



9.9 TOWN OF FISHKILL

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

9.9.1 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
Glenn Scofield, Highway Superintendent 807 Route 52, Fishkill, NY 12524 845-831-7800 x3601 highway@fishkill-ny.gov	Bob LaColla 807 Route 52, Fishkill, NY 12524 845-831-7800 x3309 supervisor@fishkill-ny.gov

9.9.2 Municipal Profile

The Town is located in the southwestern quadrant of Dutchess County, NY, and boasts a convenient location of being 60 miles from New York City and 10 miles from Stewart International Airport. The Town of Fishkill completely surrounds the Village of Fishkill. It is bordered to the north by the Town of Wappinger, to the east by the Town of East Fishkill, to the south by Putnam County, and to the west by the Hudson River and the City of Beacon. The Town projects that its elderly and middle-aged populations will continue to increase, resulting in smaller household sizes and a need for awareness of more vulnerable populations. The Town’s population distribution currently consists of 60.5 percent of family households and 39.5 percent of non-family households. Additionally, in the Town of Fishkill, 34.3 percent of residents are householders living alone (14.2 percent being 65 years or older).

The Town has a total area of 31.99 square miles, of which, 27.34 square miles is land and 4.65 square miles is water. The Town is proximate to Clove Creek and Sprout Creek, as well as the Fishkill Creek and its tributary. The major transportation corridors in the Town consist of Interstate 84 and U.S. Route 9. The Town’s more vulnerable structures and critical facilities will be discussed in further detail throughout the Hazard Mitigation Plan and this annex.

The Town’s population, as indicated by the 2010 U.S. Census, was 22,107.

Growth/Development Trends

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

Table 9.9-1. 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 noted to date.					
Known or Anticipated Development in the Next Five (5) Years					
None noted to date.					

* Only location-specific hazard zones or vulnerabilities identified.



9.9.3 Natural Hazard Event History Specific to the Municipality

Dutchess 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, 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 9.9-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
December 26 – 28, 2010	Snow storm	DR-1957	N/A	A severe snow storm impacted local roadways. The Town needed to open and clear roads, requiring the following material – 200 tons of salt, 200 tons of sand. \$12,491.05 in labor W/fringe.
August 26 – September 5, 2011	Hurricane Irene	DR-4020	Yes	On August 29, 2011, the Town cleared basins of debris from all town roads (56 miles), trimming trees off the roadway. Belvedere Road also collapsed during the storm due to a pipe collapse. A steel plate and safety barriers were erected to protect motorists. The pipe was replaced and roadway repaired in November/December 2011. On August 30, 2011, a driveway on Snook Road collapsed from the pipe that runs under it. The Town replaced it with 80 feet of ADS 36” pipe, stone and blacktop. Additionally, during the storm, the Old Town closed from flooding.
January 26, 2015	Snow storm	No	N/A	A State of Emergency was declared at 8:30 pm. The Town then prepared plows/trucks/material and held a meeting at Town Hall with schools and the County in case of an emergency. The State of Emergency was lifted at 7am, because the storm did not develop.
January 3, 2015, to March 20, 2015	Winter 2015 Snow Storms	No	N/A	The Town cleared roads from snow storm 68 times (30 days of storms). Required materials included 3,000 ton of salt and 2,000 ton of sand.

9.9.4 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 Fishkill. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Town of Fishkill.



Table 9.9-1. 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
Coastal Storm	100-year MRP: \$2,889,202.00 500-year MRP: 19967505 Annualized: \$242,305.00	Frequent	48	High
Drought	Damage estimate not available	Frequent	42	High
Earthquake	100-Year GBS: \$0 500-Year GBS: \$1,058,570 2,500-Year GBS: \$19,350,488	Occasional	28	Medium
Extreme Temperature	Damage estimate not available	Frequent	30	Medium
Flood	1% Annual Chance: \$432,190,891	Frequent	36	High
Severe Storm	100-Year MRP: \$2,889,202 500-year MRP: \$19,967,505 Annualized: \$242,305	Frequent	48	High
Winter Storm	1% GBS: \$39,492,409 5% GBS: \$197,462,043	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$4,047,933,974	Frequent	48	High

Notes:

GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. 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 estimated value of contents. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 2.2 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the wildfire hazard, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

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

Table 9.9-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Town of Fishkill	185	28	\$407,770.07	3	1	104

Source: FEMA Region 2, 2014

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 12/31/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 12/31/14.
- (2) Total building and content losses from the claims file provided by FEMA Region 2.
- (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: 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.
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.
Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude





Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.9-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent(1)
Extended Stay America - Fishkill	Accommodation	X	X	0	0	-
Fishkill Town Garage	DPW		X	-	-	-
Fishkill Town Pump #1	Potable Pump	X	X	-	-	-
Fishkill Town Well #2	Well	X	X	-	-	-
Fishkill Town Well #3	Well	X	X	-	-	-
Fishkill Town Well #4	Well		X	-	-	-
Rombout Fire Department St. 1	Fire	X	X	4.0	4.6	480
Sierra Suites	Accommodation	X	X	0	0	-

Source: Dutchess County, NYGIS

Note (1): HAZUS-MH 2.2 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.2

Other Vulnerabilities Identified

The Town of Fishkill has identified the following vulnerabilities within their community:

- Representatives from the Glenhem Fire District in the Town of Fishkill noted that the transportation infrastructure serving its facilities is not properly designed to withstand closures and/or damage due to natural hazards. Specifically, there are many smaller roads within the district that only have one way in or out of the service are, inhibiting movement of emergency vehicles.
- Further, the Fire District believes that the public is aware of emergency warning systems currently in place, but does not have a good enough understanding of what to do in case of an emergency circumstance.
- The Fire District feels that extra funding should be looked at to support the lower tax based departments to sufficiently handle hazard risk reduction efforts and situations in the community.

9.9.5 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 Fishkill.

Table 9.9-6. 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	Yes	Local	Supervisor	Town of Fishkill Comprehensive Plan, 2009
Capital Improvements Plan	Yes	Local	Supervisor	2016 - 2020 Town of Fishkill 5 Year Capital Plan
Floodplain Management / Basin Plan	Yes	Local	Building	Chapter 78: Flood Damage Reduction, 3/21/2012
Stormwater Management Plan	Yes	MS4	Water and Sewer	MS4 Annual Report
Open Space Plan	Yes	Local	Planning	Town Open Space and Natural Resource Index, 1973; Ch. 149: Greenway Compact 9/19/2001
Stream Corridor Management Plan	Yes	MS4	Water and Sewer	Chapter 130: Stormwater Management and Erosion and Sediment Control Law
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	Yes	Local	Supervisor	-
Comprehensive Emergency Management Plan	Yes	Local	Emergency Preparedness Committee (EPC)	-
Emergency Response Plan	Yes	Local	EPC	-
Post-Disaster Recovery Plan	Yes	Local	EPC	-
Transportation Plan	Yes	Local	EPC	-
Strategic Recovery Planning Report	Yes	Local	Planning	-
Other Plans:	-	-	-	-
Regulatory Capability				
Building Code	Yes	State	Building	Ch. 50 Building Construction Administration, 12/12/2007
Zoning Ordinance	Yes	Local	Zoning	Ch. 150 Zoning, 12/27/1997
Subdivision Ordinance	Yes	Local	Planning	Ch. 132 Subdivision of Land, 9/22/1978
NFIP Flood Damage Prevention Ordinance	Yes	Local	Planning	Ch. 78 Flood Damage Prevention, 3/21/2012
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	No	-	-	-
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	Planning	Land Development Permit Application - 01/2014
Stormwater Management	Yes	MS4	Water and	Chapter 130: Stormwater Management



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.)
Ordinance			Sewer	and Erosion and Sediment Control Law
Municipal Separate Storm Sewer System (MS4)	Yes	MS4	Water and Sewer	Chapter 130: Stormwater Management and Erosion and Sediment Control Law
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	Yes	Local	EPC	-
Real Estate Disclosure Requirement	Yes	Federal	-	-
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Planning	-

Administrative and Technical Capability

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

Table 9.9-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning
Mitigation Planning Committee	Yes	Highway/Building
Environmental Board/Commission	Yes	Planning
Open Space Board/Committee	Yes	Planning
Economic Development Commission/Committee	No	-
Maintenance Programs to Reduce Risk	No	-
Mutual Aid Agreements	No	-
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	-
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	Yes	-
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or HAZUS-MH applications	No	-
Scientist familiar with natural hazards	No	-
Emergency Manager	Yes	-
Grant Writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	Yes	-
Professionals trained in conducting damage assessments	No	-



Fiscal Capability

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

Table 9.9-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact Fees for homebuyers or developers of new development/homes	Yes
Stormwater Utility Fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	--

Community Classifications

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

Table 9.9-9. Community Classifications

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)	--	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	--	-	-
Storm Ready	No	-	-
Firewise	No	-	-
Disaster/Safety Programs in/for Schools	--	-	-
Organizations with Mitigation Focus (advocacy group, non-government)	--	-	-
Public Education Program/Outreach (through website, social media)	--	-	-
Public-Private Partnerships	--	-	-

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

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
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Joel Petrus, Building Inspector

Flood Vulnerability Summary

As supported by the low number of claims and policies described later in this section, the Town of Fishkill does not have a substantial vulnerability to flood damage. The municipality does not maintain an active inventory of flood-damaged properties and instead tracks information on an individual basis. Additionally, the Town does not note any property owners who are interested in mitigation or protective measures, such as elevation or acquisition.

Resources

The community FDPO identifies the Building Inspector as the local NFIP Floodplain Administrator, currently Joel Petrus, for which floodplain administration is an auxiliary duty.

It is the intent and purpose of the NFIP Floodplain Administrator to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. Floodplain manager duties include: regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities; require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters; control filling, grading, dredging and other development which may increase erosion or flood damages; regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and qualify for and maintain participation in the National Flood Insurance Program. As part of his duties, the Floodplain Administrator provides education and outreach to the community through the Town's Emergency Preparedness Committee (EMP Committee).

The Floodplain Administrator feels he is adequately supported to fulfill his responsibilities as the municipal floodplain administrator, although he is the sole staff member with floodplain administration responsibilities. He would participate in any continuing education or certification training on floodplain management were it offered for all local floodplain administrators.



Compliance History

Since 1978, 28 claims have been paid totaling \$407,770. The Town is currently in good standing in the NFIP. The current NFIP Floodplain Administrator indicates the Town has not experienced a CAV to date. The municipality sees no specific need for a CAV at this time.

Regulatory

The Town's Flood Damage Prevention Ordinance (FDPO) was last reviewed and updated in March 2012 and is found in Chapter 78 of the local code. Floodplain management regulations and ordinances meet the FEMA and New York State minimum requirements.

Community Rating System

The Town of Fishkill does not participate in the Community Rating System (CRS) program.

Other Capabilities Identified

Previous actions that are now on-going programs and capabilities are described below. Refer to Table 9.9-11 presented later in this annex.

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 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 SEQRA and Federal NEPA requirements.

Town of Fishkill Comprehensive Plan 2009: The Town completed a Comprehensive Plan, which included the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks. Some of the applicable objectives include the following:

Objective: Enact Critical Environmental Area (CEA) designations to help protect significant ecological communities. Objective: Reduce impacts of development on steep slopes.

Objective: Ensure that municipal boards have the proper training to carry out the new planning and zoning requirements

Objective: Whenever possible, seek to develop and enact inter-municipal agreements with all neighboring municipalities to plan for conservation of natural resources that span municipal boundaries. Some of the recommendations included the following:

- Use SEQRA to develop all practical means to avoid or mitigate adverse environmental impacts of proposed development projects on the unique or exceptional characteristics of a CEA, and on all sensitive environmental resources, prior to approval by the Planning Board or any other agency. Enact



a conservation overlay district with standards to promote environmentally sensitive development in areas with significant ecological communities, as identified on Map 3.

- Strengthen the Town's steep slope ordinance. Establish performance standards that control development based on the carrying capacity of the land.
- Require dedication of land along the Fishkill Creek as parkland under NYS Town Law § 277.4 during subdivision review, or use recreation fees to acquire and manage "creekfront" lands
- Require that Planning and Zoning Board members take the self-administered Land Use Training Program certification offered by New York Municipal Insurance Reciprocal, Pace University Land Use Law Center, and the New York Planning Federation
- Work with the Towns of Philipstown, Wappinger, East Fishkill, the City of Beacon, and the Village of Fishkill to create compatible, local regulations to protect such important resources as wetlands and floodplains, aquifers, watersheds, historic resources and scenic viewsheds, using the powers granted to the Town under Town Law § 284.

Environmental Planning: The mission of the Town of Fishkill Environmental Board is to sustain and improve a town-wide, viable, environmental community. As part of this mission the Environmental Board advises the Town Board and the Planning Board of any present and future environmental issues.

Emergency Planning: The purpose of the Town of Fishkill Emergency Preparedness Committee is to develop a comprehensive emergency management program that will provide a system to mitigate the effects of an emergency. To provide the necessary assistance, and to establish a recovery system in order to return the Fishkill community to its normal state of affairs.

In the event that a disaster occurs, the internal disaster committee follows a chain of command, starting with the Town Superintendent. If the Superintendent is not available, command would first go to the Foreman, and second to the Sr. MEO.

Regulatory and Enforcement

Flood Damage Prevention Chapter 78: It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging and other development which may increase erosion or flood damages;
- E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and
- F. Qualify for and maintain participation in the National Flood Insurance Program.

Zoning Code Chapter 150: Fishkill's zoning code includes districts and standards pertaining to the mitigation of hazards. These sections include the Floodplain regulations, stormwater management & erosion control standards.

Site Plan/Subdivision Review Chapter 132: The Town's Planning Board is tasked with site plan/subdivision review. The Planning board pays special attention to ensure that developments mitigate the issues associated with flooding or steep slopes.



Building Code Chapter 50: The building codes are strictly enforced to make new and renovated buildings as prepared as possible for hazard related incidents. The chapter includes a provision to allow the building inspector to make emergency repairs to protect the health safety and welfare of the residents.

Fiscal

Operating Budget: The Town's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

Education and Outreach

The Town has an Emergency Preparedness Committee Facebook Page that posts information on mitigation and emergency response. The Town also has an emergency notification email list link on the website. The Planning Department is a member of the Dutchess County Planning Federation and attends trainings and researches best practices that other communities are implementing. The Town reports participation with associations, organizations, groups and other committees that support natural hazard risk reduction and build hazard management capabilities, including a Building Codes Officials group and Association of Highways.

DPW takes classes and implements in hazardous reduction techniques in various capital improvements, and Town highway staff receive yearly personal safety training. The Town has planned to budget for training for personal including professional development geared towards health and safety. Currently, Town officials do not receive hazard risk reduction training. Town Highway Department employees are tasked with identifying and reducing risk, and would benefit from training in hazardous materials, and recognizing electrical and natural gas hazard.

9.9.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The Town of Fishkill has no prior mitigation strategy.

Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The Town of Fishkill has not identified any mitigation projects/activities that have been completed, are planned, or on-going within the municipality.

Proposed Hazard Mitigation Initiatives for the Plan

The Town of Fishkill participated in a mitigation action workshop in May 2015 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 9.9-12 summarizes the comprehensive-range of specific mitigation initiatives the Town of Fishkill 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. 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 9.9-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan.



Table 9.9-12. 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
TF-1	Install sheeting or other measure to prevent Old Town Road from further sinkage.	Existing	Subsidence, Transportation Accidents	2	Town Highway/Building, Planning	Medium	Medium	Municipal, County, State	Short	High	SIP	PP
TF-2	Raise McGrath Terrace roadway about 300 feet to prevent flooding and add drainage.	Existing	Flooding, Transportation Accidents	1, 2	Town Highway/Building	Medium	Medium	Municipal, County, State	Short	High	SIP	PP
TF-3	Raise Old Town Road Fishkill about 300 feet to prevent flooding.	Existing	Flooding, Transportation Accidents	1, 2	Town Highway/Building	Medium	Medium	Municipal, County, State	Short	High	SIP	PP
TF-4	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL – 3 currently) and Severe Repetitive Loss (SRL – 1 currently), 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.											
	See above.	Existing	Flooding, Severe Storm	2, 3	Municipal NFIP FPA; support from NYS DHSES and FEMA	High - Reduced or eliminated risk to property damage from flooding	High	FEMA or other mitigation grant funding, NFIP flood insurance and ICC; property owner for local match.	Long-term DOF	High	SIP, EAP	PP, PI
TF-5	Notify and provide needed support to the facility manager / operator of A&L Service/Sunoco to evaluate the facility's flood vulnerability and to identify feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County, Municipal	Short	Medium	EAP, LPR	PI, PP
TF-6	Notify and provide needed support to the facility manager / operator of Extended Stay America - Fishkill to evaluate the facility's flood vulnerability and	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County,	Short	Medium	EAP, LPR	PI, PP





Table 9.9-12. 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
	to identify feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".							Municipal				
TF-7	Notify and provide needed support to the facility manager / operator of Fishkill Gas Citgo to evaluate the facility's flood vulnerability and to identify feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County, Municipal	Short	Medium	EAP, LPR	PI, PP
TF-8	The Town will investigate mitigation opportunities to further strengthen local critical facilities, specifically the Fishkill Town Garage and Fishkill Town Pumps #1 - 4 when they arise and as funding is feasible.	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA, Town Highway, Town Water and Sewer	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County, Municipal	Short	Medium	EAP, LPR	PI, PP
TF-9	Notify and provide needed support to the facility manager / operator of Prestige Petroleum Valero to evaluate the facility's flood vulnerability and to identify feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County, Municipal	Short	Medium	EAP, LPR	PI, PP
TF-10	Notify and provide needed support to the facility manager / operator of the Rombout Fire Department St. 1 and identification of feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".	Existing	Flood, Severe Storms	2, 3	Municipal NFIP FPA, Rombout Fire Department	High – Reduced Risk to Critical Facility	Low	Staff Time, FEMA, NYS DHSES, County, Municipal	Short	Medium	EAP, LPR	PI, PP
TF-11	Notify and provide needed support to the facility manager /	Existing	Flood, Severe	2, 3	Municipal NFIP FPA	High – Reduced	Low	Staff Time, FEMA,	Short	Medium	EAP, LPR	PI, PP





Table 9.9-12. 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
	operator of Sierra Suites to evaluate the facility's flood vulnerability and to identify feasible mitigation options. Assure that any mitigation addresses the 500-year flood event or "worst damage scenario".		Storms			Risk to Critical Facility		NYS DHSES, County, Municipal				

EM* = Emergency Management action, not Mitigation

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)
 SRL Severe Repetitive Loss Grant Program (discontinued)

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.

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.





Costs:

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:

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 9.9-13. 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
TF-1	Install sheeting or other measure to prevent Old Town Road from further sinkage.	1	1	0	1	1	1	0	0	1	1	1	1	1	0	10	High
TF-2	Raise McGrath Terrace roadway about 300 feet to prevent flooding and add drainage.	1	1	1	1	1	1	-1	0	1	1	1	1	1	1	11	High
TF-3	Raise Old Town Road Fishkill about 300 feet to prevent flooding.	1	1	1	1	1	1	-1	0	1	1	1	1	1	1	11	High
TF-4	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as Repetitive Loss (RL – 3 currently) and Severe Repetitive Loss (SRL – 1 currently)	1	1	0	0	1	1	-1	1	1	1	1	1	0	1	9	Medium
TF-5	Notify and provide needed support to the facility manager / operator of A&L Service/Sunoco to evaluate the facility’s flood vulnerability and to identify feasible mitigation options.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium
TF-6	Notify and provide needed support to the facility manager / operator of Extended Stay America - Fishkill to evaluate the facility’s flood vulnerability and to identify feasible mitigation options.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium
TF-7	Notify and provide needed support to the facility manager / operator of Fishkill Gas Citgo to evaluate the facility’s flood vulnerability and to identify feasible mitigation	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium





Table 9.9-13. 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
	options.																
TF-8	The Town will investigate mitigation opportunities to further strengthen local critical facilities, specifically the Fishkill Town Garage and Fishkill Town Pumps #1 - 4 when they arise and as funding is feasible.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium
TF-9	Notify and provide needed support to the facility manager / operator of Prestige Petroleum Valero to evaluate the facility's flood vulnerability and to identify feasible mitigation options.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium
TF-10	Encourage further flood vulnerability evaluation of the Rombout Fire Department St. 1 and identification of feasible mitigation options.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium
TF-11	Notify and provide needed support to the facility manager / operator of Sierra Suites to evaluate the facility's flood vulnerability and to identify feasible mitigation options.	0	1	1	0	0	0	1	0	1	1	1	1	0	0	7	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.9.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.9.8 Hazard Area Extent and Location

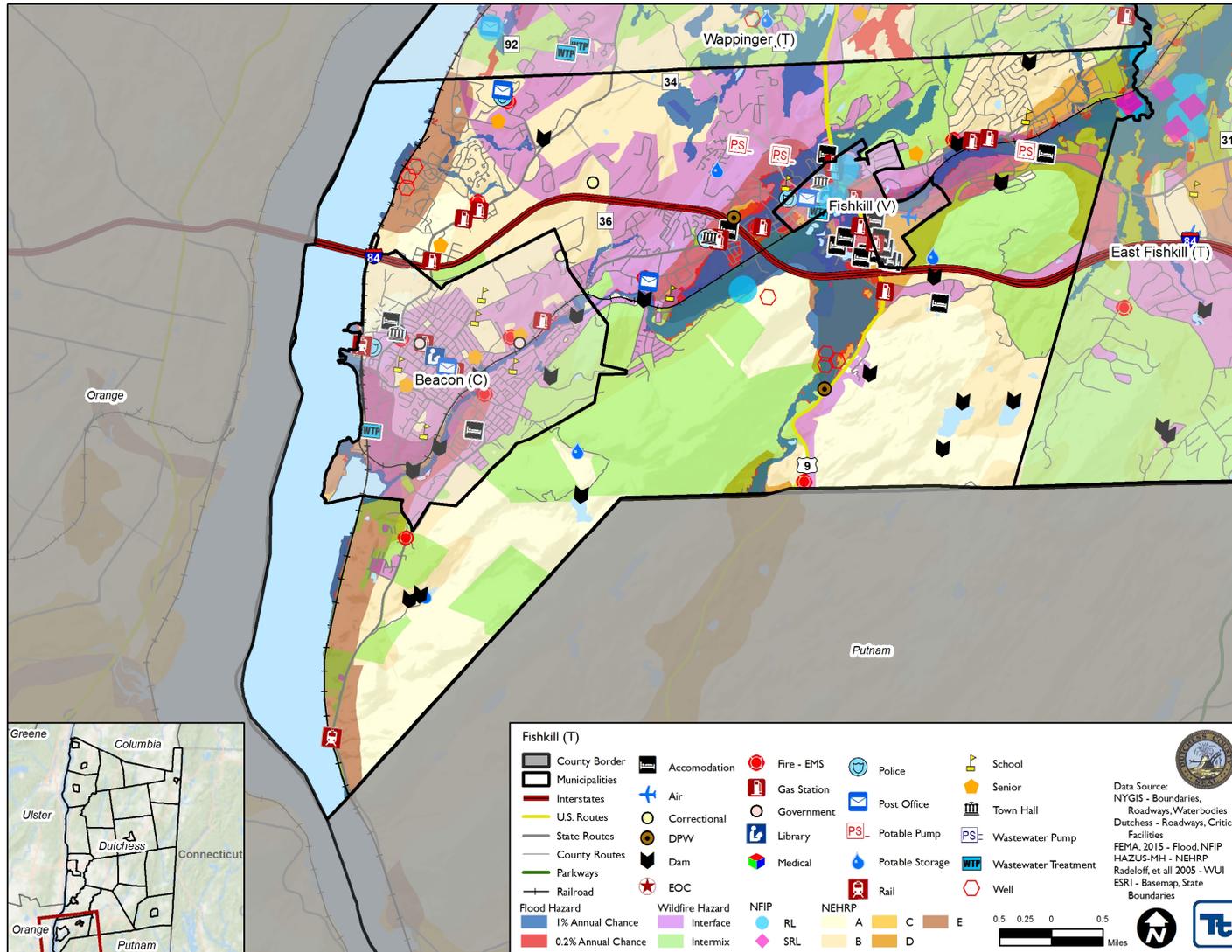
Hazard area extent and location maps have been generated for the Town of Fishkill that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.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

9.9.9 Additional Comments

None at this time.



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





Action Number:

TF-1

Mitigation Action/Initiative:

Install sheeting or other measure to prevent Old Town Road from further sinkage.

Assessing the Risk	
Hazard(s) addressed:	Old Town Road, Fishkill
Specific problem being mitigated:	Road is slowly sinking 100-150 feet (Subsidence, Transportation Accidents)
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Sheeting or other structural projects to save it (Selected project)
	2. Do nothing (Problem continues or worsens)
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Sheeting or other structural projects to save it
Action/Project Category	SIP
Goals Met	2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town of Fishkill (Highway/Building and Planning)
Local Planning Mechanism	N/A
Potential Funding Sources	Municipal, County, State
Timeline for Completion	1-5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

TF-1

Mitigation Action/Initiative:

Install sheeting or other measure to prevent Old Town Road from further sinkage.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Prevent future transportation hazard and roadway failure
Property Protection	1	Secure roadway from further damage
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	Can be completed within 5 years.
Agency Champion	1	Supported by Town of Fishkill (Highway/Building and Planning)
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	



Action Number:

TF-2

Mitigation Action/Initiative:

Raise McGrath Terrace roadway about 300 feet to prevent flooding and add drainage.

Assessing the Risk	
Hazard(s) addressed:	McGrath Terrace, Fishkill
Specific problem being mitigated:	Flooding, Transportation Accidents
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Raise roadway about 300 feet to prevent flooding and add drainage (selected project).
	2. Do nothing (problem continues to worsen).
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Raise roadway about 300 feet to prevent flooding and add drainage.
Action/Project Category	SIP
Goals Met	1, 2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town of Fishkill (Highway/Building)
Local Planning Mechanism	N/A
Potential Funding Sources	Municipal, County, State
Timeline for Completion	1-5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: TF-2
Mitigation Action/Initiative: Raise McGrath Terrace roadway about 300 feet to prevent flooding and add drainage.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Reduce transportation hazard
Property Protection	1	Reduce flood risk to transportation infrastructure and surrounding properties
Cost-Effectiveness	1	Most cost-efficient option. Alternative is to have ongoing flood damage and flood repair costs.
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Expense
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	Will prevent further deterioration of roadways, and maintain emergency access routes
Timeline	1	Can be completed within 5 years.
Agency Champion	1	Town of Fishkill (Highway/Building)
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Number:

TF-3

Mitigation Action/Initiative:

Raise Old Town Road Fishkill about 300 feet to prevent flooding.

Assessing the Risk	
Hazard(s) addressed:	Old Town Road Fishkill
Specific problem being mitigated:	Flooding, Transportation Accidents
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Raise roadway about 300 feet to prevent flooding (selected project). 2. Do nothing (problem worsens). 3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Raise roadway about 300 feet.
Action/Project Category	SIP
Goals Met	1, 2
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Medium
Estimated Cost	Medium
Priority*	High
Plan for Implementation	
Responsible Organization	Town of Fishkill (Highway/Building)
Local Planning Mechanism	N/A
Potential Funding Sources	Municipal, County, State
Timeline for Completion	1-5 years
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: TF-3
Mitigation Action/Initiative: Raise Old Town Road Fishkill about 300 feet to prevent flooding.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Reduce transportation hazard
Property Protection	1	Reduce flood risk to transportation infrastructure and surrounding properties
Cost-Effectiveness	1	Most cost-efficient option. Alternative is to have ongoing flood damage and flood repair costs.
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Expense
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	Will prevent further deterioration of roadways, and maintain emergency access routes
Timeline	1	Can be completed within 5 years.
Agency Champion	1	Town of Fishkill (Highway/Building)
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Number:

TF-4

Mitigation Action/Initiative:

Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain

Assessing the Risk	
Hazard(s) addressed:	Flooding, Severe Storm
Specific problem being mitigated:	Repetitive Loss and Severe Repetitive Loss from Flood/Water Damage
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain. Specific actions are still to be identified but could include acquisition/relocation or elevation (selected project).
	2. Do nothing (problem continues to exist or to worsen).
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain. Specific actions are still to be identified but could include acquisition/relocation or elevation.
Action/Project Category	SIP, EAP
Goals Met	2, 3
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	Municipal NFIP FPA; support from NYS DHSES and FEMA
Local Planning Mechanism	N/A
Potential Funding Sources	FEMA or other mitigation grant funding, NFIP flood insurance and ICC; property owner for local match.
Timeline for Completion	Long-term, DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number:

TF-4

Mitigation Action/Initiative:

Promote and support non-structural flood hazard mitigation alternatives for at risk properties within the floodplain

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Remove residents from flood hazard area.
Property Protection	1	Remove property from flood hazard area.
Cost-Effectiveness	0	
Technical	0	
Political	1	
Legal	1	
Fiscal	-1	Expense
Environmental	1	Return floodplain to natural function.
Social	1	Reduce tax-payer costs for repetitive and severe repetitive loss properties.
Administrative	1	Reduce administrative burden of repetitive and severe repetitive loss properties.
Multi-Hazard	1	Severe Storms, Flooding
Timeline	1	
Agency Champion	0	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	Medium	