



9.23 TOWN OF SALEM

This section presents the jurisdictional annex for the Town of Salem.

9.23.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Seth M. Pitts, Town Supervisor PO Box 575, Town Hall, 214 Main Street, Salem NY 12865 518-791-8485 smpitts45@msn.com	Travis Keys, Deputy Superintendent of Highways PO Box 575, Town Hall, 214 Main Street, Salem NY 12865 518-854-3353 salemnyhwy@hotmail.com

9.23.2 Municipal Profile

The Town of Salem is located in southeastern Washington County and is bordered to the north by the Town of Hebron, to the south by the Towns of White Creek and Jackson, to the east by Vermont, and to the west by the Towns of Greenwich and Jackson. There are several communities located within the Town and includes: Eagleville, Fitch Point, Greenwich Junction, Rexleigh, Salem, and Shushan. On April 1, 2016, the Village of Salem was dissolved and is now part of the Town. Additionally, there are several streams, brooks and lakes located in the Town: Black Creek, Blind Buck Brook, Camden Creek, East Beaver Brook, Juniper Swamp Brook, Steele Brook, and West Beaver Brook.

According to the 2010 Census, the Town’s population was 2,715. The Town has a total area of 52.5 square miles, of which 52.5 square miles of it is land and 0.1 square miles of it is water.

Growth/Development Trends

The Town of Salem did not note any recent residential/commercial development since 2010 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

Table 9.23-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
None identified					
Known or Anticipated Development in the Next Five (5) Years					
None identified					

Note: Only location-specific hazard zones or vulnerabilities identified.

9.23.3 Natural Hazard Event History Specific to the Municipality

Washington County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 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. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available,





based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.23-2. Hazard Event History

Dates of Event	Event Type (FEMA Disaster Declaration if applicable)	Washington County Designated?	Summary of Damages/Losses
August 26-September 5, 2011	Hurricane Irene (DR-4020)	Yes	Utility outages for four days along Nichol Street and Archibald Street. County Route 153 and Mahaffey Lane washed out. The school's basement flooded. Over 50 homes were damaged by flood waters; mostly basements.

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)

9.23.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Town of Salem. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Natural Hazard Risk/Vulnerability Risk Ranking

As discussed in Section 5.3 (Hazard Ranking), each participating town or village may have differing degrees of risk exposure and vulnerability compared to Washington 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 Salem. Table 9.23-12 provides proposed mitigation initiatives for the high ranked hazards. The Town has identified specific mitigation initiatives for flood and severe storm, while wildfire and severe winter weather are addressed through a public education and outreach program.

Table 9.23-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Earthquake	100-Year GBS: \$0 500-Year GBS: \$2,740,491 2,500-Year GBS: \$26,747,483	Occasional	28	Medium
Flood	Damage estimate not available.	Frequent	24	Medium
Severe Weather	100-Year MRP: \$1,058,261 500-year MRP: \$5,431,322 Annualized: \$57,212	Frequent	48	High
Severe Winter Weather	1% GBS: \$6,115,824 5% GBS: \$30,579,122	Frequent	51	High
Wildfire	Estimated Value in the WUI Hazard Areas: \$772,975,526	Frequent	48	High

Notes:





- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
 High = Total hazard priority risk ranking score of 31 and above
 Medium = Total hazard priority risk ranking of 20-30+
 Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- d. Loss estimates for the flood and earthquake hazards represent both structure and contents.
- e. The HAZUS-MH earthquake model results are reported by Census Tract.
- f. Damage estimate for flood unavailable due to lack of digital floodplain data for Washington County.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Town of Salem.

Table 9.23-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)
Salem (T)	16	10	\$169,438	1	0

Source: FEMA, 2016
 Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of April 30, 2016 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 4/30/2016.
 Note (2) Total building and content losses from the claims file provided by FEMA Region 2.
 Note (3) The policies inside and outside of the flood zones are unavailable due to lack of digital floodplain for Washington County.
 Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Critical Facilities

At the time of this HMP Update, digitized flood maps for Washington County are unavailable. In order to provide some level of beneficial analysis, a desktop analysis was performed to identify critical facilities located within the floodplain (refer to Section 5.1 [Methodology and Tools] for details). The following table identifies critical facilities located within the municipality and their exposure, if any, to the possible floodplain. This information is a resource for the municipality to determine if flood mitigation actions are appropriate based on historical events and proximity of the facility to a water body. At the time of this 2018 HMP Update, the municipality did not identify any actions associated with these facilities.

The Town of Salem understands the limitation of the map data and once the updated maps are available, the municipality will work with Washington County to determine which critical facilities are located within the 1% and 0.2% annual chance flood zones. Once identified, the municipality will work with the property owners and develop mitigation actions for each of the critical facilities, ensuring they will be protected to the 500-year (or worst-case scenario) level.

Table 9.23-5. Potential Flood Losses to Critical Facilities

Name	Type	Potential Flood Exposure
Capital District DDSO	Medical	X
Salem DPW	DPW	X
Salem Volunteer Fire Company	Fire	X
US Postal Service - Shushan	Post Office	X
Washington County Sheriff	Police	X

Source: Washington County; NYS GIS Clearinghouse





Other Vulnerabilities Identified

The municipality has identified the following vulnerabilities within their community:

- None identified

9.23.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of mitigation planning into existing and future planning mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Salem.

Table 9.23-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	No	-	-	-
Capital Improvements Plan	No	-	-	-
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	No	-	-	-
Open Space Plan	No	-	-	-
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No – in progress	Local	Town Board	-
Comprehensive Emergency Management Plan	Yes	County	County Public Safety	2013
Emergency Response Plan	No	-	-	-
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes	State & Local	County CEO	Building Code of New York State (NYS), Local Law #1
Zoning Ordinance	Yes	Local	Planning	Zoning Law of The Town of Salem





Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
			Board, CEO	2016
Subdivision Ordinance	Yes	Local	Planning Board, CEO	Town of Salem Land Subdivision Regulations 9/9/1987
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State & Local	Town Supervisor	Not identified at the time of this plan update
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	Yes	State, Local	Town Supervisor, CEO	State mandated BFE+2 for single and two-family residential construction, BFE+1 for all other construction types
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	Planning Board	1999
Stormwater Management Ordinance	No	-	-	-
Municipal Separate Storm Sewer System (MS4)	No	-	-	-
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	Yes	State	NYS Department of State, Real Estate Agent	NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	No	-	-	-

Administrative and Technical Capability

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

Table 9.23-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Town Planning Board
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Maintenance programs to reduce risk	No	-
Mutual aid agreements	Yes	Washington County, neighboring municipalities
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land	No	-





Resources	Is this in place? (Yes or No)	Department/ Agency/Position
development and land management practices		
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	No	-
Planners or engineers with an understanding of natural hazards	No	-
NFIP Floodplain Administrator (FPA)	Yes	Town Supervisor
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Emergency Manager	No	-
Grant writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-

Fiscal Capability

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

Table 9.23-8. 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	No
User fees for water, sewer, gas or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	No
Open Space Acquisition funding programs	No
Other	No

Community Classifications

The table below summarizes classifications for community program available to the Town of Salem.

Table 9.23-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)





Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes (Salem FPD)	4/4X	8/25/15
NYSDEC Climate Smart Community	No	-	-
Storm Ready	No	-	-
Firewise	No	-	-
Disaster/safety programs in/for schools	No	-	-
Organizations with mitigation focus (advocacy group, non-government)	No	-	-
Public education program/outreach (through website, social media)	No	-	-
Public-Private Partnerships	No	-	-

Note:

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

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule website at <https://www.isomitigation.com/bcegs/>
- The ISO Mitigation online ISO’s Public Protection website at <https://www.isomitigation.com/ppc/>
- The National Weather Service Storm Ready website at <https://www.weather.gov/stormready/>
- The National Firewise Communities website at <https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA>

Self-Assessment of Capability

The table below provides an approximate measure of the Town of Salem’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.23-10. Self-Assessment Capability for the Municipality

Degree of Hazard Mitigation Capability
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Area	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and regulatory capability		X	
Administrative and technical capability		X	
Fiscal capability		X	
Community political capability		X	
Community resiliency capability		X	
Capability to integrate mitigation into municipal processes and activities		X	

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

While the Flood Damage Prevention Ordinances identifies the town supervisor as the FPA, Mr. Alton Knapp, CEO, provided the following information.

Flood Vulnerability Summary

The Town of Salem maintains lists/inventories of properties that have been damaged by flooding. During Hurricane Irene, over 50 homes on Nichol Street, Park Place, and Archibald Street were damaged by flooding. Substantial Damage estimates were not made during Irene or other events. There is currently no interest in mitigation (elevation or acquisition).

Resources

The municipal FPA is the sole person assuming the role and responsibilities as floodplain administrator for the town. The town does not provide any education or outreach to the community regarding flood hazards/risk or flood risk reduction. The FPA indicated that he would consider attending continuing education and/or certification training on floodplain management if it were offered.

Compliance History

The town is currently in good standing with the NFIP. Per NYS DEC, the most recent compliance audit was conducted in the town was on August 7, 2012.

Regulatory

The town’s flood damage prevention ordinance meets the minimum set by FEMA and New York State.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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, each community was surveyed to obtain a better understanding of their community’s progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

Land Use Planning: The Town of Salem has a Planning Board and Zoning Board of Appeals which review all applications for development and consider natural hazard risk areas in their review. Many development



activities require additional levels of environmental review, specifically NYS SEQR and Federal NEPA requirements.

Town of Salem Comprehensive Plan: The Town Comprehensive Plan was most recently written in 1997 with an update currently underway. Recommendations from the plan pertaining to hazard mitigation include establishing a committee to report on the desirability of establishing land use controls governing the building of dwellings, e.g. a zoning code, and regulating land use and construction along the Battenkill and other water resources within the town.

Salem 2010 Agriculture and Farm Viability Plan: The plan is designed to serve as a long-range framework for sustaining and improving agriculture in the Town. A majority of the town of Salem are enrolled in state-certified Consolidated Agricultural Districts #5 and #8, which provide important right to farm protections to farmers operating on enrolled properties. They also require additional planning measures, such as Notice of Intent filings and Agricultural Data statements, for publicly funded projects and land use activities in these districts. Plan recommendations include supporting opportunities for compatible renewable energy generation on farms, and supporting efforts to renovate rail infrastructure in Salem. This plan is available publicly on the Town's website.

White Creek Watershed Infrastructure Flood Vulnerability and Mitigation Assessment, 2016 Draft: White Creek has a drainage area of approximately 36 square miles in Salem. Our hydraulic analysis included an evaluation of bridge flood capacity for all 17 public and private bridges on White Creek. Ten of the 17 bridges have limited capacity to pass only the 10- year flood or less, indicating that most bridges on White Creek are hydraulically undersized by county and state standards. A hydraulic analysis of the White Creek corridor indicated that there are greater opportunities to mitigate flooding depths and extents during moderate floods. The study evaluated over 10 project alternatives in Salem, and summarized the benefits and costs for 7 alternatives in greater detail. These alternatives included removal of berms, channel widening and deepening, and floodplain restoration with home buyouts. The report also evaluated 8 project alternatives upstream of Salem.

Project Work Plan for DEC/ESD Grant Application Post-Hurricane Irene, Tropical Storm Lee Stream Restoration White Creek, Salem, NY: This document is a work plan for restoration of the White Creek stream corridor in both the Town of Salem. The report was written to provide technical support for a grant application that is being submitted by Washington County to secure funds to restore White Creek to Pre-Hurricane and Tropical Storm Lee conditions. It identifies twelve distinct project work areas related to White Creek stream corridor to mitigate future flooding, gravel deposition and streambank erosion. Relevant projects include:

- 1.3 Downstream RR Bridge and Adjacent Farm Access Bridge: This project involves installing two rock vanes upstream from the two bridges.
- 3.1 Flood Control Berm: This project involves installing a 1,200-foot-long by 24-foot-wide by 4-foot-high flood control berm along the east side of Route 153 to the north side of residential properties that front on Blind Buck Road.
- 3.2 Flood Control Channel: This project involves installation of a depressed grass-lined channel near Blind Buck Road, and lowering Blind Buck Road near the bridge crossing over the White Creek. This would increase flood flow capacity in that area.
- 4.2 Protect Embankment at Inlet of Beattie Hollow Bridge: This project involves stabilizing erosion around abutments at Beattie Bridge. This will be accomplished by placing large diameter rock in the cavity between the bridge inlet and Route 153.



- 4.3 Remove Former Bridge Abutment Across from Braymer Lane: This project involves removal of the old bridge abutment located across from Braymer Lane, and construction of a small berm atop the right stream bank (near Route 153).
- 4.4 Construct Meander Upstream of Gravel Deposits: This project involves construction of a meander upstream of the gravel deposits located between Braymer Lane and McKeighan Lane. This meander once existed based upon historical aerial photography. This meander will be re-established leaving the main stream flow untouched. The meander will be connected to the main stream channel so that the stream channel can be diverted into the meander.
- 4.5 Remove Gravel Deposits: This project involves removal of the gravel deposits from either side of the low flow channel located between Braymer Lane and McKeighan Lane. Approximately 1,550 cubic feet of gravel are estimated to be removed. Soil from construction of the meander (Item 4.4) will be used in conjunction with plantings to recreate vegetative cover in the gravel deposit area
- 4.6 Improvements between the Chambers Road Bridge and Rail Road Bridge: This project involves three items:
 - North of Chambers Road Bridge - remove large rocks on the west stream bank, approximately 40 linear feet. Relocate to railroad bridge to prevent scour.
 - Replace existing large stones with smaller stone filling to approximately 5 feet in height that would protect the stream bank, but would allow flow to breach the main stream channel and continue into the floodplain on the south side of the railroad bed.
 - Form a relief channel above the stone filling approximately 20 feet wide by 50 feet long.
- 4.7 Supplement Flow Capacity of Chambers Road Bridge: This project involves constructing a box culvert through the embankment approaching the south side of the Chambers Road Bridge. The new culvert would be designed to connect with the new relief channel constructed as part of Item 4.6

Regulatory and Enforcement (Ordinances)

Code Enforcement: Washington County provides code enforcement duties and responsibilities to the Town of Salem.

Construction Codes, Uniform: The building codes are strictly enforced to make new and renovated buildings as prepared as possible for hazard related incidents. The Town complies with New York State Uniform Fire Prevention and Building Code (the Uniform Code) and the State Energy Conservation Construction Code (the Energy Code).

Sewers: The Town abides by the County-wide Sanitary Code, which protects and regulates its sewage collection and treatment facilities as a matter of public health and environmental safety. It seeks to prohibit the introduction of stormwater, surface, or sub-surface waters into sanitary sewers and to control the quantity and quality of wastes in the sewage system.

Town of Salem Site Plan Review Law: The Planning Board reviews and approves site plans for land uses within the town. Design standards consider proposed roads and accesses, water supply and sewage disposal systems, environmental impact, and other infrastructure that can exacerbate or conversely, mitigate hazard impacts. Among other elements, each site plan must include a statement and rough sketch showing the anticipated changes in the existing topography and natural features and, where applicable, measures and features to comply with flood hazard and flood insurance regulations. The sketch must also show all pertinent features within 200 feet of the boundaries of the parcel including surface and ground water related natural features and the location of the site in relation to aquifer and aquifer tributary areas, and downslope surface water bodies.

Land Subdivision Regulations: The Town's Planning Board is tasked with subdivision permitting and site plan review. The Planning Board pays special attention to ensure that developments meet the requirements of



the stormwater management and erosion and sediment control provisions set by NYS DEC, and mitigate the issues associated with flood, fire, or other natural hazards.

Zoning: The Town of Salem’s 2016 zoning code includes districts and standards pertaining to the mitigation of hazards. These sections include the floodway district and floodplain district.

Funding

Operating Budget: The Town’s operating budget contains a section on Highway Appropriations with provisions for expected expenses like snow removal, equipment and bridge repair including infrastructure repair after a storm or natural disaster. The Town also allots funding for contractual expenses related to environmental control which may reduce flood vulnerability.

Grants: The Town of Salem actively pursues grant funding for priority municipal projects. In 2012, the Town was awarded funding through the Hurricane Irene-Tropical Storm Lee Flood Mitigation Grant Program. In addition, the 2016 adopted budget includes line items for \$115,000 from a Citizens Funding Grant, and \$178,876 in Consolidated Local Street and Highway Improvement Program (CHIPS) Capital Outlay funding.

Education and Outreach

The municipal website currently serves as a clearinghouse of information about Salem for visitors and residents. Specifically, the website offers news for area seniors, and a direct link to an interactive floodplain map.

9.23.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2010 Plan. It should be noted that during the 2010 planning process, only general, countywide actions were identified for each municipality. The Town of Salem reviewed the previous actions and selected actions they chose to carry forward as part of this plan update. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.



Table 9.23-11. Status of Previous Mitigation Actions

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status	Next Step (Include in 2018 HMP or Discontinue)	Describe Next Step
Improve drainage at sites where roads have washed out due to natural hazards in the past	County and NYS DHSES	Complete	Roads repaired after Hurricane Irene	Discontinue	Project has been completed; will not be included in the 2018 HMP Update
Purchase equipment to provide for local personnel to conduct the drainage improvement	County and NYS DHSES	No progress	Due to lack of funding, project has not been completed	Include in 2018 HMP	See below
Engineering assessment to determine feasibility of each site improvement	County and NYS DHSES	Complete	Watershed study completed to determine areas of flooding in the Town.	Discontinue	Study has been completed; therefore, this action will not be included in the 2018 HMP Update
Improve dams to prevent flooding causing roads to wash out.	County and NYS DHSES	No Progress	This action does not pertain to the Town; there are no dams located in the municipality	Discontinue	This action does not pertain to the Town; there are no dams located in the municipality
Improve identified sites where slope stability is subject to land subsidence and where excavation or planting could mitigate future damage.	County and NYS DHSES	In Progress	Hydrological study has been completed but sites have not been improved	Include in 2018 HMP	See below
Complete a hydrological study of flooding conditions in the Village of Salem to determine appropriate mitigation strategies.	County, NYS DHSES and NYSDEC	Complete	Hydrological study has been completed	Discontinue	Study has been completed; therefore, this action will not be included in the 2018 HMP Update



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Salem has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

- None identified

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Salem participated in a mitigation action workshop in September 2016 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.23-12 summarizes the comprehensive-range of specific mitigation initiatives the Town of Salem would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

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

Table 9.23-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.23-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
T. Salem-1	Deepen channel of White Creek from the Route 22 bridge through cross section 7117; develop sediment maintenance plan. This would protect the area to the 10-year flood level.	New and Existing	Flood, Severe Storm	All	Town Highway with support from County and NYS DEC	High	Medium	Municipal Budget, Water Quality Improvement Project Grants, FEMA HMA – HMGP and FMA	Short Term	High	SIP	PP
T. Salem-2 (former action)	Remove berms on south bank downstream of Salem; develop sediment maintenance plan. This would protect the area to the 10-year flood level.	New and Existing	Flood, Severe Storm	All	Town Highway with support from County and NYS DEC	High	Medium	Natural Resources Conservation Service, Municipal Budget, FEMA HMA – HMGP and FMA	Short Term	High	SIP	PP
T. Salem-3 (former action)	Bank cut on north bank in-between Route 22 and Archibald Street. This would protect the area to the 10-year flood level.	Existing	Flood, Severe Storm	All	Town Highway with support from County and NYS DEC	High	Medium	Natural Resources Conservation Service, Municipal Budget, FEMA HMA – HMGP and FMA	Short Term	High	SIP	PP
T. Salem-4	Acquire home on Archibald Street. This project will protect the area to the 500-year flood level.	Existing	Flood	All	Town Board and Planning Board	High	High	FEMA HMA – FMA and HMGP, Local Share	Short Term	High	SIP	PP
T. Salem-5	Acquire homes along White Creek. This project will protect the area to the 500-year flood level.	Existing	Flood	All	Town Board and Planning Board	High	High	FEMA HMA – FMA and HMGP, Local Share	Short Term	High	SIP	PP
T. Salem-6	Remove Archibald Street bridge and the north abutment to increase channel width	New and Existing	Flood, Severe Storm	All	Town Highway with support from County and NYS DEC	High	Medium	Natural Resources Conservation Service,	Short Term	High	SIP	PP





Table 9.23-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	and capacity. This would protect the area to the 10-year flood level.							Municipal Budget, FEMA HMA – HMGP and FMA				

Notes:

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

*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program (discontinued in 2015)
SRL	Severe Repetitive Loss Grant Program (discontinued in 2015)

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.





Mitigation Category:

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

CRS Category:

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



Table 9.23-13. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
T. Salem-1	Deepen channel of White Creek from the Route 22 bridge through cross section 7117; develop sediment maintenance plan. This would protect the area to the 10-year flood level.	1	1	1	1	0	0	0	1	1	1	1	1	1	0	10	High
T. Salem-2 (former action)	Remove berms on south bank downstream of Salem; develop sediment maintenance plan. This would protect the area to the 10-year flood level.	1	1	1	1	0	0	0	1	1	1	1	1	1	0	10	High
T. Salem-3 (former action)	Bank cut on north bank in-between Route 22 and Archibald Street.	1	1	1	1	0	0	0	1	1	1	1	1	1	0	10	High
T. Salem-4	Acquire home on Archibald Street.	1	1	1	1	1	0	0	1	1	1	0	0	1	0	9	High
T. Salem-5	Acquire homes along White Creek	1	1	1	1	1	0	0	1	1	1	0	0	1	0	9	High
T. Salem-6	Remove Archibald Street bridge and the north abutment to increase channel width and capacity.	1	1	1	1	0	0	0	1	1	1	1	1	1	0	10	High

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions.





9.23.7 Future Needs to Better Understand Risk/Vulnerability

None at this time.

9.23.8 Hazard Area Extent and Location

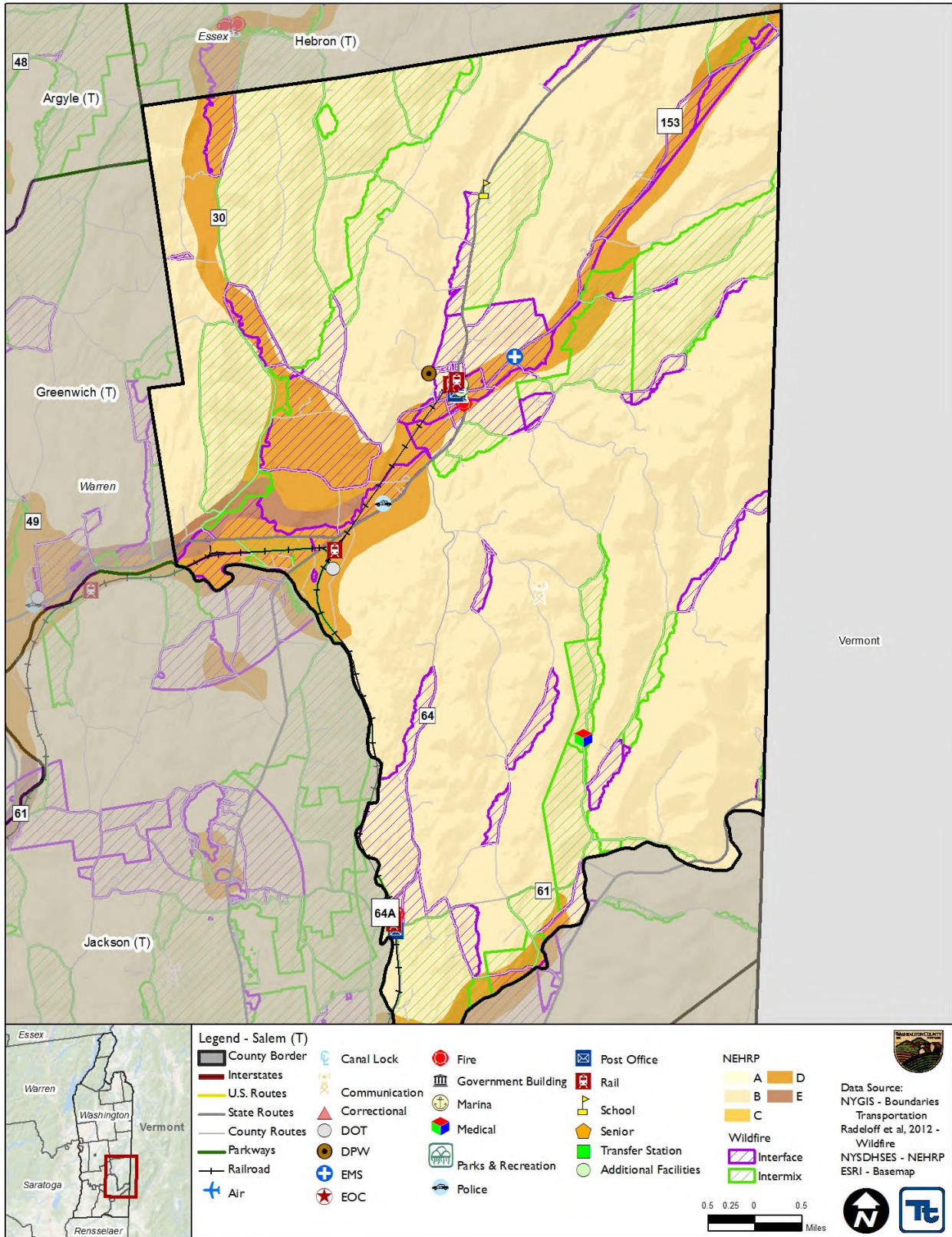
Hazard area extent and location maps have been generated for the Town of Salem that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Salem has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.23.9 Additional Comments

None at this time.



Figure 9.23-1. Town of Salem Hazard Area Extent and Location





Action Number:

T. Salem-1

Mitigation Action Name:

Deepen channel of White Creek and develop sediment maintenance plan.

Assessing the Risk	
Hazard(s) addressed:	Flood and Severe Storm
Specific problem being mitigated:	Channel of stream has aggraded approximately one to two feet since Irene. This has led to flooding in the area which is impacting homes, businesses, and town infrastructure. Flooded roadways lead to road closures, which can reduce emergency vehicle access.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues. Buyout properties exposed to flooding – cost.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Removal of berms along the south bank extending from the end of Park Place to the railroad crossing and deepening the channel from Route 22 bridge through cross section 7117. Some minor bank shaping may be required. It is estimated that approximately 3,000-4,000 cubic yards of material would be removed over the 2,200-foot length of channel. A sediment maintenance plan would need to be established in conjunction with state and federal agencies. This would require additional channel survey work to establish benchmarks associated with levels of aggradation that increase flood vulnerability. This project would protect the area to the 10-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	New and Existing
Benefits (losses avoided)	High
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town Highway with support from County and NYS DEC
Local Planning Mechanism	Hazard Mitigation
Potential Funding Sources	Municipal Budget, Water Quality Improvement Project Grants, FEMA HMA – HMGP and HMA
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:





Action Number:
Mitigation Action Name:

T. Salem-1
 Deepen channel of White Creek and develop sediment maintenance plan.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents living in the area of this project from flooding
Property Protection	1	Protect structures in the area of this project from flooding
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	0	
Legal	0	
Fiscal	0	Need to seek funding – municipal budget and grants
Environmental	1	
Social	1	
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	1	Flood and Severe Storm
Timeline	1	Once funding is obtained, project will be completed within five years
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (H/M/L)	High	



Action Number:

T. Salem-2

Mitigation Action Name:

Remove berms on south bank downstream of Salem.

Assessing the Risk	
Hazard(s) addressed:	Flood and Severe Storm
Specific problem being mitigated:	The landowner of Woody Hill Farms placed berms along the river to prevent overflow onto the crop fields to reduce erosion. However, this can create tailwater in small and moderate floods before the berms are overtopped, exacerbating flooding on the west end of the Town.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues. Buyout properties exposed to flooding - cost.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Remove berms along the south bank extending from the end of Park Place to the railroad crossing. The project would involve coordination with landowner (Woody Hill Farms) to remove berms along farm fields for approximately 1,200 linear feet. Total volume estimated to be 1,000-1,400 cubic yards. Berms create minor tailwater in small to moderate floods and affects the western edge of the Village. This project would protect the area to the 10-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	New and Existing
Benefits (losses avoided)	High
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town Highway with support from County and NYS DEC
Local Planning Mechanism	Hazard Mitigation
Potential Funding Sources	Natural Resources Conservation Service, Municipal Budget, FEMA HMA – HMGP and HMA
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:
Mitigation Action Name:

T. Salem-2
 Remove berms on south bank downstream of Salem.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents living in the area of this project from flooding
Property Protection	1	Protect structures in the area of this project from flooding
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	0	
Legal	0	
Fiscal	0	Need to seek funding – municipal budget and grants
Environmental	1	
Social	1	
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	1	Flood and Severe Storm
Timeline	1	Once funding is obtained, project will be completed within five years
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (H/M/L)	High	



Action Number:

T. Salem-3

Mitigation Action Name:

Bank cut on north bank in-between Route 22 and Archibald Street.

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm
Specific problem being mitigated:	The current flood benches are located below the predicted two-year flow elevation; the channel of White Creek in the area of Route 22 and Archibald is very narrow, leading to repeat flooding and associated damages in this area of the Town.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues Buyout properties exposed to flooding - cost
Action/Project Intended for Implementation	
Description of Selected Action/Project	Remove berm, deepen channel and bank cuts to create flood benches along White Creek. A larger cut is proposed at cross-section 7117 where the channel is currently very narrow and along the berm. While these widths will be above the predicted bankfull width for White Creek, it is important to increase the available floodplain given the repeat flood damage through this part of the Town and the current lack of undeveloped floodplain. Bank cuts will require the removal of approximately 90 large trees that are currently along the top of the north bank in between Route 22 and Archibald Street. The design plans will require dense plantings of native trees and fast-growing shrub species along the flood bench and the banks. This would protect the area to the 10-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town Highway with support from County and NYS DEC
Local Planning Mechanism	Hazard Mitigation
Potential Funding Sources	Natural Resources Conservation Service, Municipal Budget, FEMA HMA – HMGP and FMA
Timeline for Completion	Short Term
Reporting on Progress	



Date of Status Report/ Report of Progress	Date: Progress on Action/Project:
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Action Number:
Mitigation Action Name:

T. Salem-3
 Bank cut on north bank in-between Route 22 and Archibald Street.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents living in the area of this project from flooding
Property Protection	1	Protect structures in the area of this project from flooding
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	0	
Legal	0	
Fiscal	0	Need to seek funding – municipal budget and grants
Environmental	1	
Social	1	
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	1	Flood and Severe Storm
Timeline	1	Once funding is obtained, project will be completed within five years
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (H/M/L)	High	



Action Number:

T. Salem-4

Mitigation Action Name:

Acquire home on Archibald Street.

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	A home in this part of the Town is prone to flooding and has been damaged repeatedly from flood events.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues. Floodproof home – residents still exposed to flooding.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Working with the homeowner, acquire floodprone home on Archibald Street. Once home is acquired, the structure will be demolished and the property will be converted to green space. This project will prevent further losses associated with flooding. This project will protect the area to the 500-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Town Board and Planning Board
Local Planning Mechanism	Hazard Mitigation, Floodplain Management
Potential Funding Sources	FEMA HMA – FMA and HMGP, Local Share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:
Mitigation Action Name:

T. Salem-4
 Acquire home on Archibald Street.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	1	
Legal	0	
Fiscal	0	Need to seek funding
Environmental	1	No known negative environmental impacts
Social	1	No known negative social impacts
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	0	Flood
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (H/M/L)	High	



Action Number:

T. Salem-5

Mitigation Action Name:

Acquire homes along White Creek.

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Homes in this part of the Town is prone to flooding and have been damaged repeatedly from flood events.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues. Floodproof homes – residents still exposed to flooding.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Working with homeowners, acquire floodprone homes located along White Creek in the Town. Once homes are acquired, the structures will be demolished and the properties will be converted to green space. This project will prevent further losses associated with flooding. This project will protect the area to the 500-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Town Board and Planning Board
Local Planning Mechanism	Hazard Mitigation, Floodplain Management
Potential Funding Sources	FEMA HMA – FMA and HMGP, Local Share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:
Mitigation Action Name:

T. Salem-5
 Acquire homes along White Creek.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	1	
Legal	0	
Fiscal	0	Need to seek funding
Environmental	1	No known negative environmental impacts
Social	1	No known negative social impacts
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	0	Flood
Timeline	0	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (H/M/L)	High	



Action Number:

T. Salem-6

Mitigation Action Name:

Remove Archibald Street bridge and the north abutment.

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Storm
Specific problem being mitigated:	The bridge is currently a significant obstruction to flows at or above the 2-year event. Tailwater from the constricted channel increases water surface elevation upstream to the Route 22 bridge in large events.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Do nothing - current problem continues. Relocate bridge – costly. Close this section of Town – not feasible – losses to community and businesses.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Remove the Archibald Street bridge and the north abutment along White Creek to increase channel width and capacity. It is predicted that by doing so, water surface elevations for the 10-year flood will drop one to 1.5 feet during moderate floods. This would significantly decrease the number of vulnerable homes along Archibald Street, Nichols Street, and Park Place during moderate storm events. Additionally, removing the downstream berms will further reduce water surface elevations through the farm fields and allow the 10-year storm to pass through the railroad bridge below the low chord. This would protect the area to the 10-year flood level.
Mitigation Action Type	Structure and Infrastructure Project (SIP)
Goals Met	Goal 1: Protect Life and Property Goal 2: Increase Public Awareness Goal 3: Encourage Partnerships Goal 4: Provide for Emergency Services Goal 5: Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town Highway with support from County and NYS DEC
Local Planning Mechanism	Hazard Mitigation
Potential Funding Sources	Natural Resources Conservation Service, Municipal Budget, FEMA HMA – HMGP and FMA
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:
Mitigation Action Name:

T. Salem-6
 Remove Archibald Street bridge and the north abutment.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents living in the area of the bridge from flooding
Property Protection	1	Protect structures in the area of the bridge from flooding
Cost-Effectiveness	1	The costs to implement this project correspond with the benefits achieved
Technical	1	This action is technically feasible
Political	0	
Legal	0	
Fiscal	0	Need to seek funding – municipal budget and grants
Environmental	1	
Social	1	
Administrative	1	The Town has the administrative capabilities to complete the action
Multi-Hazard	1	Flood and Severe Storm
Timeline	1	Once funding is obtained, project will be completed within five years
Agency Champion	1	
Other Community Objectives	0	
Total	10	
Priority (H/M/L)	High	