance Program
- OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

- BRIC Building Resilient Infrastructure and Communities
- FMA Flood Mitigation Assistance Grant Program
- HMGP Hazard Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Critical Facility:

Yes Critical Facility located in 1% floodplain





Mitigation Category:

- *Local Plans and Regulations (LPR)* – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- *Structure and Infrastructure Project (SIP)* - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- *Natural Systems Protection (NSP)* – These are actions that minimize damage and losses, and preserve or restore the functions of natural systems.
- *Education and Awareness Programs (EAP)* – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- *Preventative Measures (PR)* - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- *Property Protection (PP)* - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- *Public Information (PI)* - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- *Natural Resource Protection (NR)* - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- *Structural Flood Control Projects (SP)* - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- *Emergency Services (ES)* - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

DRAFT



Table 9.9-16. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low
2020-Putnam Valley-001	Roaring Brook Dam	1	1	0	1	1	1	-1	0	0	0	0	0	1	1	6	Medium
2020-Putnam Valley-002	Lovers Lane Bridge	1	1	0	1	1	1	-1	0	0	0	0	0	1	1	6	Medium
2020-Putnam Valley-003	Wicopee Road	1	1	0	1	1	1	-1	0	0	0	0	0	1	1	6	Medium
2020-Putnam Valley-004	Horton Hollow/Canopus Hollow	1	1	0	1	1	1	-1	0	0	0	0	0	1	1	6	Medium
2020-Putnam Valley-005 (Former PV-1)	Backup Power for Critical/Essential Facilities	1	1	1	1	1	1	-1	0	1	0	0	0	1	1	8	Medium
2020-Putnam Valley-006 (Former PV-2)	Adam’s Corners Stream Rehabilitation	1	1	0	1	1	1	-1	0	0	0	0	0	1	1	6	Medium
2020-Putnam Valley-007 (Former PV-4)	Oscawana Lake Dam Upgrades	1	1	0	1	1	1	-1	0	1	0	1	0	1	1	8	Medium
2020-Putnam Valley-008 (Former PV-7)	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain	1	1	1	1	0	0	-1	0	1	1	1	0	1	1	8	Medium
2020-Putnam Valley-009 (Former PV-7)	Putnam County Risk Reduction	1	1	1	1	0	0	-1	0	1	1	1	0	1	1	8	Medium
2020-Putnam Valley-010 (Former PV-7)	Vegetation Management Planning and Operational Enhancements	1	1	1	1	1	1	-1	1	1	0	1	-1	1	1	9	High
2020-Putnam Valley-011	Lake Peekskill Dam Repair	1	1	1	1	1	1	-1	1	1	1	1	1	1	1	13	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).



9.9.8 Proposed Mitigation Action Types

The table below indicates the range of proposed mitigation action categories.

Table 9.9-17. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought				009			009			
Disease Outbreak				009			009			
Earthquake				009			009			
Extreme Temp				009			009			
Flood		001 002 003 004 007 011	006	008 009	011		008 009	006	001 002 003 004 007	
Harmful Algal Bloom				009			009			
Severe Storm		001 002 003 004 005 007 010 011	006	008 009	010 011		008 009	006	001 002 003 004 005 007	
Severe Winter Storm		005 007 010	006	009			009 010	006	005 007	
Terrorism				009			009			
Wildfire				009			009			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

9.9.9 Staff and Local Stakeholder Involvement in Annex Development

The Town of Putnam Valley followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from the Highway Department, Building and Zoning Inspector, Supervisor, and Secretary to the Supervisor. The Town was represented the community on the Putnam County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meetings).

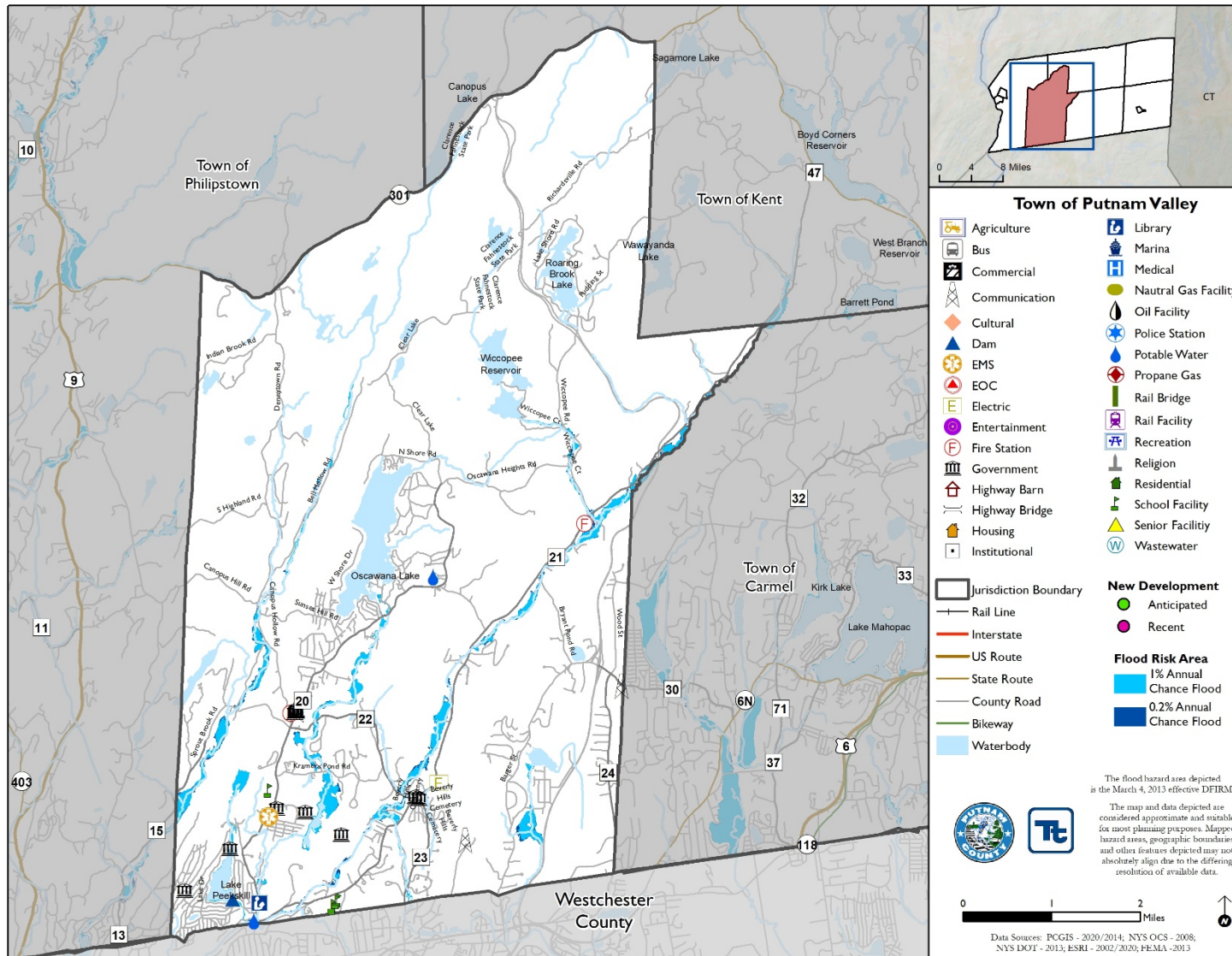
9.9.10 Hazard Area Extent and Location

A hazard area extent and location map has been generated for the Town of Putnam Valley that illustrates the probable areas impacted within the municipality. This map is based on the best available data at the time of the preparation of this plan and is considered to be adequate for planning purposes. The map has only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Putnam Valley has significant exposure. The map is illustrated below.





Figure 9.9-1. Town of Putnam Valley Hazard Area Extent and Location Map





Action Worksheet			
Project Name:	Vegetation Management Planning and Operational Enhancements		
Project Number:	2020-Putnam Valley-010		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm; Severe Winter Storm		
Description of the Problem:	Putnam Valley has a dense tree cover and has been strongly impacted by recent severe storm events. The recent Tropical Storm Isaias cost more than \$122,000 in highway/road response alone. In addition, the storm closed Town Hall for two days due to a lack of electricity and cable service, with longer outages and damages to appliances reported by homeowners.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town proposes a comprehensive vegetation management program for roads and Town-owned properties. The project will proactively identify and inventory vegetation encroaching on road and utility rights-of-way using street surveys and drones. Following the inventory, the Town will implement vegetation management requiring new equipment and additional work crews.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is the critical facility located in the 1% annual chance flood area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Less disruption to everyday life; increased productivity; less property damage to appliances; continued heat, air conditioning; critical utilities supported
Useful Life:	5 years	Goals Met:	1, 4, 5
Estimated Cost:	\$325,000 +	Mitigation Action Type:	LPR
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	Two years
Estimated Time Required for Project Implementation:	Five years	Potential Funding Sources:	FEMA HMGP grants; capital funding;
Responsible Organization:	Highway Department	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	N/A	Continued to disruption to Town, critical facilities, operations, and quality of life
	Utilities complete tree trimming	N/A	Utilities have done some work, but not enough. Mixed track record.
	Town Vegetation Management Program	\$325,000	Increased efficiency and proactive vegetation management
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Vegetation Management Planning and Operational Enhancements	
Project Number:	2020-Putnam Valley-010	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Vegetation management will enhance life safety
Property Protection	1	Fewer downed trees would reduce damage to private property
Cost-Effectiveness	1	Reduced public/private damages over time
Technical	1	Vegetation management is technically feasible
Political	1	Vegetation management is politically feasible
Legal	1	Vegetation management is legally feasible (Town rights-of-way)
Fiscal	-1	Cost outlay required for management
Environmental	1	Pruning healthy trees; encouraging stronger growth
Social	1	Vegetation management will enhance social stability
Administrative	0	
Multi-Hazard	1	Will protect against severe storm and severe winter storm events
Timeline	-1	Uncertain timeline due to funding
Agency Champion	1	Town would champion
Other Community Objectives	1	Multiple operations would benefit
Total	9	
Priority (High/Med/Low)	Highway	



Action Worksheet			
Project Name:	Lake Peekskill Dam Repair		
Project Number:	2020-Putnam Valley-011		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood; Severe Storms		
Description of the Problem:	Lake Peekskill Dam is a town-owned concrete gravity dam built in 1928. The dam is considered a Class C high hazard dam by the NYSDEC. The dam's body monoliths do not meet NYSDEC dam safety requirements for sliding and overturning.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town proposes stabilization efforts to bring the dam into compliance and increase the level of protection provided.		
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the critical facility located in the 1% annual chance flood area?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Above 500-year protection	Estimated Benefits (losses avoided):	Protection of downstream properties
Useful Life:	50 Years	Goals Met:	1, 3, 5
Estimated Cost:	\$500,000+	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediate upon project funding
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	NYSDEC; FEMA HMGP
Responsible Organization:	Town of Putnam Valley	Local Planning Mechanisms to be Used in Implementation if any:	Capital Improvement Plan
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	High	Potential for dam failure
	Dam Replacement	High	Cost prohibitive compared to stabilization/enhancement
	Dam Stabilization	High	Most technically/financially feasible alternative
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Lake Peekskill Dam Repair	
Project Number:	2020-Putnam Valley-011	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Action will promote life safety by safeguarding dam
Property Protection	1	Dam stabilization will protect private property
Cost-Effectiveness	1	Dam repair will head off major damage
Technical	1	Repair/enhancement is technically feasible
Political	1	
Legal	1	
Fiscal	-1	High cost of stabilization
Environmental	1	
Social	1	Stabilization will prevent social disruption
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	