

## 8.21 - Jurisdictional Annex, Town of Stephentown

This section presents the jurisdictional annex for the Town of Stephentown. The jurisdiction's governing body passed a formal resolution to participate in this multi-jurisdictional hazard mitigation plan update. A copy of their resolution is maintained at the local government offices and at the Rensselaer County Bureau of Public Safety.

### 8.21.1 Contact Information

The jurisdiction's resolution to participate identified a Primary Point of Contact and an Alternate for this hazard mitigation plan update. These individuals represented the jurisdiction on the county-wide Core Planning Group and led a local team of Jurisdictional Assessment Team Members who undertook various local activities related to the plan update.

HAZARD MITIGATION PLAN POINTS OF CONTACT						
Primary Point of Contact				Alternate Point of Contact		
Name: Lawrence Eckhardt Title: Town Supervisor Address: 26 Grange Hall Road, Stephentown, NY 12168 Phone Number: 518-733-9195 E-mail Address: <a href="mailto:kfcaac@taconic.net">kfcaac@taconic.net</a>				Name: Alden Goodermote Title: Highway Superintendent Address: 26 Grange Hall Road, Stephentown, NY 12168 Phone Number: 518-733-5994 E-mail Address: <a href="mailto:redryder1956@outlook.com">redryder1956@outlook.com</a>		
Jurisdictional Assessment Team Members						
Local Jurisdiction Role/Position	Name	Email	Phone	Date of Invitation	Method of Invitation	Agreed to participate?
Land Use/Community Planner	Derrick Gardner	<a href="mailto:derrickdgardner@gmail.com">derrickdgardner@gmail.com</a>	518-429-3819	Feb-19	Verbal	Yes
Emergency Manager	Larry Eckhardt	<a href="mailto:kfcaac@taconic.net">kfcaac@taconic.net</a>	518-733-9195	Jan	Verbal	Yes
Floodplain Manager/Administrator	Dean Herrick	<a href="mailto:dhbuildinginsp@taconic.net">dhbuildinginsp@taconic.net</a>	518-733-6233	Feb	Verbal	Yes
Public Works Director / Highway Superintendant	Alden Goodermote	<a href="mailto:redryder1956@outlook.com">redryder1956@outlook.com</a>	518-733-5994	Jan	Verbal	Yes
Building Code Official	Dean Herrick	<a href="mailto:dhbuildinginsp@taconic.net">dhbuildinginsp@taconic.net</a>	518-733-6233	Feb	Verbal	Yes
Fiscal/Budget Officer	Larry Eckhardt	<a href="mailto:kfcaac@taconic.net">kfcaac@taconic.net</a>	518-733-9195	Jan	Verbal	Yes
Manager/Administrator	Larry Eckhardt	<a href="mailto:kfcaac@taconic.net">kfcaac@taconic.net</a>	518-733-9195	Feb	Verbal	Yes
Elected Officials	Bill Jennings	<a href="mailto:eastcupcake@fairpoint.net">eastcupcake@fairpoint.net</a>	518-733-9195	Jan	Verbal	Yes
Elected Officials	Pam Kueppers	<a href="mailto:plkueppers@gmail.com">plkueppers@gmail.com</a>	518-733-9195	Jan	Verbal	Yes
Elected Officials	Gerry Robinson	<a href="mailto:robinsongw0@gmail.com">robinsongw0@gmail.com</a>	518-733-9195	Jan	Verbal	Yes
Elected Officials	P J Roder	<a href="mailto:pjroder@rifenburg.net">pjroder@rifenburg.net</a>	518-733-9195	Jan	Verbal	Yes
Local Hospital	N/A					
Major University	N/A					
Significant Business	N/A					
Neighboring County 1	N/A					
Neighboring County 2	N/A					
Neighboring County 3	N/A					
Neighboring County 4	N/A					
Tribal Group/Nation	N/A					

### 8.21.2 JURISDICTION PROFILE

#### 8.21.2.1 Location and Land Area

The Town of Stephentown is located in southeast Rensselaer County, in the eastern part of New York State. It shares a border with the Town of Berlin to the north; Columbia County to the south; Massachusetts to the east; and the Town of Nassau and Village of Nassau to the west.

According to the 2010 U.S. Census Bureau, Rensselaer County has a total area of 665 square miles (1,720 km<sup>2</sup>), of which 652 square miles (1,690 km<sup>2</sup>) is land and 13 square miles (34 km<sup>2</sup>) (1.9%) is water. Of that, the Town of Stephentown has a total area of 58.09 square miles (150.44 km<sup>2</sup>), of which 57.89 square miles (149.93 km<sup>2</sup>) is land and 0.20 square miles (0.51 km<sup>2</sup>) is water.

### 8.21.2.2 Population

According to the 2010 U.S. Census Bureau's American Community Survey 5-Year Estimates, the population of Town of Stephentown is estimated to be 2,903 persons.

### 8.21.2.3 Demographics

Of a total area of 58.08 square miles (2010 Census data), the land area is 57.98 square miles and population per square mile is 49.5 persons.

Of the total population, there are 100.5 males per 100 females (all ages). Persons under 18 years represent 21.3% of the population, and 15.2% are persons 65 years and over (2010 Census). Young and old subsets of the population may have unique needs as far as care requirements and potential cognitive and/or mobility limitations before, during, and after a disaster.

The number of persons who speak a language other than English is 53, or 1.9%, of which 39.6% speak English less than "very well". Persons not speaking English well may have trouble understanding instructions regarding disaster preparation, response, and recovery.

Regarding education, of persons age 25 years and older, 84.3% are high school graduates or higher, and 25.6% have received their bachelor's degree or higher (2000 Census data). Higher education can help enhance skills associated with cognition and evaluation of risk. Higher education can, therefore, foster an overall improved perception of risk, particularly where individuals may not have prior direct experience preparing for, responding to, or recovering from a particular hazard in their daily lives.

Regarding families and living arrangements, from 2013 to 2017 there were 1,190 total households and 2.44 persons per household. Persons living alone sometimes have less of a direct social circle for support before, during, and after a disaster.

The Census Bureau classifies all people not living in housing units (house, apartment, mobile home, rented rooms) as living in group quarters. The two types of group quarters are Institutional (correctional facilities, nursing homes, mental hospitals) and Non-Institutional (college dormitories, military barracks, group homes, missions, shelters). The Census Bureau maintains no group quarters information for this municipality. The needs of persons living in group quarters are unique, and residents are likely to have access and functional needs and unique care requirements before, during, and after a disaster.

According to 2017 ACS, the median household income was \$68,906; the per capita income in past 12 months (2017) was \$38,510; and the percentage of persons in poverty was 9.3%. Lower income persons have limited financial resources to draw from in both a pre- and post-disaster scenario and are likely to require support as they prepare for, and recover from, hazard events.

The total of noninstitutionalized civilians with a disability is 13.9%, and percentage of people with a disability over age 65 years is 32.8%. The total percentage of persons (civilian, noninstitutionalized) without health insurance is 6.2%. Persons with disabilities have access and functional needs such as cognitive or mobility limitations that may put them at greater risk before, during, and after a hazard event.

#### 8.21.2.4 Brief History

The area that is now Rensselaer County was inhabited by the Algonquian-speaking Mohican Indian tribe at the time of European encounter. Kiliaen van Rensselaer, a Dutch jeweler and merchant, purchased the area in 1630, as part of the Dutch colony New Netherland. The land passed from English rule (1664) to Dutch control (1673), then back to English rule (1674), until American independence in 1776. Rensselaer County was created in 1790s from an area that was originally part of the very large Albany County. In 1807 the county reorganized.

Town of Stephentown was first settled around 1765. The town was formed in 1788, from the East Manor of Rensselaerswyck District. The Stephentown pioneers were from New England, primarily Rhode Island and Connecticut.

#### 8.21.2.5 Governing Body Format

The governing body of the municipality consists of a Town Supervisor, four Councilpersons, and various department heads. This council serves as the municipal/local government, performing executive functions of different natures. Members of this governing body are elected by the people.

#### 8.21.2.6 Growth/Development Trends

Performing an assessment of growth and development trends is one step of a hazard mitigation plan update. This look into the future is important because development in hazard areas could put more people and property in harm's way and, in turn, could work to increase potential disaster-related damages and losses at a time when the mitigation plan's purpose is to reduce the potential for damages emanating from natural disasters.

An evaluation of growth and development trends was undertaken by each participating jurisdiction as part of the development of the initial plan in 2011. As part of this plan update, the Town of Stephentown reviewed and updated its prior feedback to reflect current conditions in the community as of early 2019.

The Town of Stephentown did not note any major residential or commercial development taking place, or any major infrastructure development planned for the next five years in the municipality. Typical development tends to be characterized by a mix of small scale single homes and moderately sized second homes and retirement homes being built on previously agricultural parcels. Single family homes built on large parcels with very long and steep driveways tend to divert water to town or county highways. Very few local families are building new homes, with most new development being undertaken by persons from other areas.

New Development/Potential Development in the Municipality						
Property Name	Type (Residential or Commercial)	No. of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Not reported	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported

To protect new development from the effects of natural hazards, the Town of Stephentown enforces all regulations that are in effect. The code enforcement officer performs checks and inspections at the time of construction or remodeling. Since the initial plan was prepared in 2011, the Town now requires additional stormwater collection and drainage control at the time of construction when an applicant is coming in for a permit.

### 8.21.3 HAZARD IDENTIFICATION

The following hazards represent those that were deemed to be significant hazards of concern for the Town of Stephentown:

Profiled Hazards in the Town of Stephentown													
Jurisdiction	Atmospheric Hazards						Hydrologic Hazards			Geologic Hazards		Other Hazards	
	Extreme Temperatures (Coldwave/Heat Wave)	Hurricane/Tropical Storm	Lightning	Tornado	Wind	Winter Storm	Drought	Flood			Earthquake	Landslide <sup>4</sup>	Wildfire <sup>5</sup>
								Flooding <sup>2</sup>	Dam Failure <sup>1</sup>	Ice Jam <sup>3</sup>			
Stephentown, Town of	■	■	■	■	■	■	■	■	■	■	■	■	

Notes: (1) Based on presence of a High hazard dam (NYSDEC classification) either in the municipality or close upstream on a watercourse flowing through that municipality and feedback from the County Planning Department. (2) Based on identification of improved property in mapped FEMA flood hazard zones. (3) Based on historical records, Flood Insurance Studies, and local information as well as feedback from the County Planning Department. (4) Based on identification of improved property in mapped high incidence or high susceptibility landslide risk zones, plus those municipalities in which details of individual landslide events are available. (5) Based on identification of improved property in mapped wildfire hazard zones.

### 8.21.4 NOTABLE HAZARD EVENT OCCURRENCES SINCE 2011

Rensselaer County has a long history of natural hazard events occurring, as detailed in Section 3 of this plan. A summary of historical events is provided in each of the hazard profiles of Section 3 and includes a chronology of events that have affected the County and its municipalities.

NOAA's NCDC records 1,141 hazard event occurrences from 1950 to 2018 causing 1 fatality, 116 injuries, \$27,679,000 in property damage, and \$305,800 in crop damage. The table below presents a summary of 415 events that are included in NOAA's NCDC records for Rensselaer County since the prior 2011 HMP was prepared to summarize the recent range and impact of natural hazard events potentially affecting the County and its municipalities. For details of events prior to 2011, refer to Section 3 of this plan.

Natural Hazard Event History (January 2011 through December 2018)					
Event Type	Count	Fatalities	Injuries	Property Damage	Crop Damage
Blizzard	2	0	0	\$0	\$0
Cold/Wind Chill	28	0	0	\$0	\$0
Excessive Heat	3	0	0	\$0	\$0
Extreme Cold/Wind Chill	8	0	0	\$0	\$0
Flash Flood	20	0	0	\$320,000	\$0
Flood	16	0	0	\$10,000	\$0
Frost/Freeze	6	0	0	\$0	\$0
Hail	29	0	0	\$0	\$0
Heat	17	0	0	\$0	\$0
Heavy Rain	1	0	0	\$0	\$0
Heavy Snow	13	0	0	\$0	\$0
High Wind	17	0	0	\$0	\$0
Lightning	1	0	0	\$50,000	\$0
Storm Surge/Tide	1	0	0	\$0	\$0
Strong Wind	22	0	0	\$48,000	\$4,000
Thunderstorm Wind	141	0	7	\$0	\$0
Tropical Storm	2	0	0	\$0	\$0
Winter Storm	28	0	0	\$0	\$0
Winter Weather	60	0	0	\$0	\$0
Total	415	0	7	\$428,000	\$4,000

Since 1954, Rensselaer County has been designated as eligible for at least one form of FEMA assistance in 16 Federally-declared major disasters and eight Federally-declared emergencies. Since the adoption of the 2011 HMP, Rensselaer County has been designated as eligible for at least one form of FEMA assistance in three of the state's 12 Federally-declared major disasters (2011 through 2018).

Rensselaer County Disaster Declarations, 2011-2018					
Declaration Year	Event Incident Period	Declaration Type	Disaster Type	Disaster Number	Rensselaer County Designation
2017	March 14-15, 2017	Major Disaster Declaration	Severe Winter Storm and Snowstorm	DR-4322	Declared for PA only
2011	September 7-11, 2011	Emergency Declaration	Tropical Storm Lee	EM-3341	Declared for PA Category B
2011	August 26, 2011 through September 5, 2011	Major Disaster Declaration	Hurricane Irene	DR-4020	Declared for PA and IA
2011	December 26-27, 2010	Major Disaster Declaration	Severe Winter Storm and Snowstorm	DR-1957	Declared for PA Category B

Source: FEMA, online at <https://www.fema.gov/disasters>, queried on July 11, 2019  
 PA= FEMA's Public Assistance Program  
 IA= FEMA's Individual Assistance Program  
 Category B= FEMA's Public Assistance Program Category B (Emergency Protective Measures)

Some more recent notable events in the Town of Stephentown since 2011 include:

July 26, 2011

Strong thunderstorms moved across the Capital District. Strong thunderstorm winds downed trees and wires in Stephentown.

August 28, 2011 – Irene

The remnants of Hurricane Irene brought heavy to extreme rainfall throughout Rensselaer County.

October 29-30, 2012 – Sandy

Rainfall in Rensselaer County was not excessively heavy and did not cause notable flooding, thanks to dry antecedent conditions. Wind gusts of 40 to 60 mph were common from the afternoon of the 29th until the early morning hours of the 30th.

June 12, 2015 – Thunderstorm Winds

Strong thunderstorms moved across the Capital District. Strong thunderstorm winds downed trees and wires in Stephentown.

July 18, 2016 – Thunderstorm Winds

Power lines were downed on Route 43 in Stephentown due to thunderstorm winds.

June 30, 2017 to July 1, 2017 - Severe Storms and Flooding

Numerous strong to severe thunderstorms occurred across Rensselaer County. Thunderstorm winds caused damages throughout the county, downing trees and power lines, and heavy rains caused flooding in many areas of the county. A tree and power lines were downed as a result of thunderstorm winds in the town of Stephentown.

### 8.21.5 NATIONAL FLOOD INSURANCE PROGRAM SUMMARY

The Town of Stephentown has participated in FEMA’s National Flood Insurance program (NFIP) since 1981.

- Total number of policies<sup>1</sup>: 12
- Insurance in force<sup>2</sup>: \$2,855,500
- Total number of losses: 1
- Total claims paid: \$0
- Repetitive Loss Properties: 0
- Severe Repetitive Loss Properties: 0

The Town of Stephentown provided the following NFIP Administrator Input in 2019, for inclusion in the 2019 HMP.

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<sup>1</sup> Policies in Force from [www.fema.gov](http://www.fema.gov) on 02/21/19, data current as of 09/30/18.

<sup>2</sup> Insurance in Force from [www.fema.gov](http://www.fema.gov) on 02/21/19, data current as of 09/30/18.

Name: Dean Herrick Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator  
 Community: Town of Stephentown Email and Phone: 518-733-6233 dhbuildinginsp@fairpoint.net



### Worksheet 2 - NFIP

*Note: This form should be filled out by your floodplain administrator. Submittals should be returned via email to Jay Wilson at jwilson@rensc.com. Feel free to contact Anna Foley of AECOM if you have questions, at [anna.foley@aecom.com](mailto:anna.foley@aecom.com). All communities participating in the National Flood Insurance Program (NFIP) provided FEMA with a floodplain management ordinance and a designated floodplain administrator as a prerequisite to enter the program. All participating communities must provide the information below. Please return a copy of your floodplain management ordinance to us with this submittal.*

Adoption Date of your Current Floodplain Management Ordinance	Date of Entry into NFIP <sup>1</sup>	Position or Title of Your Jurisdiction's Designated Floodplain Manager/Administrator (may also be called NFIP Coordinator)	Is this person a Certified Floodplain Manager?	Is floodplain management an auxiliary function?	Is your community in good standing with the NFIP?		
4/20/87	8/3/81	Code Enforcement Officer (Dean Herrick)	[x] Yes [ ] No	[x] Yes [ ] No	[x] Yes [ ] No		
Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):							
Code Enforcement Officer grants or denies development permit applications in accordance with provisions of Floodplain Management Ordinance. Maintain records of elevation certificates / floodproofing certificates for new construction and substantial improvements. Code Enforcement Officer makes periodic inspections throughout permitted construction periods to certify compliance, and has authority to issue stop work orders for noncompliant or unpermitted activities.							
Describe barriers to running an effective NFIP program in the community (if applicable):							
None.							
When was most recent FEMA Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?*	Is a CAV or CAC scheduled or needed?	Does the current floodplain management ordinance exceed FEMA or State minimum requirements? If so, describe how.	Is training of staff regarding NFIP issues planned?	Does your community intend to continue to enforce the floodplain management requirements including regulating new construction in Special Flood Hazard Areas (SFHAs)?	Does your community participate in the CRS? If so, state your Class.	Does your community intend to continue its participation in the CRS program?	If your community is not currently participating in the CRS program, are you intending to initiate the process during the next planning cycle?
Early 1990's	[x] Yes [ ] No	[ ] Yes [x] No	[x] Yes [ ] No	[x] Yes [ ] No	[ ] Yes* [x] No * Class _____	[ ] Yes [x] No	[ ] Yes [x] No
*Describe any outstanding compliance issues (i.e., current violations):							
None known.							

<sup>1</sup> Your date of entry into the NFIP can be found at: <http://www.fema.gov/cis/NY.html> (column "Reg-Emer Date").

Rensselaer County Multi-Jurisdictional Hazard Mitigation Plan Update – NFIP Worksheet NFIP-1

Name: Dean Herrick Title: Floodplain Manager/Floodplain Administrator/NFIP Coordinator  
 Community: Town of Stephentown Email and Phone: 518-733-6233 dhbuildinginsp@fairpoint.net



### Worksheet 2 - NFIP

**Provide an explanation of your local floodplain permitting process:**

Every permit in the floodplain is unique; paperwork is reviewed to compare proposed activities against the base flood elevation and NFIP requirements.

Does your community intend to continue floodplain identification and mapping services including any local requests for map updates?	Does your community intend to initiate/continue the buyouts of repetitive loss properties?	Does your community intend to commit staff or resources to improve local mapping or code administration in the future?	Does your community intend to provide local outreach to promote the sale of flood insurance?	Does your community intend to participate in RiskMAP meetings and planning initiatives?	Does your community intend to continue to implement structural improvements to mitigate against flooding - culverts, drainage basins, etc.?	Does your community intend to continue to implement home improvement programs designed to minimize basement flooding?	Does your community intend to continue to implement roadway improvements to reduce damage from future flooding events?	Does your community intend to implement plans and programs in coordination with a local or regional drainage/sewer authority?
[x] Yes [ ] No	[ ] Yes [x] No	[ ] Yes [x] No	[ ] Yes [x] No	[x] Yes [ ] No	[x] Yes [ ] No	[x] Yes [ ] No	[x] Yes [ ] No	[ ] Yes [x] No
Does your community intend to adopt the new FEMA Advisory Base Flood Elevations?	As Floodplain Manager, did you (or your predecessor at the time) actively participate in the development of the initial Hazard Mitigation Plan?		As Floodplain Manager, are you actively participating in the development of this Hazard Mitigation Plan Update?		Have there been any changes to your community's local floodplain management program since the last version of the plan in 2011?			
[x] Yes [ ] No	[x] Yes [ ] No		[x] Yes [ ] No		[ ] Yes * [x] No			
* If you answered "yes", that there have been changes to your local program since 2011, please describe:								
Provide a description of your community assistance and monitoring activities:								
Meetings and phone calls with people as they have questions to clarify what they can/can't do and what the requirements are. For monitoring, it's small town, everyone knows what everyone's doing and it's easy to see what's going on and periodic inspections are undertaken in accordance with our local Ordinance.								
NFIP participating communities are required to update/revise their floodplain management ordinance to ensure that it complies with the latest FEMA regulations. Will your community continue to commit to this program requirement?				NFIP participating communities are also required to update/revise their floodplain management ordinance to be consistent with the latest FIRMs. Will your community continue to commit to this program requirement?				
[x] Yes [ ] No				[x] Yes [ ] No				

Note: NFIP policy statistics by community are maintained at: <http://bsa.nfipstat.fema.gov/reports/1011.htm#NJT>  
 NFIP claims data by community is maintained at: <http://bsa.nfipstat.fema.gov/reports/1040.htm#34>  
 Information about structures at risk of flooding can be found in the current Hazard Mitigation Plan.  
 All NFIP participating communities should encourage local residents to purchase and maintain flood insurance.

Rensselaer County Multi-Jurisdictional Hazard Mitigation Plan Update – NFIP Worksheet NFIP-2

## 8.21.6 ASSET IDENTIFICATION AND CHARACTERIZATION

An inventory of geo-referenced assets in Rensselaer County has been created in order to identify and characterize property and persons potentially exposed to the identified hazards. Section 3b of the plan presents the asset identification and characterization process in great detail. The following table presents an overview of assets in Rensselaer County<sup>3</sup> and the subset of those assets that fall within the Town of Stephentown.

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<sup>3</sup> The County totals are included here for readers to understand the proportion of countywide assets that lie within this municipality.

Asset Inventory																			
Jurisdiction	Improved Property (RCV <sup>4</sup> )	Emergency Facilities					Critical Infrastructure and Utilities										Other Key Facilities		Historic and Cultural Resources
		Fire Stations	Police Stations	EMS / Ambulance Stations	Hospitals	Shelters <sup>5</sup>	Wastewater Facilities	Water Treatment Facilities	Airports	Railroads (Passenger/Freight Station)	Electric Power Facilities	Communications Facilities	Oil Facilities	Hazardous Materials Sites	Natural Gas Facilities	Ports	Schools	Residential Senior Care Facilities <sup>6</sup>	
Rensselaer County	\$33,333,947,000	44	9	19	2	33	8	1	0	13	1	6	5	60	1	12	64	3	84
Town of Stephentown	\$509,235,000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Rensselaer County	Population, Census 2010:		159,429																
Town of Stephentown	Population, Census 2010:		2,903																
Rensselaer County	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		30,429																
Town of Stephentown	Vulnerable Population, Census 2010 (under 5 years, and over 64 years)		567																

<sup>4</sup> Replacement Cost Value

<sup>5</sup> Specific shelter data is protected information and is not released to the public unless and until necessary during a disaster.

<sup>6</sup> \* As per the County Department of Economic Development and Planning, these figures only encompass the senior centers which are not residential facilities.

Exposure – Assets in the Floodplain

Land. Approximately two percent of land in the Town of Stephentown is located in the 100-year floodplain.

Land in the 100-year Floodplain			
Municipality	Land Area of Municipality (Acres)	Land in the 100-year Floodplain (Acres)	Percent of Land in the 100-Year Floodplain (%)
Stephentown, Town of	37,263	671	2%

Improved Property. Approximately three percent of improved property in the Town of Stephentown is located in the 100-year floodplain.

Improved Property in the 100-year Floodplain			
Municipality	Replacement Cost Value (RCV) Structure and Contents (\$)	RCV in the 100-year Floodplain (\$)	Percent of RCV in the 100-Year Floodplain (%)
Stephentown, Town of	\$509,235,000	\$14,734,176	3%

Population. Approximately three percent of the population of the Town of Stephentown resides in the 100-year floodplain.

Population in the 100-Year Floodplain			
Municipality	Total Population (Census 2010)	Estimated Population in the 100 year Floodplain	Percent of Population in the 100 year Floodplain
Stephentown, Town of	2,903	92	3%

Critical Facilities. No critical facilities (emergency facilities, critical infrastructure and utilities, and other key facilities, as presented in Section 3b) are located in the floodplain in the Town of Stephentown.

Historic and Cultural Resources. No listed historic or cultural resources are located in the floodplain in the Town of Stephentown.

### 8.21.7 POTENTIAL FUTURE DAMAGES

Estimated annual losses provided in this section are based on best available data, and the methodologies applied result in an approximation of risk. Loss estimates should be used to understand relative risk from hazards.

Uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary for a comprehensive analysis (i.e., incomplete inventories, demographics or economic parameters).

The following table provides estimated average annual losses from HAZUS-MH 4.0 runs, where available. For hazards for which HAZUS modules are not available, historic damages have been distributed across municipalities based on their proportion of improved property. It is important to note that this table reflects estimates of average annual damages. For any hazard, individual event damages could be substantially (orders of magnitude) higher.

For the Town of Stephentown, the hazard with the highest estimated average annual losses is flooding.

Summary of Annual Loss Estimates – Town of Stephentown<sup>7</sup>

Municipality	Replacement Cost Value of Improvements (\$)	Extreme Temperatures	Hurricane/ Tropical Storm - Wind	Hurricane/ Tropical Storm – Wind + Flood	Lightning	Tornado	Wind	Winter Storm (Ice Storm/ Snow Storm)	Drought	Flood	Earthquake	Landslide	Wildfire
		NOAA NCEI, 1996-2018	HAZUS	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	NOAA NCEI, 1996-2018	HAZUS	HAZUS	NOAA NCEI, 1996-2018
Stephentown, Town of	\$509,235,000	\$21	\$271	\$1,319	\$164	\$7,239	\$1,834	\$514	\$0	\$53,080	\$1,442	\$0	\$1

<sup>7</sup> \* **It is important to note that this table reflects estimates of average annualized damages. For any hazard, individual event damages could be substantially higher.**

## 8.21.8 HAZARD RANKINGS AND KEY RISK FINDINGS

Hazard rankings for the Town of Stephentown are provided in the table below. Hazard priorities are based on each hazard's likelihood of occurrence, potential consequences, relative risk and average annualized losses. Rows are shaded red for High Hazard Priority; yellow for Moderate Hazard Priority; and green for Low Hazard Priority.

Flooding is the Town of Stephentown's highest priority hazard.

Hazard Rankings – Town of Stephentown					
Hazard	Future Probability	Potential Consequence	Relative Risk	Hazard Priority	Average Annualized Losses <sup>8</sup>
Extreme Temperatures (Coldwave/ Heat Wave)	Low	Low	Low	Low	\$21
Hurricane/ Tropical Storm	Low	High	Moderate	Moderate	\$271 Wind 1,319 Wind + Flood
Lightning	High	Low	Low	Low	\$164
Tornado	Low	High	High	High	\$7,239
Wind	High	Low	High	High	\$1,834
Winter Storm (Ice Storm/Snow Storm)	High	Moderate	Moderate	Moderate	\$514
Drought	Low	High	Low	Low	\$0
Flood	High	High	High	High	\$53,080
Earthquake	Low	High	Moderate	Moderate	\$1,422
Landslide	Moderate	Low	Moderate	Moderate	\$0
Wildfire	Low	Low	Low	Low	\$1

Key risk findings identified by the Town of Stephentown JAT as representing the highest local priorities for mitigation are:

- Fire Hall serves as shelter. Food pantry supplies both perishable and nonperishable items. Both are in need of emergency generators. Emergency generators to provide backup power, for safe sheltering at the Fire Hall; and for continuous provision of emergency food supplies post-disaster for the food pantry.
- Madden Road, Whitman Road, Black River Road, Calvin Cole Road, Fire Tower Road, Round Mountain Road, and Wemple Road: all locations require drainage improvements to eliminate roadway flooding and washouts.
- Bridges closed during flooding and/or ice jams because they are undersized capacity compared to flood flows. Bridge upgrades to mitigate the need for closing bridges during flooding or ice jams. Specific locations include: Gould Road over Kinderhook Creek;

<sup>8</sup> Source: NOAA NCEI, except as noted. \$0 in average annualized losses had no damages recorded for events between 1996 and 2018. Actual annual damages are unquantifiable but higher.

Berthager Road over Kinderhook Creek; Madden Road over East Creek; Grange Hall Road over West Brook; Black River Road over Black River; and Newton Road over Black River. This will ensure that accessibility is maintained to affected parts of community for basic services.

- Mitigation of stream flooding to prevent road closings because of washout. Project is located at Gould Road. Road washes away whenever there is high water (spring, summer, fall). The project involves cleaning of Kinderhook Creek, raising the road, and installing drainage.
- Improvement of drainage on specified roads and surrounding areas to improve water flow during high rainfall and eliminate washouts. Locations include: Tom Titus Road, North Moore Hill Road, Provost Road and Gentile Road.
- Residents could benefit from additional information on hazards, risks, and hazard mitigation measures they can take on their own properties to reduce damages and improve resident safety before, during and after a hazard event.
- Incorporate natural disaster mitigation techniques in local comprehensive plan.

Mitigation projects to address these key risks are included as part of the Town’s overall hazard mitigation strategy.

### 8.21.9 OUTREACH TO THE PUBLIC AND OTHER STAKEHOLDERS

As part of this 2019 Plan Update, the Town of Stephentown undertook various activities to: (a) alert the public and other stakeholders to the fact that the HMP Planning Committee was working to develop the update; and (b) provide the public and other stakeholders with a forum to ask questions and submit comments and suggestions on the process. Outreach activities undertaken by the Town of Stephentown included:

Outreach Activities			
Date of Activity	Type of Activity	Activity Details	Lead Department and/or Staff Title Who Undertook Activity
[2011 ]	[Mitigation Plan at Library ]	[After 2011 HMP was adopted, a copy was provided to the Director of the Stephentown Memorial Library ]	[Town Clerk ]
[2016 ]	[Plan integration-comprehensive plan ]	[Notified staff engaged in the preparation of the Comprehensive Plan (Linda VonDerHeide, County Planning; and PJ Roder, Councilman) that the Town adopted a Mitigation Plan in 2011 ]	[Supervisor Eckhardt ]
[March 18, 2019 ]	[Meeting ]	[At an open public town board meeting, discussed the mitigation plan and passed a resolution to participate in the update ]	[Town Board ]
[August 12, 2019 ]	[Workshop Meeting ]	[Town Board Workshop Meeting to discuss the plan update. Fact sheet was distributed to attendees ]	[Supervisor Eckhardt ]
[August 19, 2019 ]	[Meeting ]	[At an open public town board meeting, input was solicited from the public on any projects that residents would like to see in the hazard mitigation plan ]	[Supervisor Eckhardt ]
[August 19, 2019 ]	[Fact Sheet distribution ]	[Plan update fact sheet was distributed at an open public meeting of the town board ]	[Supervisor Eckhardt ]

Outreach Activities			
Date of Activity	Type of Activity	Activity Details	Lead Department and/or Staff Title Who Undertook Activity
[August 2019 ]	[Fact sheet posting-boards notice ]	[Fact sheet was made available on town notice board inside and outside of town hall, and at the library. ]	[Supervisor Eckhardt ]
[August 2019 ]	[Web site ]	[Plan update information in the form of the fact sheet was posted on the town web site ]	[Supervisor Eckhardt ]

The Town of Stephentown received the following comments to date as a result of its outreach activities.

Comments Log									
#	Comment	Comment Submitted By	Comment Submitted To	Comment Submitted on Date	How was comment submitted?	Disposition (Concur; non-concur; will evaluate)	Response / Action Proposed	Responsible Party	Action taken
1	Backup power and emergency preparedness questions in general	Fire Department Rick McCabe	Supervisor Eckhardt and Town Board	Spring 2019 (Feb/Mar)	Verbal, at Town Board meeting	Concur	Town will look into grants	Supervisor Eckhardt	Project added to the 2019 mitigation strategy
2	If power outage occurs, the food pantry at the Federated Church in Stephentown services Stephentown, Hancock. The pantry is where residents would go in case of an emergency. Power outages affect frozen and refrigerated items.	Meredith Rheindress, Food Pantry	Town Board	Winter 2018-2019	in person	Concur	Town will look into grants	Supervisor Eckhardt	Project added to the 2019 mitigation strategy

## 8.21.10 CAPABILITY ASSESSMENT

This section describes the following capabilities of the local jurisdiction:

- Legal and regulatory capability;
- Administrative and technical capability;
- Fiscal capability;
- Community resiliency;
- Community political capability; and
- Community classification.

### 8.21.10.1 Legal and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Stephentown. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
a. Building code	Y	Town can adopt own codes as long as they are compatible with State.	Local Law #1, 2006; updated 2014
b. Zoning ordinance	Y	1991	Local Law #1, 2014
c. Subdivision ordinance or regulations	Y	1991	Local Law #1, 2014
d. Special purpose ordinances (floodplain management, stormwater management, hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)	Y	Flood plain sometimes trumped by State or Fed or lender.	Local Law #1, 2014
e. Growth management ordinances (also called "smart growth" or anti-sprawl programs)	N		
f. Site plan review requirements	Y	1991	Local Law #1, 2014
g. General, comprehensive or master plan	Y	Planning board	New Masterplan adopted December 2018
h. A capital improvements plan	N		
i. An economic development plan	N		
j. An emergency response plan	Y	County Level plan when widespread.	2011

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
k. A post-disaster recovery plan	N		
l. A post-disaster recovery ordinance	N		
m. Real estate disclosure requirements	Y	State code	State code 2006
n. Other			

### 8.21.10.2 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Stephentown. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Administrative and Technical Capability		
Staff / Personnel Resources	Available (Y or N)	Department / Agency / Position
a. Planner(s) or engineer(s) with knowledge of land development and land management practices	N	
b. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	N	
c. Planners or Engineer(s) with an understanding of natural and/or human-caused hazards	N	
d. Floodplain manager	Y*	Code enforcement
e. Surveyors	N	
f. Staff with education or expertise to assess the community's vulnerability to hazards	Y	Code enforcement, Fire Dept
g. Personnel skilled in GIS and/or HAZUS	N	
h. Scientists familiar with the hazards of the community	N	
i. Emergency manager	N	
j. Grant writers	N	
k. Staff with expertise or training in benefit/cost analysis		
*All communities participate in the National Flood Insurance Program; as such, they are required by the regulations to have an appointed floodplain manager.		

### 8.21.10.3 Fiscal Capability

The table below summarizes financial resources available to the Town of Stephentown. The Town reviewed its responses from the 2011 HMP and has updated its prior feedback to reflect present-day conditions.

Fiscal Capability	
Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
a. Community Development Block Grants (CDBG)	Y
b. Capital improvements project funding	Y
c. Authority to levy taxes for specific purposes	Y
d. Fees for water, sewer, gas, or electric service	N
e. Impact fees for homebuyers or developers for new developments/homes	N
f. Incur debt through general obligation bonds	Y
g. Incur debt through special tax and revenue bonds	Y
h. Incur debt through private activity bonds	N
i. Withhold spending in hazard-prone areas	Don't know
j. State mitigation grant programs	Y
k. Other	

### 8.21.10.4 Overall Capabilities

The Town of Stephentown’s 2019 assessment of its overall capabilities to implement hazard mitigation strategies in each of the above categories, in addition to their local assessment of how these capabilities could be expanded and/or improved to reduce risk, is presented in the table below.

Overall Capabilities				
Overall legal and regulatory capability to implement hazard mitigation strategies	Overall technical capability to implement hazard mitigation strategies	Overall fiscal capability to implement hazard mitigation strategies	Overall administrative capability to implement hazard mitigation strategies	Community's willingness to enact policies and programs that reduce hazard vulnerabilities
Moderate to low	Low	Low	Moderate	Moderate
How these capabilities can be expanded and/or improved to reduce risk				
We would like to be able to have enough funding to hire and effectively train new positions to implement policies and regulations adopted by the town.				

### 8.21.10.5 Community Classifications

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

Community Classifications		
Program	Classification	Date Classified
Community Rating System (CRS) *	NP	The Town is not on FEMA's list of CRS communities.
Building Code Effectiveness Grading Schedule (BCEGS)	-	2008
Public Protection	-	-
Storm Ready	-	-
FireWise	-	-

## Notes:

- = Unavailable

N/A = Not applicable

NP = Not participating.

\* CRS Ranking as of April 2019

The classifications listed above relate to the Town of Stephentown's ability to provide effective services to lessen its vulnerability to the natural 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 1,000 feet of a creditable fire hydrant and is within five 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/>

### 8.21.11 PLAN FOR DISPLACED RESIDENTS

New York State requires that intermediate and long-term housing options must be available for relocating displaced residents to maintain post-disaster social and economic stability. Intermediate and long-term housing options for displaced residents was evaluated as part of the 2019 HMP Update. Additional information can be found in Appendix C.

## 8.21.12 PLAN FOR EVACUATION NEEDS AND SHELTERING

The Town of Stephentown has an emergency response plan<sup>9</sup>. It does not have a post-disaster recovery plan or a post-disaster recovery ordinance<sup>10</sup>. Rensselaer County has an existing Comprehensive Emergency Management Plan (CEMP) documenting the County's plan for evacuation and sheltering measures during hazard events. The Plan is posted online at: <http://www.rensco.com/wp-content/uploads/2019/07/Rensselaer-County-CEMP.pdf>. As part of this hazard mitigation plan update, the Rensselaer County reviewed their existing CEMP and determined that updates were necessary at this time. Updates to the CEMP are being completed at this time. Once finalized and approved, the County will post the updated CEMP at the same address and will follow procedures in its updated CEMP in all future disasters. The County BPS indicated that there are no designated evacuation routes.

Appendix B contains updated shelter data provided by the Red Cross in 2018. Shelter locations are not made public until facilities are actually opened for an event and therefore, pages of Appendix B that include shelter information are nonpublic. Since every possible shelter is not opened during every event, the data is not made public in order to ensure that individuals in need of shelter do not seek it at facilities which may remain closed during a particular event. The Town of Stephentown has access to shelter data and will coordinate with the Red Cross as part of their standard operating procedures if and when a need is identified for local shelters to be opened in the community.

## 8.21.13 FUTURE NEEDS - RISK/VULNERABILITY

The Town of Stephentown has identified no future needs to better understand risk/vulnerability in the community.

## 8.21.14 PLAN INTEGRATION

For a community to succeed in reducing risk in the long term, the information and recommendations of the hazard mitigation plan must be integrated into day-to-day local government operations. Throughout the planning process, partnerships are formed between departments and agencies, and sustained actions between these partners will increase the community's resilience to disasters. "Plan integration" can be thought of as the process whereby a local government incorporates the mitigation plan findings and projects into other planning mechanisms (governance structures that are used to manage local land use development and community decision making).

It is the intention of the Town of Stephentown to incorporate mitigation planning as an integral component of daily municipal operations. The balance of this subsection describes local accomplishments over the last planning cycle (2011-2019), and targeted activities for the next planning cycle (2019-2024).

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<sup>9</sup> Source: Local Capability Assessment

<sup>10</sup> Source: Local Capability Assessment

Demonstration of Progress over the Last Planning Cycle (2011-2019) – The Town of Stephentown undertook the following plan integration mechanisms over the last planning cycle:

- CPG member (or predecessor) coordinated verbally with Town Board at regularly scheduled board meetings open to the general public solicit their support and explore opportunities for integrating hazard mitigation planning objectives into their daily activities.
- CPG member (or predecessor) notified Planning Board to educate them on the Hazard Mitigation Plan and encourage that on the next update of the Town master plan, general or comprehensive plan, hazard mitigation for natural hazards is addressed.
- Master, general, or comprehensive plan was updated in 2018.
- CPG member (or predecessor) coordinated with your building department to ensure that they have adopted and are enforcing the minimum standards established in the current State-adopted IBC.
- Department of Public Works has adopted more rigorous procedures for inspecting and cleaning debris from streams and ditches. Increased frequency, and new equipment is now used (better performance).

Targeted Plan Integration Activities for the Next Planning Cycle (2019-2024) – The Town of Stephentown plans to implement the following plan integration mechanisms into local government operations from this point forward through the next planning cycle:

- CPG member will issue a letter to each department head to solicit their support and explore opportunities for further integration of hazard mitigation into the daily activities of the community as a whole.
- Incorporate hazard mitigation for natural hazards in the next update of your master, general or comprehensive plan.
- Adopt and enforce the minimum building standards established in the current State-adopted IBC (NY edition).
- Maintain community participation in FEMA's National Flood Insurance Program.
- Enforce codes and standards beyond FEMA minimum requirements.
- Join (or continue to maintain participation in) the NFIP's Community Rating System.
- Modify work plans, policies or procedures to include hazard mitigation concepts/activities.
- Issue directives to require departments/agencies in the community to carry out certain hazard mitigation activities.
- Require the Department of Public Works to inspect and clean debris from streams and ditches more frequently.
- Reach out to state agencies for assistance with natural hazard mitigation activities.
- Increase resilience by limiting the extension of public infrastructure in high hazard areas.
- Implement hazard mitigation activities through existing plans and policies.

## 8.21.15 MITIGATION STRATEGY

This subsection sets forth the mitigation strategy for the Town of Stephentown. It describes:

- Progress on 2011 HMP Initiatives
- Past Mitigation Accomplishments
- Proposed 2019 HMP Mitigation Initiatives
- Action Worksheets

### 8.21.15.1 Progress on 2011 HMP Initiatives

The following table was completed by the Town of Stephentown HMP Committee Members. It summarizes the progress that was made on the local hazard mitigation initiatives that were set forth in the community's mitigation strategy from the initial HMP in 2011.

Local priorities have not changed since the last version of the plan was prepared in 2011.

PROGRESS ON 2011 HAZARD MITIGATION PLAN INITIATIVES												
2011 HMP Initiative Number	Mitigation Initiative Description	2011 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
SP-1	Bridge repairs and upgrades to mitigate the need for closing bridges during flooding or ice jams. Specific locations include: Gould Road over Kinderhook Creek; Berthager Road over Kinderhook Creek; Madden Road over East Creek; Grange Hall Road over West Brook; Black River Road over Black River; and Newton Road over Black River. This will ensure that accessibility is maintained to affected parts of community for basic services.	High	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Highway Dept.			x		Continuing to maintain and make improvements with DEC approval	x		carrying forward with no changes
SP-2	Mitigation of stream flooding to prevent road closings because of washout. Project is located at Gould Road. Road washes away whenever there is high water (spring, summer, fall). The project involves cleaning of Kinderhook Creek, raising the road, and installing drainage.	Medium	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Highway Dept. and NYSDEC			x		Upgraded road to blacktop; removed obstruction from stream with DEC approval, permit	x		carrying forward with no changes
SP-3	Improvement of drainage on specified roads and surrounding areas to improve water flow during high rainfall and eliminate washouts. Locations include: Tom Titus Road, North Moore Hill Road, Provost Road and Gentile Road.	Medium	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Highway Dept.			x		Upgraded Gentile to hardtop, larger culverts on all roads. Stone ditches	x		carrying forward with no changes
SP-4	Install emergency generator at town highway garage and town hall. Generators will ensure the ability to pump fuel, service emergency equipment, and communicate in disaster situations.	Medium	All hazards	Town Board			x		Seeking grant money to make affordable	x		carrying forward with no changes
SP-5	Update local land use plan to include new international codes for building and code enforcement and prevent new construction in potentially hazardous areas.	Low	All hazards	Code Enforcement			x		ongoing	x		carrying forward with no changes
SP-CL-1	Public awareness program on Hazards, Prevention, and Mitigation: County will maintain a hazard mitigation and mitigation planning web presence (local municipal web sites to link up to this site, if they haven't already done so); all participating jurisdictions to support preparation of a joint annual hazard mitigation and mitigation planning fact sheet and its distribution; periodic discussion of hazard mitigation and the mitigation plan at other regular local meetings; use of annual flyers, newsletters, advertisements, or radio/tv announcements, etc. at the discretion of each jurisdiction (incorporating as much free information as possible from the FEMA Publications Warehouse and other appropriate sources). (public education)	High	All hazards	County-led action item. CPG Member, Town Supervisor			x		Initiated web site	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.

PROGRESS ON 2011 HAZARD MITIGATION PLAN INITIATIVES												
2011 HMP Initiative Number	Mitigation Initiative Description	2011 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
SP-CL-2	Code update: Review existing local codes and ordinances against the identified hazards to determine whether there need to be any amendments to address identified hazards and, where a need is identified, modify/ amend the codes/ordinances as applicable. (prevention)	Medium	All hazards	County-led action item. CPG Member, Town Supervisor			x		A need was not identified to modify/amend any local codes/ordinances.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
SP-CL-3	Code enforcement: Enforcement of NYS and Local Building Codes with Continual CEO training. (prevention)	Medium	All hazards	County-led action item. CPG Member, Town Supervisor			x		Locally administered on an ongoing basis; our community did not have a need to go to the county for support/training.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
SP-CL-4	Ensure that local comprehensive plans incorporate natural disaster mitigation techniques through a courtesy review of draft plans by the County Planning Department (prevention)	High	All hazards	County-led action item. CPG Member, Town Supervisor			x		First plan in 2018. Routed through and supported by County Planning.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
SP-CL-5	Hold periodic workshops for municipalities regarding zoning and planning issues that arise regarding natural hazards and hazard mitigation. (prevention)	Low	All hazards	County-led action item. CPG Member, Town Supervisor			x		County- led activity. Municipality attends meetings/workshops as offered by the County whenever municipal staff members have schedule availability.	x		County is carrying forward this County-led activity with no changes; our municipality will carry it forward as well.
SP-NFIP-1	Update/revise floodplain management ordinance to comply with latest FEMA regulations.	Medium	Flooding	Code Enforcement			x		Ordinance is dated 4/20/87. Not updated because no new maps have been issued.	x		Ongoing type of activity; will be carried forward with no changes.
SP-NFIP-4	Update/revise floodplain management ordinance to be consistent with potential future new FIRMs	Low	Flooding	Code Enforcement			x		FEMA has not issued new FIRMs since the last hazard mitigation plan was prepared.	x		Ongoing type of activity; will be carried forward with no changes.
SP-NFIP-6	Join the Community Rating System (CRS)	Low	Flooding	Code Enforcement				x	Municipality opted not to enter CRS.		x	limited staff resources; limited number of policy holders that would benefit

8.21.15.2 Past Mitigation Accomplishments

NYS DHSES requires the documentation of local mitigation efforts and accomplishments since the previous hazard mitigation plan was prepared, regardless of funding source and regardless of whether the project was included in the prior plan. They note that the goal of this requirement is to provide a context for each jurisdiction's projects, act as a source of ideas for mitigation projects, and evaluate the accuracy of assumptions and engineering solutions to inform future projects, and to support future mitigation planning and its coordination with other planning, zoning, and environmental procedures within the jurisdiction.

The following table summarizes past mitigation accomplishments for the Town of Stephentown, from the time the 2011 HMP was approved through its first update in 2019.

Past Mitigation Accomplishments					
Project Number	Project Name	Hazard(s) Addressed	Brief Summary of the Original Problem and the Solution (Project)	Evaluation of Success	
1	Hager Road Bridge	Flooding	Old bridge was undersized. Road flooding. The new bridge is large enough to pass floodwater	Cost	\$275,000
				Level of Protection	100 year
				Damages Avoided; Evidence of Success	No new flood damage except ice jam; no damage to road
2	Gould Road	Flooding	Debris caused road flooding and road washout. Cleaned stream debris. Water now flows properly.	Cost	\$15,000
				Level of Protection	25 year
				Damages Avoided; Evidence of Success	No new road damage to excess water
3	Provost and Gentile Roads	Flooding	Flooding caused road to washout. Upgraded to blacktop and lined ditches with stone.	Cost	Provost \$75,000 // Gentile \$18,000
				Level of Protection	25 year
				Damages Avoided; Evidence of Success	Has not washed out in heavy rains

### 8.21.15.3 Proposed 2019 HMP Mitigation Initiatives

The process for selection and prioritization of mitigation actions is described in greater detail in Section 5 of the main text. The outcomes of that overall process are summarized here.

This plan proposes the actions determined to be the most appropriate for the resources and capabilities of the community based on the experience of local officials, with input from the public and other stakeholders. The relatively large number of flood mitigation actions reflects the fact that flooding is the hazard of greatest concern. Actions determined to be appropriate for the plan were reviewed during public and committee meetings and there was consensus that those intended to mitigate the effects of flooding should be the highest priorities for most communities. As with the 2011 Plan, this 2019 Plan Update includes a series of County-led initiatives with municipal participation to address a wider range of hazards. In addition, each local mitigation strategy proposes actions reflecting the commitment of the County and local jurisdictions to compliance with requirements of the NFIP. Potential actions were reviewed relative to potential financial as well as administrative and legal costs and the degree to which they would be endorsed by the public. Potential actions were reviewed during the meetings relative to their potential benefit of effectiveness in saving lives, protecting the natural environment, and reducing disruption and damage. Actions selected by each jurisdiction include activities to protect existing and future structures and infrastructure and enhance community resilience.

Part of enhancing community resilience involves adapting to a changing climate. In accordance with NYS Mitigation Planning Standard 9, plans developed with NYS DHSES-administered funds must include information on climate change as part of the hazard vulnerability analysis and contain strategies/projects to address increased vulnerability that may result from climate change. This requirement was established to encourage jurisdictions to plan for and accommodate climate change and sea level rise. By developing mitigating strategies and/or projects for hazards that are exacerbated by climate change, jurisdictions will better protect residents, avoid, or reduce damage to property and public infrastructure, and reduce personal hardship. In accordance with this State Standard, previous sections of this plan have presented information on how climate change may affect jurisdictional vulnerability or increased frequency of occurrence and/or severity in exposure to flooding, wildfire, drought, and extreme temperatures. Climate change is addressed by mitigating the various hazards that it exacerbates. Rensselaer County and its communities have proposed a range of hazard mitigation initiatives to address their highest hazards including those hazards that are exacerbated by a changing climate.

Proposed 2019 HMP Mitigation Initiatives for Town of Stephentown are shown in the following table. These include both new initiatives and initiatives that were carried forward from the 2011 HMP.

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF <sup>11</sup> ?	EHP <sup>12</sup> Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources <sup>13</sup>	Priority <sup>14</sup>	Action Worksheet Provided? <sup>15</sup>
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
1	Generators, Fire Hall and Food Pantry *NEW*	2	All hazards	Fire Hall serves as shelter. Food pantry supplies both perishable and nonperishable items. Both are in need of emergency generators.	Emergency generators to provide backup power, for safe sheltering at the Fire Hall; and for continuous provision of emergency food supplies post-disaster for the food pantry.	Yes	Not at the Fire Hall, but possible historic considerations at the food pantry (building was built in 1865)	2019-2020	Town Board	\$55,000	Unquantifiable but high- possible food loss with a loss of power, at a time when more people than usual may be looking for food. Also, benefits of safe sheltering with heat/AC and lights at a town facility.	Local budget, possibly supplemented with grant funding (such as FEMA PDM or HMGP)	High	Yes
2	Drainage Improvements 2019 *NEW*	3,4	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Madden Road, Whitman Road, Black River Road, Calvin Cole Road, Fire Tower Road, Round Mountain Road, and Wemple Road → all require drainage improvements to eliminate roadway flooding and washouts	Drainage improvements (various) at each road.	No	No	5-10 years as funding is identified	Highway Department	Estimated to be on the order of at least \$75,000 per mile	Unquantifiable but high- access for emergency services, and also the repeated repairs on these roads cost more in highway staff time than the maintenance would be if they had proper drainage	Local budget, possible supplement with grant funding (potentially FEMA HMGP, FEMA PDM, or State DOT)	High	Yes
3	Bridge Upgrades (2011 SP-1)	3,4	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Bridges closed during flooding and/or ice jams because they are undersized capacity compared to flood flows.	Bridge upgrades to mitigate the need for closing bridges during flooding or ice jams. Specific locations include: Gould Road over Kinderhook Creek; Berthager Road over Kinderhook Creek; Madden Road over East Creek; Grange Hall Road over West Brook; Black River Road over Black River; and Newton Road over Black River. This will ensure that accessibility is maintained to affected parts of community for basic services.	No	No	5-10 years as funding is identified	Highway Dept.	\$1,000,000	Unquantifiable but high- access for emergency services, and also the repeated repairs on these bridges cost more in highway staff time than the maintenance would be if they were upsized	Local budget, possible supplement with grant funding (potentially FEMA HMGP, FEMA PDM, or State DOT)	High	No
4	Gould Road (2011 SP-2)	3,4	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	Road closings due to washouts from stream flooding	Mitigation of stream flooding to prevent road closings because of washout. Project is located at Gould Road. Road washes away whenever there is high water (spring, summer, fall). The project involves cleaning of Kinderhook Creek, raising the road, and installing drainage.	No	No	5-10 years as funding is identified	Highway Dept. and NYSDEC	\$200,000	High	Local budget, possible supplement with grant funding (potentially FEMA HMGP, FEMA PDM, or State DOT)	Medium	No

<sup>11</sup> CF – Critical Facility. Please respond “Y” (yes) if the project’s purpose is to protect a critical facility, or “N” (no) if not.

<sup>12</sup> EHP – Environmental or Historic Preservation. Please respond “Y” (yes) if the project is expected to have environmental and/or historic preservation issues, or “N” (no) if not.

<sup>13</sup> Potential Funding Sources – A list of Federal and State sources of funding for hazard mitigation projects can be found in the latest NYS Hazard Mitigation Plan online at <https://mitigateny.avilabs.org/capabilities/administerfunding>. Jurisdictions should identify additional funding opportunities you may be aware of that are not on the state list.

<sup>14</sup> Priority – See “Prioritization Methodology” on the next page.

<sup>15</sup> Action Worksheet Provided. Please respond “Y” (yes) if you have filled out a detailed Action Worksheet, or “N” (no) if not. NYS DHSES State Standard 7 recommends that further consideration be given to all proposed actions by completing a NYS DHSES Action Worksheet, the State requires completion of a minimum of two NYS DHSES Action Worksheets for the jurisdiction’s highest priority projects. For jurisdictions containing a Special Flood Hazard Area, at least one of these Action Worksheets must be for a project that addresses flooding. Action Worksheets have been prepared for a minimum of two proposed mitigation initiatives. Action Worksheets are included at the end of this section, following the prioritization methodology.

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF <sup>11</sup> ?	EHP <sup>12</sup> Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources <sup>13</sup>	Priority <sup>14</sup>	Action Worksheet Provided? <sup>15</sup>
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
5	Drainage Improvements 2011 (2011 SP-3)	3,4	Flooding, Ice Jams, Hurricane/ Tropical Storms, Winter Storms	Road closings due to washouts from stormwater	Improvement of drainage on specified roads and surrounding areas to improve water flow during high rainfall and eliminate washouts. Locations include: Tom Titus Road, North Moore Hill Road, Provost Road and Gentile Road.	No	No	5-10 years as funding is identified	Highway Dept.	\$250,000	Unquantifiable but high- access for emergency services, and also the repeated repairs on these roads cost more in highway staff time than the maintenance would be if they had proper drainage	Local budget, possible supplement with grant funding (potentially FEMA HMGP, FEMA PDM, or State DOT)	Medium	No
6	Generators- Town Highway Garage and Town Hall (2011 SP-4)	2	All hazards	Town Hall and Highway Garage perform critical services; continuous power supply is necessary for continuity of operations. Backup generators are not presently at the town hall or highway garage.	Install emergency generator at town highway garage and town hall. Generators will ensure the ability to pump fuel, service emergency equipment, and communicate in disaster situations.	Yes	No	5-10 years as funding is identified	Town Board	\$50,000	High- town would be able to maintain continuity of operations during periods of power outages	Local budget, possibly supplemented with grant funding (such as FEMA PDM or HMGP)	Medium	No
7	Update Land Use Plan (2011 SP-5)	2,3,4	All hazards	Land use plan outdated	Update local land use plan to include new international codes for building and code enforcement and prevent new construction in potentially hazardous areas.	No	No	5 years	Code Enforcement	\$0 (local staff time)	New assets would be targeted for locations outside of hazard areas when possible, or with protections if in hazard areas	local budget	Low	No
8	Participate in County-Led Hazard Mitigation Outreach (2011 SP-CL-1)	1	All hazards	Residents could benefit from additional information on hazards, risks, and hazard mitigation measures they can take on their own properties to reduce damages and improve resident safety before, during and after a hazard event.	Public awareness program on Hazards, Prevention, and Mitigation: County will maintain a hazard mitigation and mitigation planning web presence (local municipal web sites to link up to this site, if they haven't already done so); all participating jurisdictions to support preparation of a joint annual hazard mitigation and mitigation planning fact sheet and its distribution; periodic discussion of hazard mitigation and the mitigation plan at other regular local meetings; use of annual flyers, newsletters, advertisements, or radio/tv announcements, etc. at the discretion of each jurisdiction (incorporating as much free information as possible from the FEMA Publications Warehouse and other appropriate sources). (public education)	No	No	Ongoing throughout next 5 years	County-led action item. CPG Member, Town Supervisor	\$0 (local staff time)	Educated public; Enhance readiness, response and recovery efforts	local budget	High	No

PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	HMP Goal(s)/ Objective(s) Being Met	Hazard(s) to be Mitigated	Description of the Problem	Description of the Solution	CF <sup>11</sup> ?	EHP <sup>12</sup> Issues?	Estimated Timeline	Project Lead (include relevant Department and Position Title)	Estimated Costs	Estimated Benefits	Potential Funding Sources <sup>13</sup>	Priority <sup>14</sup>	Action Worksheet Provided? <sup>15</sup>
* NOTE: Projects related to Critical Facilities (CF) must protect the facility to the 500-year event or worst damage scenario, whichever is greater.														
9	Request code/ordinance review by Count as needed (2011 SP-CL-2)	4	All hazards	Communities are safer and more resilient when new construction and substantial improvements take into account the latest information on hazard vulnerabilities and measures to reduce risk.	Code update: Review existing local codes and ordinances against the identified hazards to determine whether there need to be any amendments to address identified hazards and, where a need is identified, modify/ amend the codes/ordinances as applicable. (prevention)	No	No	5 years	County-led action item. CPG Member, Town Supervisor	\$0 (local staff time)	Enhance readiness, response and recovery	local budget	Medium	No
10	Send CEO to County-Led Training (2011 SP-CL-3)	2	All hazards	There can be a loss of institutional knowledge with staff changes. Even when staff is the same, continual training improves local capabilities and allows officials to better regulate activities in hazard areas to protect lives and property.	Code enforcement: Enforcement of NYS and Local Building Codes with Continual CEO training, led by County. (prevention)	No	No	Ongoing throughout next 5 years	County-led action item. CPG Member, Town Supervisor	\$0 (local staff time)	Remain current on issue and solution; proper construction in the hazard areas fosters resiliency	local budget	Medium	No
11	Send Comprehensive Plan Update to County for Review by County Planning (2011 SP-CL-4)	2,3,4	All hazards	A long term vision for the community that doesn't take into account hazard areas can put lives and property at risk. Taking into account natural hazards and hazard mitigation measures can make the community more resilient.	Incorporate natural disaster mitigation techniques in local comprehensive plan through a courtesy review of draft plans by the County Planning Department (prevention)	No	No	As needed, 5 years	County-led action item. CPG Member, Town Supervisor	\$0 (local staff time)	Reduce property flooding and related damages; smart plans for development in hazard areas enhances resiliency	local budget	High	No
12	Attend County-Led Workshops on Natural Hazards and Hazard Mitigation (2011 SP-CL-5)	2,4	All hazards	When municipal staff aren't armed with information on zoning and planning issues that sometimes arise regarding natural hazards and hazard mitigation, they may make decisions that don't foster community resiliency.	Attend periodic county-led workshops for municipalities regarding zoning and planning issues that arise regarding natural hazards and hazard mitigation. (prevention)	No	No	Ongoing throughout the next five years	County-led action item. CPG Member, Town Supervisor	\$0 (local staff time)	Reduce property flooding and related damages	local budget	Low	No
13	Update Floodplain Management Ordinance per New FEMA Regulations (as needed) (2011 SP-NFIP-1)	3,4	Flooding	Outdated ordinances mean that a community is not regulating to the latest codes and standards or hazard information, and that does not foster community resiliency.	Update/revise floodplain management ordinance to comply with latest FEMA regulations.	No	No	As needed, 5 years	Code Enforcement	\$0 (local staff time)	Compliance may lead to additional funding to resolve issues	local budget	Medium	No
14	Update Floodplain Management Ordinance when New FIRMs are Issued (2011 SP-NFIP-4)	3,4	Flooding	Outdated ordinances mean that a community is not regulating to the latest codes and standards or hazard information, and that does not foster community resiliency.	Update/revise floodplain management ordinance to be consistent with potential future new FIRMs	No	No	As needed, 5 years	Code Enforcement	\$0 (local staff time)	Protection for the town and residents	local budget	Low	No

Prioritization Methodology for Proposed 2019 HMP Mitigation Initiatives

To prioritize its mitigation initiatives, the community established a methodology to take into account several key factors. Priorities were determined by a qualitative prioritization process established by the community. A higher priority was assigned to projects where: the life/safety risk of taking no action was deemed to be unacceptably high; the project addresses one of the community's highest hazards and/or key risks; benefits were projected to equal or exceed project costs; critical facilities or key local assets were being protected; funding and staff resources were deemed to be sufficient and/or accessible for project implementation; negative impacts were not anticipated on environmental and/or historic resources or any segment of the population; and/or where there was overall support for the project from the local community (government officials, public, and stakeholders).

PRIORITIZATION METHODOLOGY FOR PROPOSED 2019 HMP MITIGATION INITIATIVES														
Initiative Number	Initiative Name	Hazard(s) Addressed	Is the life/safety risk of taking no action deemed to be unacceptably high?	Does the project address one of the community's highest hazards and/or key risks?	Benefits	Costs	Are the project's benefits estimated to equal or exceed its costs?	Are critical facilities or key local assets being protected by the project?	Are funding resources sufficient and/or accessible for project implementation?	Are staff resources sufficient or available for project implementation?	Are negative impacts anticipated on environmental resources?	Are negative impacts anticipated on historic resources?	Are negative impacts anticipated on any segment of the population?	Priority
1	Generators, Fire Hall and Food Pantry *NEW*	All hazards	No	Yes	High	Moderate	Yes	Yes	Moderate	Yes	No	possible for food pantry	No	High
2	Drainage Improvements 2019 *NEW*	Flooding, Ice Jams, Hurricane/ Tropical Storms, Winter Storms	No	Yes	High	High	Yes	Yes	Moderate	Yes	No	No	No	High
3	Bridge Upgrades (2011 SP-1)	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	No	Yes	High	High	Yes	Yes	Moderate	Yes	No	No	No	High
4	Gould Road (2011 SP-2)	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	No	Yes	High	High	Yes	Yes	Moderate	Yes	No	No	No	Medium
5	Drainage Improvements 2011 (2011 SP-3)	Flooding, Ice Jams, Hurricane/Tropical Storms, Winter Storms	No	Yes	High	High	Yes	Yes	Moderate	Yes	No	No	No	Medium
6	Generators- Town Highway Garage and Town Hall (2011 SP-4)	All hazards	No	Yes	High	Moderate	Yes	Yes	Moderate	Yes	No	No	No	Medium
7	Update Land Use Plan (2011 SP-5)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Low
8	Participate in County-Led Hazard Mitigation Outreach (2011 SP-CL-1)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	High
9	Request code/ordinance review by County as needed (2011 SP-CL-2)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Medium
10	Send CEO to County-Led Training (2011 SP-CL-3)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Medium
11	Send Comprehensive Plan Update to County for Review by County Planning (2011 SP-CL-4)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	High
12	Attend County-Led Workshops on Natural Hazards and Hazard Mitigation (2011 SP-CL-5)	All hazards	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Low
13	Update Floodplain Management Ordinance per New FEMA Regulations (as needed) (2011 SP-NFIP-1)	Flooding	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Medium
14	Update Floodplain Management Ordinance when New FIRMs are Issued (2011 SP-NFIP-4)	Flooding	No	Yes	High	Low	Yes	No	Yes	Yes	No	No	No	Low

### Action Worksheets

NYS DHSES State Standard 7 recommends that further consideration be given to all proposed actions by completing a NYS DHSES Action Worksheet, the State requires completion of a minimum of two NYS DHSES Action Worksheets for the jurisdiction's highest priority projects. Furthermore, for jurisdictions containing a Special Flood Hazard Area, at least one of these Action Worksheets must be for a project that addresses flooding.

Action Worksheets prepared by the Town of Stephentown are included on the following pages.

Section 8.21 - Jurisdictional Annex, Town of Stephentown

NYS DHSES Action Worksheet			
Project Name:	Generators, Fire Hall and Food Pantry		
Project Number:	1		
Risk / Vulnerability			
Hazard of Concern:	All hazards		
Description of the Problem:	Fire Hall serves as shelter. Food pantry supplies both perishable and nonperishable items. Both are in need of emergency generators.		
Action or Project Intended for Implementation			
Description of the Solution:	Emergency generators to provide backup power, for safe sheltering at the Fire Hall; and for continuous provision of emergency food supplies post-disaster for the food pantry.		
Is this project related to a Critical Facility?	Yes * <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
* Projects related to critical facilities must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.			
Level of Protection:	500 year	Estimated Benefits (losses avoided):	Unquantifiable but high- possible food loss with a loss of power, at a time when more people than usual may be looking for food. Also, benefits of safe sheltering with heat/AC and lights at a town facility.
Useful Life:	50 years		
Estimated Cost:	\$75,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2019-2020
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Local budget, possibly supplemented with grant funding (such as FEMA PDM or HMGP)
Responsible Party: (Department/ Organization)	Town Board	Local Planning Mechanisms to be Used in Implementation, if any:	town responsibility to provide for safe shelter
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Not viable- unsafe sheltering without heat/ac/power; still potential for loss of perishable food at a time when residents may need the pantry most post-disaster
	Stockpile batteries for power, and dry ice for food perishables.	High, and recurring as supplies are used up	Not viable- repeated task of restocking as supplies are used up and associated repeated costs. Possible use of full stockpile during a long duration outage.
	Generators	\$75,000	Best solution- most responsible use of taxpayer dollars. Also, do not have to worry about long duration outages using up the amount of batteries/dry ice stockpiled.
Progress Report (this section to be completed at next plan update-do not fill in now)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Section 8.21 - Jurisdictional Annex, Town of Stephentown

NYS DHSES Action Worksheet			
Project Name:	Drainage Improvements 2019		
Project Number:	2		
Risk / Vulnerability			
Hazard of Concern:	Flooding, Ice Jams, Hurricane/ Tropical Storms, Winter Storms		
Description of the Problem:	Madden Road, Whitman Road, Black River Road, Calvin Cole Road, Fire Tower Road, Round Mountain Road, and Wemple Road → all require drainage improvements to eliminate roadway flooding and washouts		
Action or Project Intended for Implementation			
Description of the Solution:	Drainage improvements (various) at each road.		
Is this project related to a Critical Facility?	Yes * <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
* Projects related to critical facilities must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.			
Level of Protection:	25 years	Estimated Benefits (losses avoided):	Unquantifiable but high- access for emergency services, and also the repeated repairs on these roads cost more in highway staff time than the maintenance would be if they had proper drainage
Useful Life:	45-50 years		
Estimated Cost:	On the order of at least \$75,000 per mile		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5-10 years, as funding is received
Estimated Time Required for Project Implementation:	Ongoing, as funding is received	Potential Funding Sources:	Local budget, possible supplement with grant funding (potentially FEMA HMGP, FEMA PDM, or State DOT)
Responsible Party: (Department/ Organization)	Highway Department	Local Planning Mechanisms to be Used in Implementation, if any:	town responsibility to maintain roadways
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0 (but repeated repair costs take time and money)	Not viable- roads still become impassable. Impacts on emergency services. repeated repairs on these roads cost more in highway staff time than the maintenance would be if they had proper drainage
	Blacktop the ditches	Very high (more than \$75,000 per mile)	Not viable- too expensive and not likely to be very effective.
	Drainage improvements	High and about \$75,000 per mile	Selected alternative, can be done at a reasonable cost and this approach has been found to be effective at other locations in the town
Progress Report (this section to be completed at next plan update-do not fill in now)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			