9.35 TOWN OF WORCESTER

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

9.35.1 Hazard Mitigation Planning Team

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

Primary Point of Contact	Alternate Point of Contact 1	Alternate Point of Contact 2
Don Lindberg, Town Supervisor Town of Worcester, PO Box 607, Worcester, NY 12197 (607) 643 5259 dodymariel@gmail.com	Larry Delong, Town Councilman Town of Worcester, PO Box 607, Worcester, NY 12197 (607) 397 9386 Ldelong3@stny.rr.com	Barbara Monroe, Codes Enforcement Officer Town of Worcester, PO Box 607 Worcester, NY 12197 607-267-7687 Worcesternycodes@gmail.com
Floodplain Administrator		
Barbara Monroe, Codes Enforcement Officer Town of Worcester, PO Box 607 Worcester, NY 12197 607-267-7687 Worcesternycodes@gmail.com		

9.35.2 Municipal Profile

The Town of Worcester was first settled in 1788. The town was established from a part of the Town of Cherry Valley in 1797. In 1808 the town's size was reduced to form the Towns of Decatur, Maryland, and Westford.

The Town of Worcester lies along the eastern border of Otsego County in central New York State. There are several communities located within the town: Barton Corners (hamlet), Brighton, Calcutta, East Worcester (hamlet), South Worcester (hamlet), Tuscan, and Worcester (hamlet).

The Town of Worcester has a total area of 46.9 square miles. Interstate 88 passes through the central part of the town, following the same course as New York State Route 7. Both highways follow the course of Schenevus Creek across the town. Caryl Lake is found in the northeast of Worcester hamlet. Hudson Lake is found to the south of Schenevus Creek. The south town line is the border of Delaware and Schoharie counties. The Town of Worcester is bordered to the north by the Town of Decatur, to the south by Delaware County, to the east by Schoharie County, and to the west by the Town of Maryland.

The estimated 2017 population was 2,035, which is an 8.3 percent decrease in population from 2010 (2,220 persons). Data from the 2017 U.S. Census American Community Survey indicates that 5.0 percent of the town population is 5 years of age or younger and 29.9 percent is 65 years of age or older. Approximately 17.1

percent of the town's total population is identified as being below the poverty level. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

Growth/Development Trends

Table 9.35-1 summarizes major residential/commercial development that as of 2013 and any known or anticipated major residential/commercial development and major infrastructure development that is likely to be occur within the municipality in the next five years. The map in 9.35.8 of this annex illustrates the hazard areas along with the location of potential new development.

Table 9.35-1. 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 2013 to present					
Two dollar stores – Family Dollar, Dollar General	Commercial	2	Main Street	Family Dollar was built in a flood zone, but actually does not flood so removed	Completed.
Known or Anticipated Development in the Next Five (5) Years					
None Anticipated					

** Only location-specific hazard zones or vulnerabilities identified.*

9.35.3 Hazard Event History Specific to the Town of Worcester

Otsego County has a history of 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. The Town of Worcester's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Otsego County. Table 9.35-2 provides details regarding municipal-specific loss and damages the town experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.35-2. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Otsego County Designated?	Summary of Event	Municipal Summary of Damages and Losses
June 26-July 11, 2013	Severe Storms and Flooding (DR-4129)	Yes	A series of storms included severe thunderstorms, heavy rain, and flash flooding across central New York State and Otsego County.	Flood from Irene in the lower main street off Decatur Creek (Parker Creek) Route 7 was flooded for 1/2 mile. Water St was flooded for 600 feet. Houses' basements were flooded.
May 13-22, 2014	Severe Storms and Flooding (DR-4180)	Yes	On May 16th, a slow moving system brought heavy rainfall in the amounts of one to three inches in the region. This led to flash flooding, road washouts, and road closures in Otsego County.	Although the county was impacted, the Town of Worcester did not report losses.

Dates of Event	Event Type (Disaster Declaration if applicable)	Otsego County Designated?	Summary of Event	Municipal Summary of Damages and Losses
November 17-27, 2014	Severe Winter Storm, Snowstorm, and Flooding (DR-4204)	No	A snowstorm developed on November 26th. Snowfall amounts ranged from 7-11 inches across the county. The highest amount of 11 inches fell in Cooperstown.	Although the county was impacted, the Town of Worcester did not report losses.
March 14-15, 2017	Severe Winter Storm and Snowstorm (DR-4322)	Yes	Snowfall ranged between 3 and 4 feet inches in Otsego County. Many municipalities, and counties declared states of emergencies and/or travel bans. New York State also declared a state of emergency.	Snow storm snowed more snow than was able to be plowed. Cost incurred for overtime, plows breaking down, fuel for plow, salt, sand.

Notes:
FEMA Federal Emergency Management Agency
DR Major Disaster Declaration (FEMA)

9.35.4 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazards of greatest concern and risk to the Town of Worcester.

Hazard Risk Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

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

During the review of the hazard/vulnerability risk ranking, the town indicated the following:

- The Town of Worcester agreed with the calculated risk rankings.

Table 9.35-3. Hazard Risk/Vulnerability Risk Ranking

Hazard of Concern	County Hazard Ranking	Community Hazard Ranking
Drought	Medium	Medium
Earthquake	High	High
Extreme Temperature	High	High
Flood	Medium	Medium
Landslide	Low	Low
Severe Storm	High	High

Hazard of Concern	County Hazard Ranking	Community Hazard Ranking
Severe Winter Storm	High	High
Wildfire	High	High

Notes: The hazard ranking calculation is based on probability of occurrence and impacts on population, property, and the economy. Section 5.3 (Hazard Ranking) for the hazard ranking methodology.

Critical Facilities Flood Risk

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

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

Table 9.35-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	
Town of Worcester Hall (in Town Complex)	Town Building	X	X	0	0	T. Worcester-2
Town of Worcester Hwy Garage (in Town Complex)	Highway Garage	X	X	0	0	T. Worcester-2
Town of Worcester Transfer Station (in Town Complex)	DPW Garage	X	X	0	0	T. Worcester-2

Sources: FEMA 2017; Otsego County 2018

Identified Issues

The municipality identified the following vulnerabilities within their community:

- There are houses that flood that are not delineated in the SFHA and should be, whereas there are houses delineated in the floodplain that do not flood; it was recommended that FEMA update to an accurate map that shows what are in and not in the floodplain.
- Flood-prone homes are located in the town.
- Three creeks that flood during weather events flow through the town.
- Homes along Water Street, which runs parallel with Decatur Creek, regularly flood. This has been recorded since the 1940s. This area is in the SFHA (Zone A), according to the 2017 FEMA FIRM for the town.

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

- The area near the bridge on Center Valley Road and Mooney Road is a flood-prone area. A portion is located in the SFHA (Zone A) according to the 2017 FEMA FIRM for the town. The area under the road becomes clogged with debris, which causes the water to overflow its banks, impacting surrounding properties and homes.
- Charlotte Valley is on the southern border of the town. Charlotte Creek flows through this area and was identified as an area prone to flooding in the Town of Worcester.

9.35.5 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 Worcester.

Table 9.35-5. 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				
Comprehensive Plan	Yes	Local	Town Board	Comprehensive Plan
Capital Improvements Plan	No	-	-	-
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	No	-	-	-
Open Space Plan	No	-	-	-
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	No	-	-	-
Emergency Operation Plan	No	-	-	-
Evacuation Plan	No	-	-	-
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-

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.)
Other Plans:	Yes	Local	Various	Freshwater Wetlands Protection Plan – 2013
Regulatory Capability				
Building Code	Yes	State & Local	Code Enforcement Officer	Follow state code
Zoning Ordinance	Yes	Local	Code Enforcement Officer	Land Use Regulations, Local Law #1
Subdivision Ordinance	No	-	-	-
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Code Enforcement Officer	Flood Damage Protection Law - 2016
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	Yes	State, Local	Code Enforcement Officer	State mandated BFE+2 for all construction, both residential and non-residential
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	No	-	-	-
Stormwater Management Ordinance	No	-	-	-
Municipal Separate Storm Sewer System (MS4)	No	-	-	-
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	Yes	State	NYS Department of State, Real Estate Agent	NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	No	-	-	-

Administrative and Technical Capability

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

Table 9.35-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Economic Development Commission/Committee	No	-
Maintenance programs to reduce risk	No	-
Mutual aid agreements	Yes	With the state and county
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	No	All through county
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	No	All through county
Planners or engineers with an understanding of natural hazards	No	All through county
NFIP Floodplain Administrator (FPA)	Yes	Code Enforcement Officer
Surveyor(s)	No	Hire when needed
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Warning systems/services	No	All thorough county
Emergency Manager	No	Hire when needed
Grant writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-

Fiscal Capability

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

Table 9.35-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	No
Capital improvements project funding	No
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes – Water
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Not used
Other federal or state Funding Programs	Only state funding CHIPS
Open Space Acquisition funding programs	No
Other	No

Community Classifications

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

Table 9.35-8. 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)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	-
NYSDEC Climate Smart Community	No	-	-
Storm Ready Certification	Yes	Storm Ready County	2015
Firewise Communities classification	No	-	-
Natural disaster/safety programs in/for schools	No		-
Organizations with mitigation focus (advocacy group, non-government)	No	-	-
Public education program/outreach (through website, social media)	No	-	-
Public-private partnership initiatives addressing disaster-related issues	No	-	-
Other	No	-	-

Note:
- Unavailable

The classifications listed above relate to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance, while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10, with class 1 being the best possible classification and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 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 (https://www.isomitigation.com/bcegs/).
- The ISO Mitigation online ISO's Public Protection (https://www.isomitigation.com/ppc/).
- New York State Climate Smart Communities (http://www.dec.ny.gov/energy/56876.html).
- The National Weather Service Storm Ready (https://www.weather.gov/stormready/communities).
- The National Firewise Communities (http://firewise.org/).

Self-Assessment of Capability

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

Table 9.35-9. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and regulatory capability	X - Limited staffing and funding		

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

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Mr. Lloyd Stannard is the FPA for the Town of Worcester.

National Flood Insurance Program (NFIP) Summary

The Town of Worcester currently does not maintain lists or inventories of properties that have been damaged by floods. During the more recent flooding events, some homes sustained minor flood damage. The FPA does make substantial damage estimates for the town. In 2017, one resident filed a flood-related claim with their flood insurance company for $19,000. At the time of this plan update, there is no interest in mitigation (acquisitions or elevations).

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

Table 9.35-10. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in the 1-Percent Flood Boundary (3)
Worcester (T)	13	6	$57,276	1	0	4

Source: FEMA 2018

Notes:

(1) Policies, claims, RL, and SRL statistics provided by FEMA Region 2, and are current as of June 30, 2018. Total number of RL properties does not include SRL properties. Number of claims represents claims closed by July 31, 2018.

(2) Total building and content losses from the claims file provided by FEMA Region 2.

(3) Number of policies inside and outside of flood zones is based on latitude and longitude coordinates provided by FEMA Region 2 in the policy file. FEMA noted that for a property with more than one entry, more than one policy may have been in force or more than one Geographic Information System (GIS) specification was possible. Number of policies and claims, and claims total, exclude properties outside Otsego County boundary, based on provided latitude and longitude coordinates.

Resources

The FPA is the sole person assuming the roles and responsibilities of floodplain administration for the town. Services the FPA provides are minimal; however, if someone wants to build in the floodplain, they advise how to do it properly. Mr. Tom Blanchard is the floodplain administrator from the state that assists the town if needed.

The FPA did not identify any barriers to running an effective floodplain program and feeds adequately supported due to the support from the state. The FPA indicated that they would consider attending training and/or continuing education courses on floodplain management if offered.

Compliance History

The Town of Worcester is in good standing with the NFIP. According to NYSDEC, the most recent compliance audit was conducted on May 8, 2014.

Regulatory

The FDPO was adopted on March 16, 2017 and exceeds the minimums set by FEMA and New York State, as the town's FDPO requires that any elevation must be three feet above the base flood elevation.

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, which also are indicated below.

Planning

Existing Integration

Planning Board: The town's planning board meets each month.

Opportunities for Future Integration

Comprehensive Plan: The town's comprehensive plan currently does not include or discuss areas of natural hazard risk, nor does it refer to the Otsego County Hazard Mitigation Plan. During the next update of the comprehensive plan, the town will incorporate areas of natural hazard risk and refer to the county's Hazard Mitigation Plan.

Regulatory and Enforcement (Ordinances)

Existing Integration

Freshwater Wetlands Protection Law: This law was adopted on August 31, 1976. It provides protection, preservation, and conservation of freshwater wetlands located within the town's boundaries. The Town Board is responsible for fully undertaking and exercising its regulatory authority with regard to activities taking place in wetlands shown on the NYSDEC freshwater wetlands map and all areas adjacent to any freshwater wetland up to 100 feet from the boundary of such wetland.

Flood Damage Prevention Law: The purpose of this law is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in the town. The law designates the code enforcement officer as the local floodplain administrator.

Opportunities for Future Integration

Updated or new ordinances could include more information on hazards.

Operational and Administration

Existing Integration

Planning Board: Planning Board meetings for the Town of Worcester are held at 7pm at the Town Barn on the second Wednesday of each month. The Planning Board does not meet during the months of January and February.

Opportunities for Future Integration

Community Rating System (CRS): The town currently does not participate in the CRS program; however, they will consider joining and will attend any seminars on the program if offered in the future.

Funding

Existing Integration

The town has received FEMA funds for road mitigation and reimbursement for winter storm events.

Opportunities for Future Integration

The town will continue applying for appropriate FEMA grants to help the town become more resilient to future hazard events.

Education and Outreach

Existing Integration

Municipal Website: The town maintains a municipal website (http://www.townofworcesterny.com/) that provides important messages, alerts, town officials and contact information, meeting minutes, permit forms, and municipal laws.

Opportunities for Future Integration

The town could provide information to residents on natural hazard risk reduction and information on what to do during hazard events. This would enhance the knowledge of residents and provide additional

Sheltering, Evacuation, and Temporary Housing

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

Evacuation and Sheltering Needs

The town identified the following as designated emergency shelters for the community.

- The school located at Route 7 and Main Street has a 500-person capacity, accommodates pets, is ADA compliant, and has backup power. At the time of the plan update, it does not have the capabilities to provide medical services.
- The fire house located on School Street has a 150 person capacity, accommodates pets, is ADA compliant, and has backup power. EMT services can be provided to those using the shelter.

The town did not identify any formal evacuation procedures but would follow the guidance of Otsego County during an emergency event.

Temporary and Permanent Housing

The town does not have any potential sites within the municipality suitable for the placement of temporary housing, nor do they have suitable locations for relocating homes out of the floodplain or constructing new homes once properties have been acquired. The town would work with Otsego County to identify suitable locations for housing as necessary.

9.35.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2013 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and also can be found under 'Capability Assessment' presented previously in this annex.

Table 9.35-11. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing Capability, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2021 HMP or Discontinue 2. If including action in the 2021 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
1	Increase ditch capacity to improve conveyance of floodwaters and manage debris during flood events and other natural disasters, and to reduce erosion of banks.	Flood, Dam Failure, Tornado, Landslide, Earthquake	In 2006 the costs incurred were $200,000; Irene cost $500,000 for repair of one county road.	Town of Worcester Highway Dept.	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	Covered in regular highway department budget Moderate Roads have not washed out	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in this plan update.
2	Develop, coordinate, and implement a program to identify public or private land to place temporary short-term and long-term housing units for residents displaced by a disaster.	Flood	Temporary and long term housing locations need to be established.	Emergency Services, Public Works, Hazard Mitigation Committee Rep.	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	Negligible Moderate Firehouse and schools could serve as short term. Long term provided by volunteer organizations.	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in this plan update.
3	Develop, coordinate, and implement a program to protect critical facilities to the 500-year flood before, during, and following a flood event.	Flood	The Town of Worcester town complex, located at 29 Katie Lane in Worcester, is located in the 100-year floodplain and susceptible to flooding and damages associated with Schenevus Creek and Decatur Creek. The complex is home to all municipal departments, the highway garage, and a transfer station. All are essential to operate during a flooding event and need to provide	Emergency Services, Public Works, Hazard Mitigation Committee Rep.	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in the 2021 HMP 2. Mitigate the town's municipal complex. 3. -

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing Capability, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2021 HMP or Discontinue 2. If including action in the 2021 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
			services to the community before, during and after a hazard event.					
4	Shore up and protect sloped embankments (along Up County Road, Hollenbeck Road, South America Road) with heavy rock, gabions, flow diverters, and other methods of erosion protection damaged by floodwaters.	Flood	In 2006 the costs incurred were $200,000; Irene cost $500,000 for repair of one county road.	Town Highway Dept.	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	Paid for by FEMA High Roads have remained safe and passable.	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in this plan update.
5	Purchase new cell tower in conjunction with Otsego County Planning efforts or upgrade existing communication tower to increase range and strength.	Tornado, Hurricane, Flood, Winter Storm	Cell reception is spotty which limits communication during hazard events.	Town	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in the 2021 HMP Purchase new cell tower in conjunction with Otsego County 2. Planning efforts or upgrade existing communication tower to increase range and strength. 3. -
6	Remove dead trees, trim back trees and brush from the roads to lessen falling limbs and trees during severe weather events.	Winter Storm, Hurricane, Tornado	Falling trees and branches can damage property and infrastructure	Town of Worcester Highway Dept.	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	Routine maintenance Moderate Closure of roads was avoided, no electrical failure	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in this plan update.
7	Bury electric and telephone utility lines to minimize downed lines during severe weather events.	Winter Storm, Hurricane, Tornado	Falling trees and branches can damage infrastructure. Exposed wires are more prone to damage.	Utility Companies	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	Private Moderate New development bury lines privately	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in this plan update.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Worcester has performed ongoing maintenance projects to reduce the impact of flooding but has not identified specific mitigation projects/activities that were completed but not identified in the previous mitigation strategy in the 2013 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

Table 9.35-12 summarizes the comprehensive range of specific mitigation initiatives the Town of Worcester would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the 4 FEMA mitigation action categories and the 6 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 (Mitigation Strategy), 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 9.35-13 provides a summary of the prioritization of all proposed mitigation initiatives for the plan update.

Table 9.35-12. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
T. Worcester-1	Residential home elevations	2	Flood	**Problem:** Several homes throughout the town are prone to flooding and subsequent damage. With each flood event, homeowners worry whether or not they will need to leave their homes and return after a flood to make repairs. In addition, emergency personnel that need to respond to these flooded areas to perform rescues or evacuations are putting their life and safety at risk as well. **Solution:** The town will conduct outreach to residents regarding the possibility of mitigation. The town will then work with the interested homeowners to develop a grant application to elevate the homes. Once awarded, the town and homeowners will elevate homes to two feet above the base flood elevation. This will significantly reduce or eliminate flood damage to these homes and provide a sense of ease and lessen the worry on the homeowners every time in rains or floods.	No	No	3 years	Town Board, Town Engineer, working with the property owners	$1 million	Eliminates flood damages; protects health and safety of residents and municipal employees	FEMA HMGP and FMA with homeowners providing local match	High	EAP, SIP/ PI, PP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
T. Worcester-2	Town Complex	2	Flood	**Problem:** The Town of Worcester town complex at 29 Katie Lane in Worcester is in the 100-year floodplain and susceptible to flooding and damages associated with Schenevus Creek and Decatur Creek. The complex is home to all municipal departments, the highway garage, and a transfer station. All are essential to operate during a flooding event and need to provide services to the community before, during and after a hazard event. **Solution:** The town will conduct a feasibility study to determine the most cost-effective way to protect the town complex and/or its individual buildings from flooding up to the 500-year flood level. The town will then carry out the selected mitigation action(s).	Yes	No	5 years	Town Board, Town Engineer	TBD by selected mitigation actions	Town complex protected from flood damages, critical services maintained.	FEMA HMGP, FMA and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget	High	SIP/ PP
T. Worcester-3	Communications upgrade	2	All	**Problem:** Cell coverage in the town is limited and presents a vulnerability in communication during emergency events. **Solution:** Purchase new cell tower in conjunction with Otsego County Planning efforts or upgrade existing communication tower to increase range and strength.	No	No	5 years	Town Board with support from Otsego County OEM	$500,000	Cell coverage improved. Emergency services improved.	HMGP, County and local budget	High	SI/ PP, ESP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
T. Worcester-4	Upsize Stormwater Capacity on S. Hill Road in East Worcester	2	Flood, Severe Storm	**Problem:** The existing S. Hill Road culvert is only six feet in diameter. The top and bottom are rotting, and holes have been "patched" with 10" x 10" metal plates. **Solution:** The town will upsize the culvert to allow for increase carrying capacity.	No	Permitting	Six months	Town Highway Department	$35,000	Minimize road erosion and damage to persons, private property, and vehicles; lessen economic losses	Local budget or highway CIP funding. FEMA HMGP NYS DOT local roads program	High	SIP/ SP
T. Worcester-5	Upgrade bridge crossing on Factory Hill Road	2	Flood, all hazards (evacuations)	**Problem:** This one-lane bridge crossing Oak Creek has been rated Poor to Fair in recent years and must be replaced soon. **Solution:** A temporary bridge would be built parallel to the current bridge while the current bridge deck is being replaced.	No	None	1 year	Town Highway Department supporting NYS DEC. Support from Otsego SWCD.	$750,000	Maintain egress and regress to residential and commercial properties	NYS Bridge Program	High	SIP/ PP
T. Worcester-6	Oak Creek Cleanout	1	Flood, Ice Jam	**Problem:** Over time, gravel has filled the stream channel, causing the water to overflow creek banks and flood nearby homes and property on both sides of the creek. In addition, a flood problem is created by the narrow channel that causes ice blockage during cold weather, which creates another set of issues. **Solution:** Beginning where the Route 7 Bridge crosses Oak Creek, DOT will work with the Town Highway Department to clean out the creek bed to allow unimpeded water flow.	No	Yes,	2 years	Town Board, Property owners, NYSDEC, NYSDOT, SWCD	$200,000	Eliminates flood damages; protects health and safety of residents and properties	NYS DOT, Local staff support	High	NSP/ NR

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
T. Worcester-7	Flood study of Center Valley and Mooney Road	1	Flood	**Problem:** The area near the bridge on Center Valley Road and Mooney Road is a flood-prone area. A portion is in the SFHA (Zone A), according to the 2017 FEMA FIRM for the town. The area under the road becomes clogged with debris, which causes the water to overflow its banks and flood surrounding properties and homes. **Solution:** Conduct flood study to determine the cause of flooding and identify mitigation actions to alleviate or reduce flooding impacts in this area of the town.	No	None	Within 5 years	Town Board, Town Engineer	$25,000	Flood issues identified, possible mitigation actions identified	Municipal budget	Medium	LPR, PR/ PP

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

Acronyms and Abbreviations:

CAV	*Community Assistance Visit*
CRS	*Community Rating System*
DPW	*Department of Public Works*
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*

Timeline:
The time required for completion of the project upon implementation.

Cost:
The estimated cost for implementation.

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

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.*

Critical Facility:

- Yes 💧 - *Critical Facility is located in 1% floodplain.*

Table 9.35-13. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
T. Worcester-1	Residential home elevations	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Worcester-2	Town Complex	1	1	1	0	1	1	0	1	1	1	0	0	1	1	10	High
T. Worcester-3	Communications upgrade	1	0	0	0	1	1	1	1	1	1	1	0	1	1	10	High
T. Worcester-4	Upsize Stormwater Capacity on S. Hill Road in East Worcester	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
T. Worcester-5	Upgrade bridge crossing on Factory Hill Road	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
T. Worcester-6	Oak Creek Cleanout	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
T. Worcester-7	Flood study of Center Valley and Mooney Road	1	1	1	1	0	0	0	1	0	1	1	1	0	0	8	Medium

Note: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.

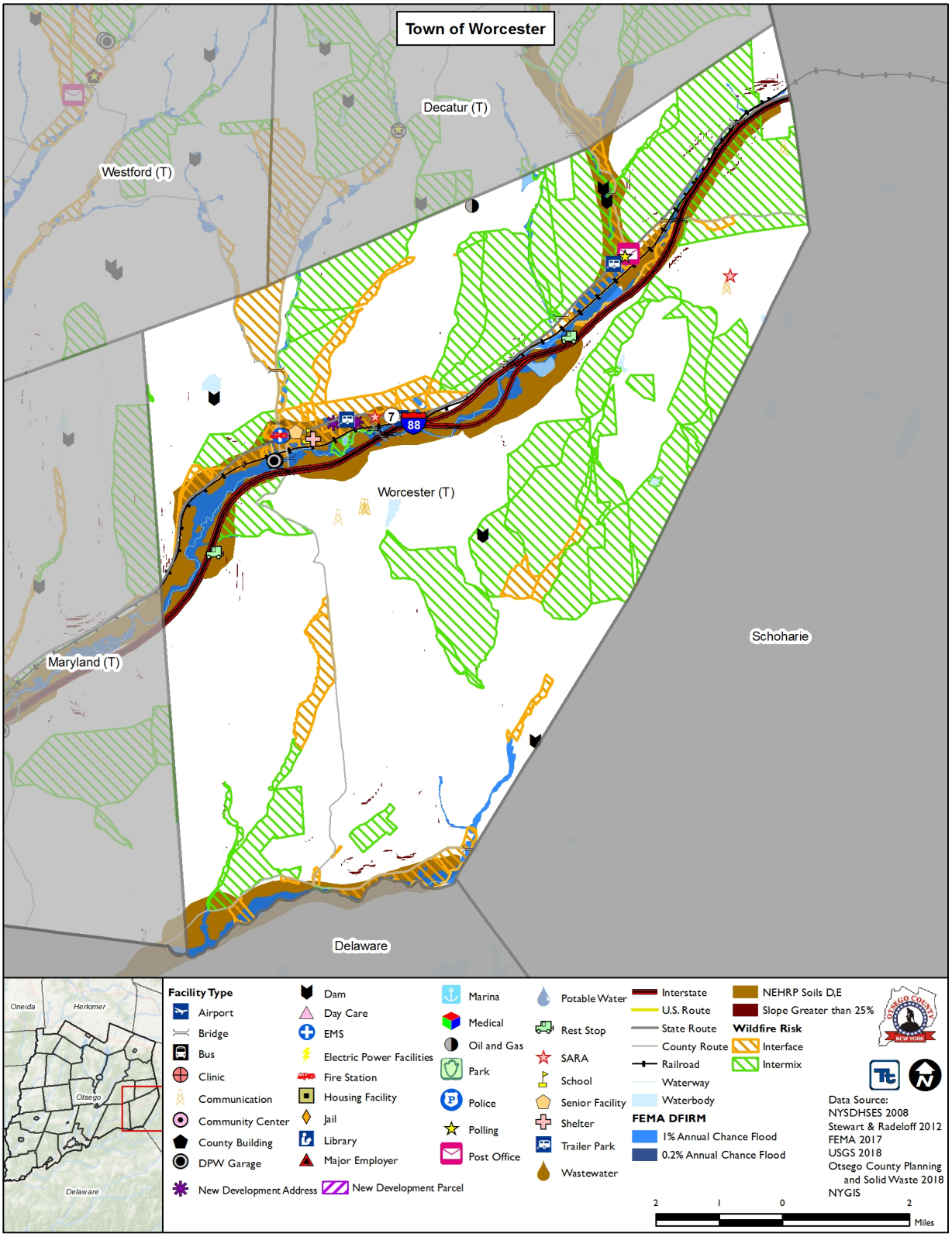
9.35.7 Future Needs to Better Understand Risk/Vulnerability

None at this time.

9.35.8 Hazard Area Extent and Location

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

Figure 9.35-1. Town of Worcester Hazard Area Extent and Location Map



9.35.9 Staff and Local Stakeholder Involvement in Annex Development

The Town of Worcester followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many town departments, including the Town Supervisor, Town Council, and Code Enforcement Officer. The Town Supervisor represented the community on the Otsego County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

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

Town of Worcester Action Worksheet			
Project Name:	Residential home elevations		
Project Number:	T. Worcester-1		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Several homes throughout the town are prone to flooding and subsequent damage. With each flood event, homeowners worry whether or not they will need to leave their homes and return after a flood to make repairs. In addition, emergency personnel that need to respond to these flooded areas to perform rescues or evacuations are putting their life and safety at risk.		
Action or Project Intended for Implementation			
Description of the Solution:	The town will conduct outreach to citizens on the possibilities of mitigation. The town will then work with the interested homeowners to develop a grant application to elevate the homes. Once awarded, the town and homeowners will elevate the homes to two feet above the base flood elevation. This will significantly reduce or eliminate flood damage to these homes and provide a sense of ease and lessen the worry on the homeowners every time in rains or floods.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☐	No ☒	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Eliminates flood damages; protects health and safety of residents and municipal employees
Useful Life:	30 years	**Goals Met:**	2
Estimated Cost:	$1 million	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 6 months of receiving funds and permits
Estimated Time Required for Project Implementation:	Within 3 years	**Potential Funding Sources:**	FEMA HMGP and FMA with homeowners providing local match
Responsible Organization:	Town Board, Town Engineer, working with the property owners	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire homes	$1 million	Homeowners do not want to move; loss of tax base if homeowners need to move out of the town
	Construct flood wall around the neighborhood	$200,000	Not a permanent solution; floodwalls are limited to 4 feet in height and can be overtopped by larger floods

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Residential home elevations	
Project Number:	T. Worcester-1	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	Protects properties from flooding.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	Town has the legal authority to assist homeowners.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood
Timeline	1	
Agency Champion	1	Town Board
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	

Town of Worcester Action Worksheet				
Project Name:	Upsize Stormwater Capacity on S. Hill Road in East Worcester			
Project Number:	T. Worcester-4			
Risk / Vulnerability				
Hazard(s) of Concern:	Flood, Severe Storm			
Description of the Problem:	S. Hill Road intersects Highway 7 (Main Street) in West Worcester and continues south, ending roughly 200 feet from Interstate 88 (I-88). The project site runs from the railroad tracks, which lie roughly 740 feet south of Main Street, to the end of S. Hill Road, a distance of 905 feet. This segment of the road crosses Schenevus Creek, and the end of the road is approximately 40 feet from a tributary of the creek. The existing S. Hill Road culvert is only six feet in diameter. The top and bottom are rotting, and holes have been "patched" with 10" x 10" metal plates. There is a dairy farm on the road, and trailers need to access the property daily to pick up milk for delivery to the market. Elderly residents live near the farm and would be endangered if they needed to be evacuated during a disaster and the roads were blocked. Road flooding is caused by both heavy rainfall (inadequate stormwater management) and overflow from Schenevus Creek nearby tributaries. Other roads are not far in distance from S. Hill Road, but they do not connect, so residents are afforded this one way in and one way out.			
Action or Project Intended for Implementation				
Description of the Solution:	Continue working with SWCD to secure permits from DEC to do the needed work on the project site, which runs just under 1,000 feet in length. New galvanized piping would be "squashed," which means it would flattened to measure 10 feet in diameter at the bottom and arch to 12 feet in diameter across the top. This would allow more water to flow through the culvert. Materials would cost roughly $25,000 and the town would spend another $10,000 on labor (town staff) and equipment (rental of trash pumps and excavators).			
Is this project related to a Critical Facility?	Yes ☐	No ☒		
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☐	No ☒		
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Minimize road erosion and damage to persons and private property and vehicles; lessen economic losses	
Useful Life:	25-years	**Goals Met:**	2	
Estimated Cost:	$35,000	**Mitigation Action Type:**	Structure and Infrastructure Project	
Plan for Implementation				
Prioritization:	High priority	**Desired Timeframe for Implementation:**	DEC approved. Will do work in the dry season (Aug-Sept). Job takes 2 weeks to complete.	
Estimated Time Required for Project Implementation:	Six months, to begin after the rainy season	**Potential Funding Sources:**	Local budget or highway CIP funding. FEMA HMGP; NYS DOT local roads program	
Responsible Organization:	Town Highway Department	**Local Planning Mechanisms to be Used in Implementation if any:**	Roads maintenance program	

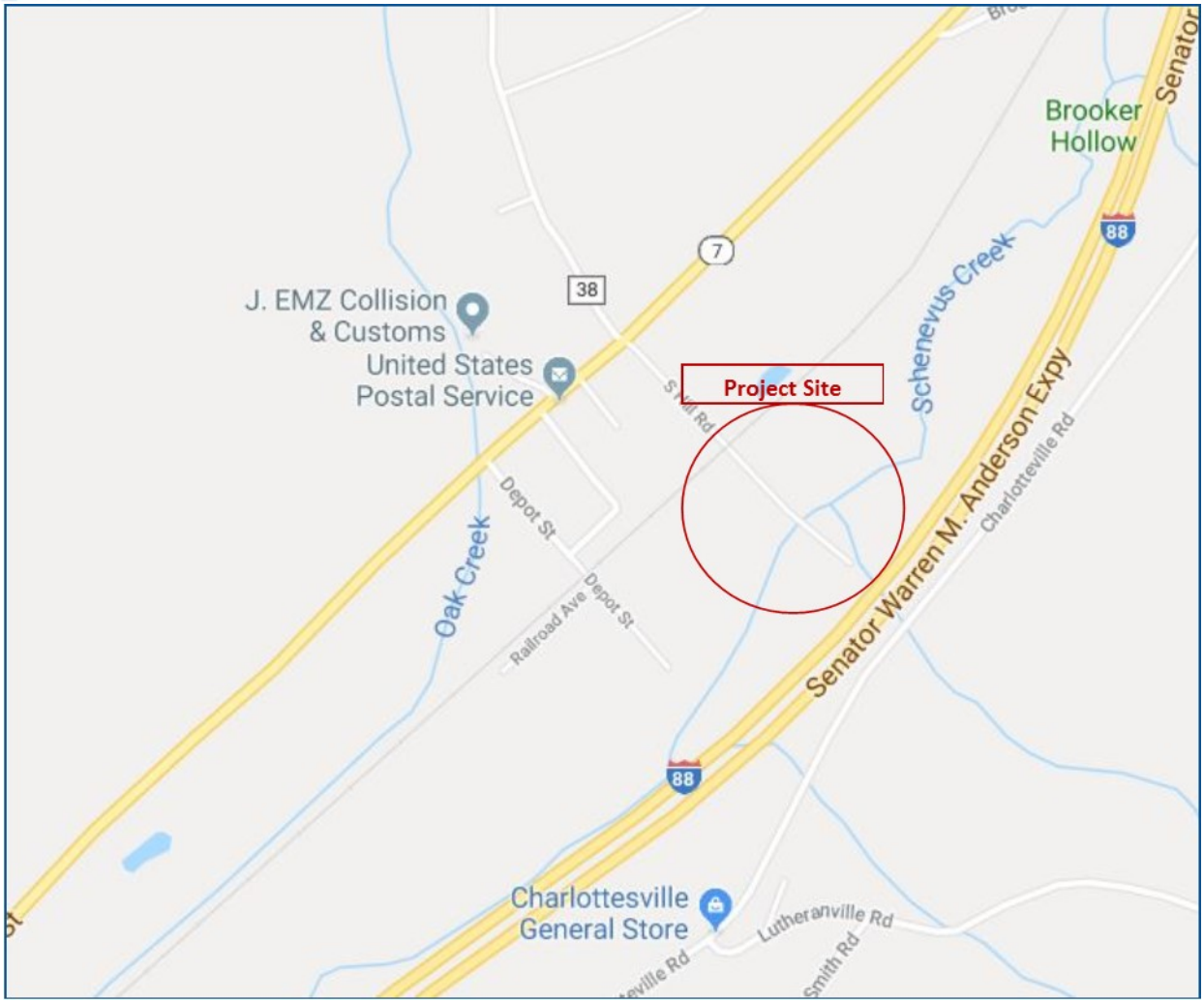
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	Do nothing	$0	Problems continue
	Close the road	$0	Residents and business unable to access property
	Build a road connecting S. Hill to Brooker Hollow Road or Dante Street	$500,000	Infeasible, Dante Road could not accommodate the traffic

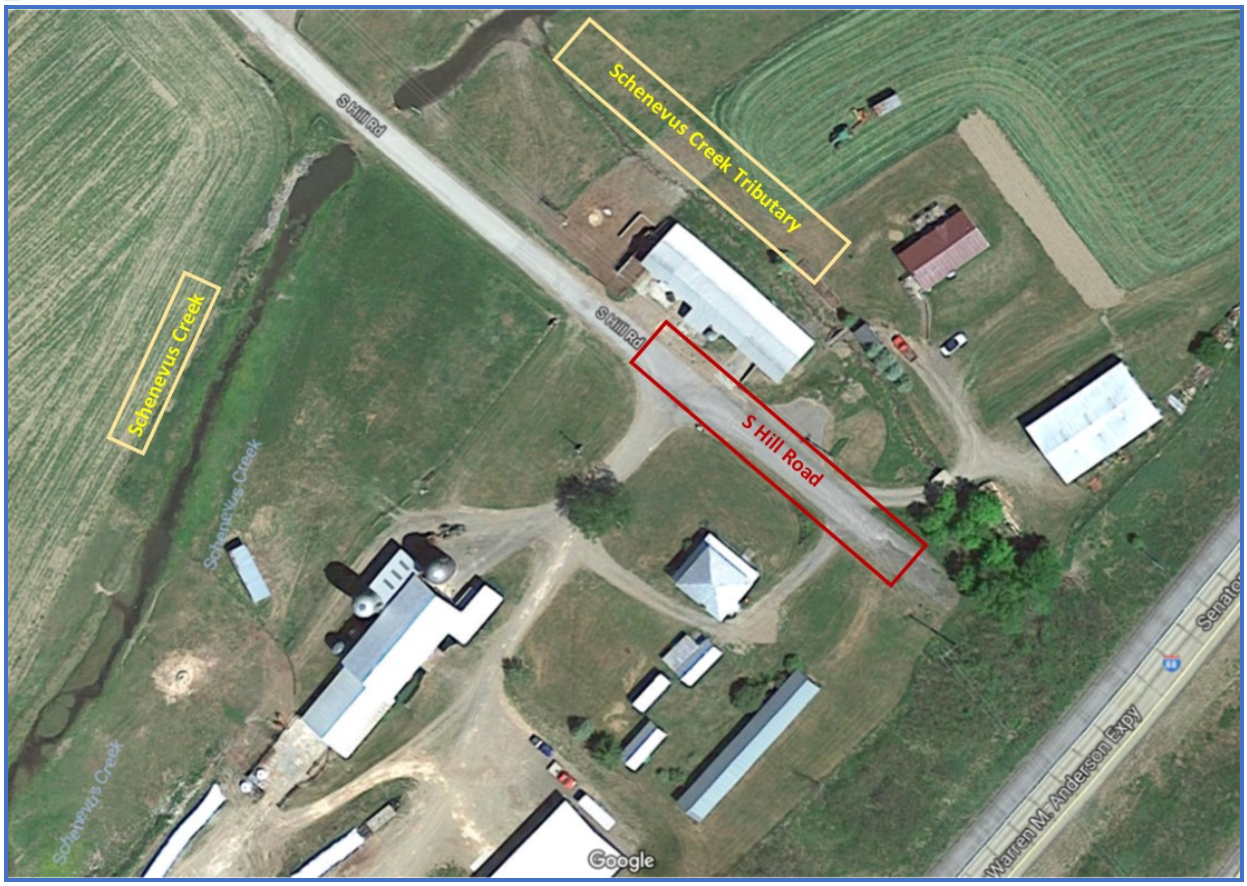
Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Upsize Stormwater Capacity on S. Hill Road	
Project Number:	T. Worcester-4	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protects residents that would need to be evacuated during flooding.
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Project can be funded with local budget if necessary, supplemented by highway CIP funding, FEMA, HMGP, NYS DOT local roads program
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, fire (road blockage)
Timeline	1	
Agency Champion	1	Highway Superintendent
Other Community Objectives	1	Economic Concerns
Total	14	
Priority (High/Med/Low)	High	

The project location is on S. Hill Road, south of Highway 7, between the railroad tracks and the road terminus just north of Interstate 88. The first map shows that S. Hill Road is the only way residents, commercial vehicles, and emergency vehicles can reach homes and businesses located on the road. S. Hill Road does not connect to Brooker Hollow Road (to the east) or to Dante, Maple, or Depot Streets to the west.

The maps on following two pages shows the project site, located between the railroad tracks and the end of S. Hill Road. One is a satellite map and the other a road map, but both show the water bodies whose overflow are partially responsible for road flooding.


Brooker Hollow
Senator
88
7
38
J. EMZ Collision & Customs
United States Postal Service
Project Site
Schenevus Creek
Oak Creek
Depot St
Railroad Ave
Depot St
Senator Warren M. Anderson Expy
Charlotteville Rd
88
Charlottesville General Store
Lutheranville Rd
Smith Rd


Schenevus Creek Tributary
S Hill Rd
Schenevus Creek
S Hill Rd
S Hill Road
Schenevus Creek
Schenevus Creek
Google
Warren M. Anderson Expy

Town of Worcester Action Worksheet	
Project Name:	Upgrade bridge crossing on Factory Hill Road
Project Number:	T. Worcester-5
Risk / Vulnerability	
Hazard(s) of Concern:	Flood, all hazards (evacuation)
Description of the Problem:	This one-lane bridge crossing Oak Creek has been rated Poor to Fair in recent years and must be replaced in the foreseeable future. The bridge consists of a single span, and details of bridge composition and construction are shows in the Nation Bridge Inventory (NBI) Report shown on pages 3-5 of this project write-up. The bridge connects rural residents living on Factory Hill Road to Highway 38, the only way in and out of the community leading to the downtown area defined by Main Street (Highway 7). Bridge beams are rotting, causing concern among Town Highway personnel that the bridge will fail while vehicles and travelers are on the crossing.
Action or Project Intended for Implementation	
Description of the Solution:	A temporary bridge would be built parallel to the current bridge while the current bridge is being replaced. The Bridge Report on pages 3-4 of this project write-up suggest that it would cost $375,000 to replace the deck. It is estimated to cost $750,000 to $1,000,000 to replace the bridge altogether.

Is this project related to a Critical Facility?	Yes ☐	No ☒
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☐	No ☒

(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)

Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Maintain egress and regress to residential and commercial properties
Useful Life:	50-years	**Goals Met:**	2
Estimated Cost:	$750,000	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High priority. Bridge is becoming frailer and more unstable with each passing year.	**Desired Timeframe for Implementation:**	2-3 years
Estimated Time Required for Project Implementation:	One year	**Potential Funding Sources:**	NYS Bridge Program.
Responsible Organization:	Town Highway Department supporting NYS DEC. Support from Otsego SWCD.	**Local Planning Mechanisms to be Used in Implementation if any:**	Roads maintenance program

Three Alternatives Considered (including No Action)

	Action	Estimated Cost	Evaluation
Alternatives:	Do nothing	$0	Problems continue
	Close the road	$0	Residents and business unable to access property
	Buy out properties located on Factory Hill Road	$2 million	Property homeowners not receptive to this idea

Progress Report (for plan maintenance)	
Date of Status Report:	04-01-2019
Report of Progress:	Highway Superintendent Roger Butler will follow up with DOT Engineer Mike Adams for recommendations on how to access NYS Bridge funding.
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Upgrade bridge crossing on Factory Hill Road	
Project Number:	T. Worcester-5	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Project will protect evacuation route.
Property Protection	1	Project will protect the bridge from future damages.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The town has the legal authority to complete the project.
Fiscal	1	NYS Bridge Program
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, fire (road blockage)
Timeline	1	
Agency Champion	1	Highway Superintendent
Other Community Objectives	1	Safety of lives and property
Total	14	
Priority (High/Med/Low)	High	

http://bridgereports.com/ny/otsego/

BRIDGEREPORTS.COM - NATIONAL BRIDGE INVENTORY DATA
FACTORY HILL ROAD over OAK CREEK, Otsego County, New York

Coordinates: +42.63297, -74.67653; 42°37'59" N, 74°40'36" W

Facts - Source: National Bridge Inventory. Information unverified.

Carries	Crosses	Location	Design	Status	Year Built	Year Recon.	Span Len.		Condition	Suff. Rating	ID
NBI report (below)	Factory Hill Road	Oak Creek	1 mi. N of East Worcester	Steel Stringer/Multi-beam or girder	1890	1970	29.9	31.8	Poor	69.4	000000002228340

Name:	Factory Hill Road over Oak Creek
Structure number:	000000002228340
Location:	1 MI N OF EAST WORCESTER
Purpose:	Carries highway over waterway
Route classification:	Local (Rural) [09]
Length of largest span:	29.9 ft. [9.1 m]
Total length:	31.8 ft. [9.7 m]
Roadway width between curbs:	15.7 ft. [4.8 m]
Deck width edge-to-edge:	17.1 ft. [5.2 m]
Skew angle:	19°
Owner:	Town or Township Highway Agency [03]
Year built:	1890
Year reconstructed:	1970
Historic significance:	Bridge is not eligible for the National Register of Historic Places [5]
Main span material:	Steel [3]
Main span design:	Stringer/Multi-beam or girder [02]
Deck type:	Wood or Timber [8]
Wearing surface:	Bituminous [6]

Latest Available Inspection: June 2016

Good/Fair/Poor Condition:	Poor
Status:	Open, no restriction [A]
Average daily traffic:	27 [as of 2014]
Truck traffic:	6% of total traffic
Deck condition:	Poor [4 out of 9]
Superstructure condition:	Fair [5 out of 9]
Substructure condition:	Fair [5 out of 9]
Structural appraisal:	Somewhat better than minimum adequacy to tolerate being left in place as is [5]
Deck geometry appraisal:	Equal to present desirable criteria [8]
Water adequacy appraisal:	Somewhat better than minimum adequacy to tolerate being left in place as is [5]
Roadway alignment appraisal:	Meets minimum tolerable limits to be left in place as is [4]
Channel protection:	Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the channel slightly. [6]
Scour condition:	Bridge foundations determined to be stable for the assessed or calculated scour condition. [8]
Operating rating:	85.8 tons [78.0 metric tons]
Inventory rating:	50.9 tons [46.3 metric tons]
Sufficiency rating:	66.9
Recommended work:	Bridge deck replacement with only incidental widening. [37]
Estimated cost of work:	$365,000

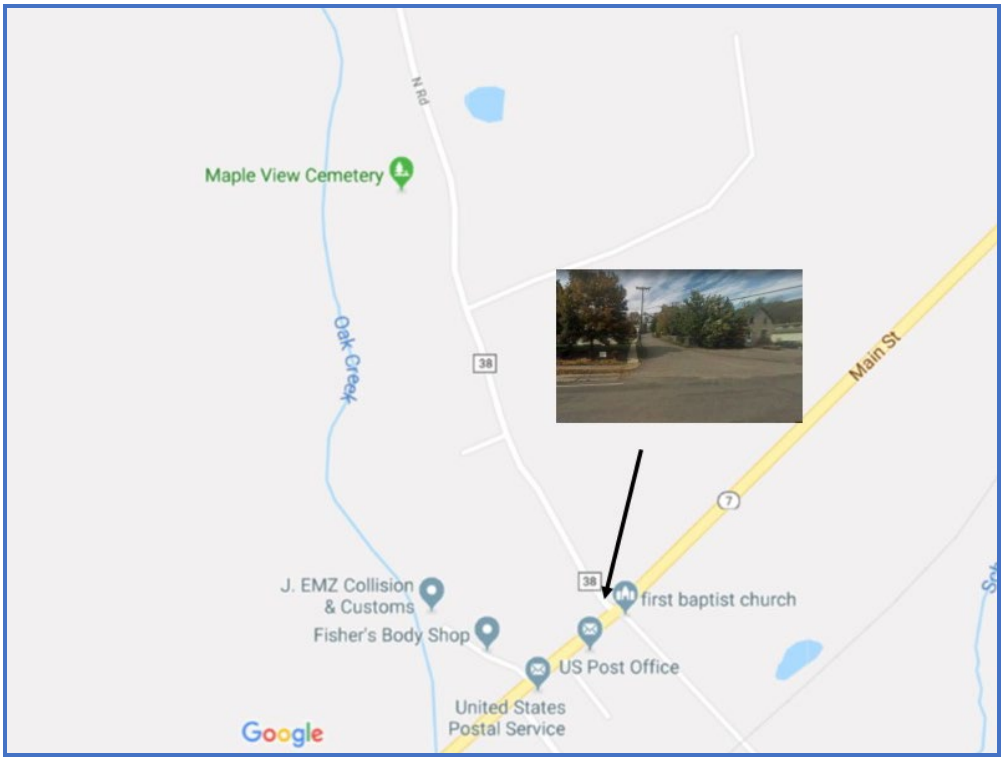
Previous Inspections

Date	Suff. Rating	Condition	Deck	Superstructure	Substructure	SD/FO	ADT
June 2016	66.9	Poor	Poor	Fair	Fair	SD	27
July 2014	67.6	Fair	Fair	Fair	Fair	-	30
June 2013	41.2	Poor	Fair	Serious	Fair	SD	26
June 2012	68.6	Fair	Very Good	Satisfactory	Fair	-	30
June 2011	52.5	Poor	Good	Poor	Fair	SD	30
May 2009	68.7	Fair	Very Good	Good	Fair	-	25
July 2007	68.7	Fair	Very Good	Good	Fair	-	26
July 2005	45.2	Fair	Very Good	Good	Fair	-	14
June 2003	68.7	Fair	Very Good	Good	Fair	-	14
July 2001	68.6	Fair	Very Good	Good	Fair	-	14
October 1999	68.6	Fair	Very Good	Good	Fair	-	14
October 1997	68.6	Fair	Good	Satisfactory	Fair	-	14
October 1995	52.5	Poor	Satisfactory	Fair	Poor	SD	14
November 1993	52.5	Poor	Satisfactory	Fair	Poor	SD	35
November 1991	52.5	Poor	Satisfactory	Poor	Poor	SD	35

BRIDGEREPORTS.COM: NATIONAL BRIDGE INVENTORY DATA

The project location is on Factory Hill Road just after the turn from Highway 38. Highway 28 runs northward from Highway 7, also known as Main Street, the primary east-west road running through the Town of Worcester. Factory Hill Road is roughly 1,000 feet long and connects residents living in a rural neighborhood to the town activity centers. The image below shows where Highway 38 begins, at the intersection of this road and Main Street.

This map shows where Highway 38 begins in downtown Worcester.



The Google image below shows where Factory Hill Road begins as an offshoot of Highway 38, the main road shown at right.

This Google image shows the rural character of residents living on 1,000-foot long Factory Hill Road. A derelict bridge that is no longer operational will make it impossible for residents, first responders and others to reach structures on the road should the bridge fail.

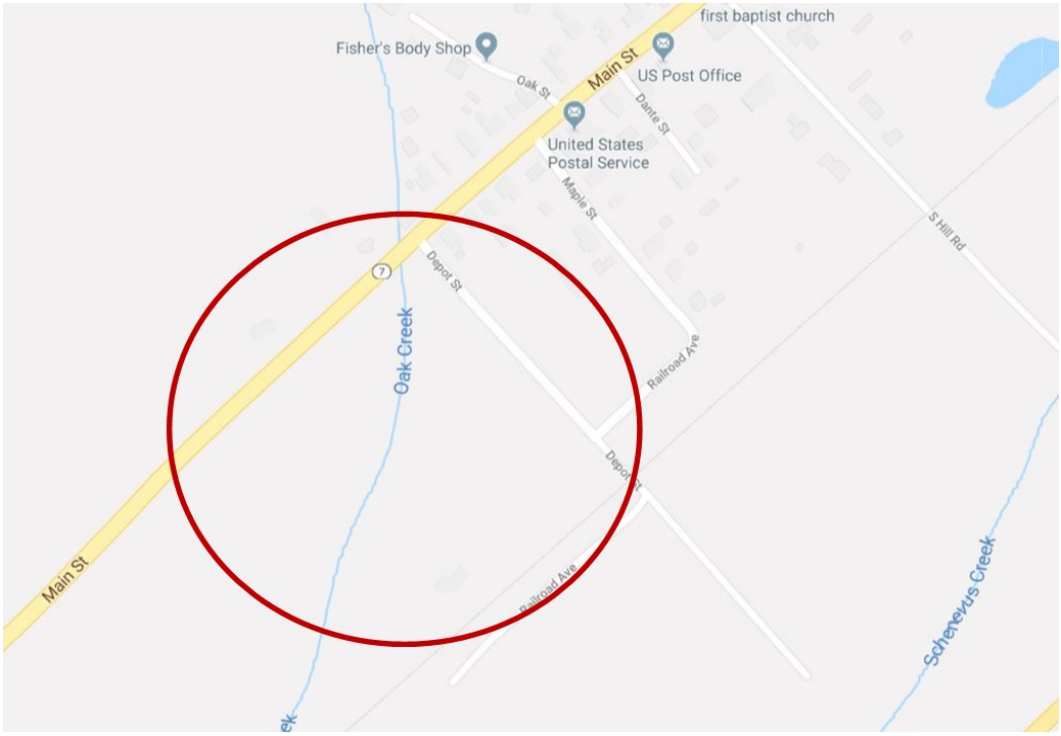
Town of Worcester Action Worksheet			
Project Name:	Oak Creek Cleanout		
Project Number:	T. Worcester-6		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Ice jam		
Description of the Problem:	Oak Creek flows under Route 7 (Main Street) and in West Worcester. South of Main Street, Depot Road runs parallel to the creek for a stretch and then turns westward. Over time, gravel has filled the stream channel, causing the water to overflow creek banks and flooding nearby homes and property on both sides of the creek. In addition, creating a flood problem, the narrow channel causes ice blockage during cold weather, which creates another set of issues.		
Action or Project Intended for Implementation			
Description of the Solution:	Beginning where the Route 7 Bridge crosses Oak Creek, DOT will work with the Town Highway Department to clean out the creek bed to allow unimpeded water flow. The Town Highway Superintendent has secured permission from roughly 18 property owners to access the creek from their property. The town and DOT are in the process of securing permission from USACE and NYS DEC to proceed with the project. Work will begin at the bridge and proceed in the direction toward Railroad Avenue, which parallels Main Street and runs near the railroad tracks.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☐	No ☒	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	100-year	**Estimated Benefits (losses avoided):**	Eliminates flood damages; protects health and safety of residents and properties
Useful Life:	20 years	**Goals Met:**	1
Estimated Cost:	$200,000	**Mitigation Action Type:**	Natural Systems Protection
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Two years
Estimated Time Required for Project Implementation:	Currently being implemented	**Potential Funding Sources:**	NYS DOT, Local staff support
Responsible Organization:	Town Board, Property owners, NYSDEC, NYSDOT, SWCD	**Local Planning Mechanisms to be Used in Implementation if any:**	Floodplain Management Plan

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Acquire homes	$1 million	Homeowners do not want to move; loss of tax base if homeowners need to move out of the town
	Construct flood wall around the neighborhood	$200,000	Option does not appeal to residents

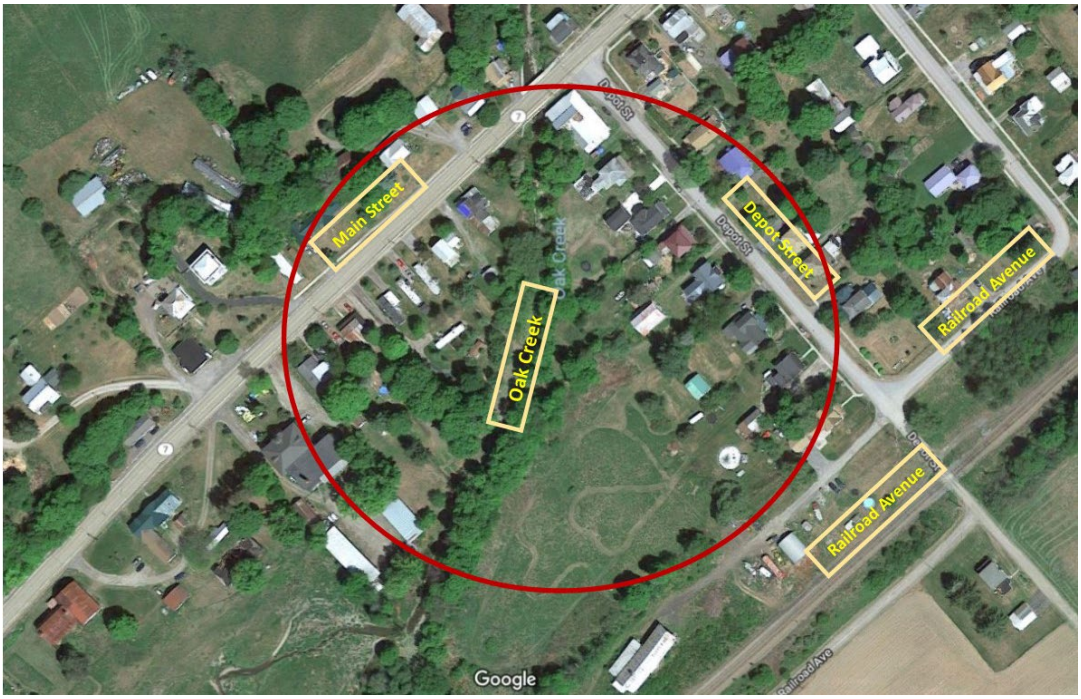
Progress Report (for plan maintenance)	
Date of Status Report:	03-28-2019
Report of Progress:	Town Highway Superintendent has secured permission from property owners to access the river from their land to complete project work. Currently going through DEC and USACE approval process to carry out project on a waterway.
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Oak Creek Cleanout	
Project Number:	T. Worcester-6	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	Project reduces flood risk.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	Project has support from NYS DOT.
Environmental	1	Project will return stream to natural flow.
Social	1	
Administrative	1	
Multi-Hazard	1	Flood, Ice Jam
Timeline	1	Project will move quickly once permits are secured.
Agency Champion	1	Highway Department, DOT, DEC, SWCD
Other Community Objectives	1	
Total	1	
Priority (High/Med/Low)	High	

The Google street map below shows the location of the project within the red circle. The project begins where Oak Street runs under the Highway 7 (Main Street) Bridge.



This satellite view of the project shows the homes that sit on either side of Oak Creek within the project area, which is circled in red.



The next three Google photos show the project work side from the perspective of someone standing on Main Street. The first image was taken from the intersection of Main Street and Depot Street, with the portion of Oak Creek flowing south from Main Street visible at right. The Main Street Bridge marks the northern boundary of project work.

This photo was taken from the Main Street Bridge and looks south over Oak Creek. Properties affected by flooding sit on either side of the creek. This Main Street photo shows the northern and southern segments of Oak Creek that flow on either side of the Main Street Bridge, with an arrow pointing to Depot Street, the location of some of the affected properties.