

9.1 Tompkins County

This section presents the jurisdictional annex for Tompkins County. 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 Tompkins County and who in the County participated in the planning process; an assessment of Tompkins County’s risk and vulnerability; the different capabilities utilized in the County; and an action plan that will be implemented to achieve a more resilient community.

9.1.1 Hazard Mitigation Planning Team

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

Table 9.1-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Scott D. Doyle, AICP, Associate Planner Address: Daniel D. Tompkins Bldg., 121 E. Court St., Ithaca Phone Number: 607-274-5560 Email: sdoyle@tompkins-co.org	Name/Title: Katie Borgella, AICP, Commissioner of Planning & Sustainability Address: Daniel D. Tompkins Bldg., 121 E. Court St., Ithaca Phone Number: 607-274-5560 Email: kborgella@tompkins-co.org

9.1.2 Municipal Profile

Please refer to Section 4, Volume I of this Plan for details on Tompkins County’s population, location, climate, history, growth and development.

9.1.3 Growth/Development Trends

Understanding how past, current, and projected development patterns are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. The jurisdictional annexes for each municipality summarize recent and expected future development trends, including major residential/commercial development and major infrastructure development. New York State clearly places land use authority in the hands of its towns, villages, and cities. The State also specifically recognizes that intermunicipal planning is needed to cooperatively address regional issues. There are several ways the County is involved in regional development issues including: providing technical assistance to municipalities in establishing land use



policies and regulations that support development where there is existing community infrastructure and facilities, working with municipalities to identify potential infill areas for energy efficient housing and commercial development as well as review development proposals according to General Municipal Law §239 -l, -m and -n. Several hundred local development proposals and laws are reviewed annually by the Tompkins County Department of Planning & Sustainability for countywide impact. A variety of impacts of the proposal are assessed including impacts of the project on local transportation systems, floodplains, and mitigation plan priorities.

9.1.4 Capability Assessment

Tompkins County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- The County’s adaptive capacity for the impacts of climate change.
- Classification under various community mitigation programs.

Areas where mitigation is currently integrated are summarized in this Capability Assessment. Refer to Appendix I for the results of the planning/policy document reviews.

9.1.4.1 Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to Tompkins County and where hazard mitigation has been integrated.

Table 9.1-2. Planning, Legal, and Regulatory Capability

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
Codes, Ordinances, & Requirements					
Building Code	No	-	Local and State	Local Code Department	Yes
Comment: <i>New York State clearly places land use authority in the hands of its towns, villages, and cities. NYS Uniform and Energy Code 2020; Regulated at local and state levels. The Uniform Code (19 NYCRR Parts 1219 to 1229) now includes the 2015 editions of</i>					



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
<p>the code books published by the International Code Council (the "2015 I-Codes"), as amended by the publication entitled the 2017 Uniform Code Supplement (publication date: July 2017). Article 18 of the Executive Law (§§ 370 through 383) establishes the State Fire Prevention and Building Code Council, directs the Code Council to promulgate and maintain the Uniform Code, and charges each city, town, and village in the State (with the exception of the City of New York) with the duty of administering and enforcing the Uniform Code within its municipal boundaries.</p>					
Zoning Code	No	-	Performed at the local level	Local Zoning Board of Adjustment	No
<p>Comment: New York State clearly places land use authority in the hands of its towns, villages, and cities. Article IX, Section 2, of the State Constitution and by the various state enabling statutes. In New York, the zoning enabling acts continue to require that zoning be undertaken "in accord with a well-considered plan"¹¹ or "in accordance with a comprehensive plan."¹² Unless the town, city or village has adopted a comprehensive plan document using the more recently-enacted statutes (described later herein), local officials must refer to the extensive body of case law to determine how zoning can meet the more general "comprehensive plan" requirement. **May be impacted by State wetland regulations which protect wetlands greater than 12.4 acres and established buffer zones. In Tompkins County, the zoning code is regulated at local level.</p>					
Subdivision Regulations	No	-	Performed at the local level	Local Zoning Board of Adjustment	No
<p>Comment: New York State clearly places land use authority in the hands of its towns, villages, and cities. Subdivision is defined in the State enabling Statutes as: the division of any parcel of land into a number of lots, blocks, or sites as specified in a local ordinance, law or regulation, with or without streets or highways, for the purpose of sale, transfer of ownership, or development. There is not a requirement by NYS for subdivisions. Each municipality is permitted to further define subdivision for its own purposes in connection with its subdivision review procedure. The enabling statutes provide that a plat showing a division of land which is subject to a municipality's subdivision regulations, may not also be subject to review under its site plan review authority. (general city law s. 32 & 33, Town Law s. 276 & 277, Village Law s. 7-728 & 7-730).</p>					
Stormwater Management Regulations	No	-	Performed at the local level	-	No
<p>Comment: New York State clearly places land use authority in the hands of its towns, villages, and cities. Codes Rules and Regulations of the State of New York, Title 6. Department of Environmental Conservation, Chapter X. Division of Water Resources, Subchapter A. General Article 3. State Pollutant Discharge Elimination System, Part 750. State Pollutant Discharge Elimination System (SPDES) Permits. New York Environmental Conservation Law, Article 17, Titles 7, 8 and Article 70. New development and redevelopment projects that result in a land disturbance of one acre or greater, including projects less than one acre if they are part of a larger common plan of development or sale or if controlling such activities in a particular watershed is require a permit by the Department</p>					
Post-Disaster Recovery Plan or Regulation	In Development	N/A	Local	Tompkins County Department of Planning & Sustainability	No
<p>Comment: *Funding from the New York State Department of State is being used in tandem with this hazard mitigation plan update and will result in a countywide resiliency and recovery plan.*</p>					
Real Estate Disclosure	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent	Yes
<p>Comment: In addition to facing potential liability for failing to disclose under the exceptions to "caveat emptor," a home seller must make certain disclosures under the law or pay a credit of \$500 to the buyer at closing. While the PCDA requires a seller to complete a standardized disclosure statement and deliver it to the buyer before the buyer signs the final purchase contract, in practice, most home sellers in New York opt not to complete the statement and instead pay the credit.</p>					



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
Growth Management Regulation	No	No	Performed at the local level	-	No
Comment: In New York State, virtually all land use regulation, which is the primarily tool for Smart Growth, takes place at the municipal level (i.e., in a city, village or town government). Land use planning is also primarily a municipal function. While State law provides for certain planning functions at the county or regional level, these mechanisms are largely advisory, whereas municipal planning is directly related to land use regulation.					
Site Plan Review	No	No	Local	-	No
Comment: New York State clearly places land use authority in the hands of its towns, villages, and cities.					
Environmental Protection	Yes	Title 6 NYCRR Part 617	State	NYSDEC	Yes
Comment: New York State Environmental Quality Review Act (SEQR) Title 6 NYCRR Part 617 Regulations are in effect as of January 1st, 2019. Tompkins County additionally has a County SEQR policy for how the County ensures adheres to State law.					
Flood Damage Prevention Law	No	-	State and Local	Performed at the local level	Yes – municipal level
Comment: New York State clearly places land use authority in the hands of its towns, villages, and cities.					
Municipal Separate Storm Sewer System (MS4) Regulation	Yes	-	Tompkins County	All Departments – supported by TCSWCD	Yes
Comment:					
Emergency Management	Yes	County CEMP	County	Department of Emergency Response	Yes
Comment: To establish procedures for County government and affiliated emergency responders to follow in the event of a disaster, as defined by Article II-B of the New York State Executive Law and including, but not limited to, flood, fire, storm, acts of terrorism, earthquake, large-scale hazardous materials incidents, health epidemics, etc...; and to direct the development of a Comprehensive Emergency Management Plan (CEMP). Policy Number: 01-19. * Tompkins County is the process of updating its CEMP and will align with the HMP as relevant.					
Climate Adaptation	In Part	Tompkins County Comprehensive Plan, 2015	County	Planning and Sustainability Office	No
Comment: The 2015 Comprehensive Plan adds climate adaptation, a completely new element, to the Plan. It also restructures the strong communities section by addressing healthy communities, adds two overarching principles of fiscal responsibility and sustainability, and updates policy statements to make them more direct. Specific action items to be initiated by County government within two years are identified in each chapter.*					
Disaster Recovery Ordinance	No	-	-	-	No
Comment: As a part of the Resiliency and Recovery Plan the County will consider appropriateness of County/municipal adoption of a recovery ordinance.					
Planning Documents					
Comprehensive Plan	Yes	Updated 2015	County	Tompkins County Department of Planning & Sustainability	No
Comment: One of the duties of the Department of Planning and Sustainability is to prepare a comprehensive plan for the development of the County. On March 3, 2015, the Tompkins County Legislature adopted the 2015 Tompkins County Comprehensive Plan. In 2019, the Department completed the five-year review of the 2015 Comprehensive Plan. As a					



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
<p>result of that review, the Legislature adopted a new list of Action Items to continue implementing the 2015 Comprehensive Plan.</p> <p>The Comprehensive Plan presents a vision for the future of the community based on a set of principles that reflect the values of the community as expressed by the County Legislature they have elected. The principles include three that are overarching and reflected throughout the Comprehensive Plan.</p> <p>The 2015 Comprehensive Plan includes policies that align with the HMP, including the preservation of natural systems and managing stormwater and flooding. The plan includes discussions on flooding, stormwater runoff, and invasive species, all identified hazards of concern in the 2021 HMP. The plan describes ways to reduce the impact of those hazards.</p> <p>The full plan can be viewed online here: https://tompkinscountyny.gov/planning/comprehensive-plan</p>					
Capital Plan	Yes	2020 Update	County	Tompkins County Administration	No
Comment:					
Disaster Debris Management Plan	In Development	-	County	Tompkins County Planning	No
Comment: Will be developed as part of resiliency and recovery plan work.					
Floodplain or Watershed Plan	Yes	Cayuga Lake Watershed Protection Plan, 2017	Regional	Tompkins County Water Resources Council	No
<p>Comment: County participates in the Cayuga Lake Watershed Intermunicipal Organization: https://www.cayugalake.org/the-watershed/restoration-protection-plan/; While not a formal plan, the County does have Watershed Assessments for most of the County - https://tompkinscountyny.gov/planning/water-resources-watershed-assess. *</p>					
Stormwater Plan	No	-	Conducted at local level	-	No
Comment:					
Open Space Plan	Yes	2009	County	Tompkins County Department of Planning & Sustainability	No
<p>Comment: Tompkins County established plans that identified important local natural and agricultural open spaces: Tompkins County Conservation Plan I and II.</p> <p>Part I - https://tompkinscountyny.gov/files2/planning/Natural Agriculture/Tompkins County Conservation Plan%2009-07.pdf</p> <p>Part II - https://tompkinscountyny.gov/files2/planning/Natural Agriculture/FINAL Tompkins Conservation Plan Part II%2004-10.pdf</p>					
* -					
Urban Water Management Plan	No	-	-	-	No
Comment:					
Habitat Conservation Plan	Yes	2018	County	Tompkins County Department of	No



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
				Planning & Sustainability	
Comment: Tompkins County Habitat Connectivity Strategy - https://tompkinscountyny.gov/files2/planning/Natural_Agriculture/FINAL%20TC%20Connectivity%20Strategy.pdf					
Economic Development Plan	Yes	2015	County	Ithaca Area Economic Development	No
Comment: Tompkins County Economic Development Strategy - http://tcad.org/services-2/economic-strategy/					
Shoreline Management Plan	No	-	-	-	Yes – coastal areas only
Comment:					
Community Wildfire Protection Plan	No	-	-	-	No
Comment:					
Forest Management Plan	Yes	2007	County	Tompkins County Department of Planning & Sustainability	No
Comment: The purpose of the Tompkins County Forest Management Plan is to provide for the sustainable management of the forest- lands owned by Tompkins County. The plan can be viewed online here: https://tompkinscountyny.gov/files2/planning/Sustainability/Forest%20Mgt%20Plan%202007.pdf					
Transportation Plan	Yes	2019	County	Ithaca-Tompkins County Transportation Council	No
Comment: The 2040 Long Range Transportation Plan (LRTP) provides a 20-year vision for the metropolitan transportation system and represents the product of an extensive public participation effort. It provides a fiscally constrained program for transportation improvements over the twenty-year life of the plan. In addition, the LRTP provides specific recommendations for additional transportation and related planning activities that should be carried out in order to achieve the goals and objectives. The plan can be viewed online here: https://tompkinscountyny.gov/itctc/lrtp.					
Agriculture Plan	Yes	2015	County/Local Governments	CCETC	Yes
Comment: The purpose of the Tompkins County Agriculture and Farmland Protection Plan is to prioritize and guide the actions of county and town governments, agricultural agencies, businesses, farmers, and the community at large in responding appropriately to the needs, conditions, and opportunities that will maintain a viable agricultural economy in the County. The mission of the plan is to encourage farming in the county through local initiatives which create favorable conditions that allow farmers to operate economically viable enterprises. The plan can be viewed online here: https://tompkinscountyny.gov/files2/planning/Rural%20Resources/documents/TC%20Ag%20&%20Farmland%20Protection%20Plan%20Complete%207-20-15.pdf					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP)	Yes	2019	County	Department of Emergency Response	Yes



	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name, date, link)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated
Comment: To establish procedures for County government and affiliated emergency responders to follow in the event of a disaster, as defined by Article II-B of the New York State Executive Law and to direct the development of a CEMP. Tompkins County is the process of updating its CEMP and will align with the HMP as relevant.					
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	2020	State and County	Department of Emergency Response	Yes
Comment: The THIRA provides information on the natural and man-made hazards the County is susceptible to and provides a ranking of each hazard risk. The hazards posing the most risk include flooding, active shooter, severe storm, and major transportation accidents.					
Post-Disaster Recovery Plan	No				No
Comment: Required post disaster within 30 days. Aspects that may make up portions of a post-disaster recovery plan will be developed as a part of companion resiliency and recovery plan.					
Continuity of Operations Plan	In process	-	County	County Departments	No
Comment: The County has developed a range of continuity plans and tools. Those tools will be further developed through the work included the companion resiliency and recovery plan.					
Public Health Plan	Yes	Various. See Below.	County	County Health	No
Comment:					
Name of Plan	Year	Comments			
Pandemic Flu Plan	2008	Update draft completed of summer 2019			
Mass Fatality Plan	2010	Currently under revision			
Public Health Emergency Preparedness & Response Plan	2014	Currently under revision			
Medical Countermeasures Plan	2018				
Ebola Response Plan	2015	Tompkins County is one of the few jurisdictions that have executed a full scale, real time Ebola response exercise.			
Zika Action Plan	2021	Updated annually and submitted to NYSDOH for review			
Isolation & Quarantine	2017				
Public Health Asset Distribution Plan	2018	This plan replaced the old Strategic National Stockpile plan.			

Table 9.1-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Response Yes/No; Provide further detail
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	No – County has no land use authority
Does your jurisdiction have the ability to track permits by hazard area?	NA
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	No

9.1.4.2 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Tompkins County.



Table 9.1-4. Administrative and Technical Capabilities

Resources	Available? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	No	Planning Advisory Board is active and provides guidance on planning activity but has no land use authority
Mitigation Planning Committee	Yes	Coordinated out of the Planning Dept. - Active when plans are being developed or updated and includes representation from each municipality
Environmental Board/Commission	Yes	Tompkins County Environmental Management Council / Water Resources Council provides guidance on environmental issues but has no land use authority
Open Space Board/Committee	No	County Planning Advisory Board serves in the role of providing direction on conservation actions; the Tompkins County Conservation Partners is a group of conservation agencies that provides strategic direction
Economic Development Commission/Committee	Yes	Ithaca Area Economic Development Board
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Swift911
Maintenance programs to reduce risk	Yes	Various highway and facility actions
Mutual aid agreements	Yes	Partnerships with Verizon, NYS Gas and Electric, hospitals; mutual aid plan for fire and EMS agencies in County
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Tompkins County Department of Planning & Sustainability has several staff experienced in this field
Engineers or professionals trained in building or infrastructure construction practices	Yes	Tompkins County Facilities and County Highway have staff engineers and building officials
Planners or engineers with an understanding of natural hazards	Yes	Tompkins County Department of Planning & Sustainability has several staff experienced in this field
Staff with expertise or training in benefit/cost analysis	Yes	Tompkins County Department of Planning & Sustainability has a staff member who has attended FEMA BCA Training
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	The County has a well-developed GIS capability through its ITS Department and have all appropriate equipment and software
Scientist familiar with natural hazards	No	-
NFIP Floodplain Administrator (FPA)	No	-



Resources	Available? (Yes or No)	Department/ Agency/Position
Surveyor(s)	No	-
Emergency Manager	Yes	The County Department of Emergency Response Department Head serves this role
Grant writer(s)	Yes	Several Departments throughout County are experienced grant writers
Resilience Officer	No	-

9.1.4.3 Fiscal Capability

The table below summarizes financial resources available to the Tompkins County.

Table 9.1-5. Fiscal Capabilities

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

9.1.4.4 Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Tompkins County.

Table 9.1-6. Education and Outreach Capabilities

Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Public information officer or communications office?	Yes – the County has a Communications Director who organizes a range of messaging. The County also has a PIO team made up of various departments and representatives from other groups and colleges in the region. There is also a staff County Preparedness Coordinator.
Personnel skilled or trained in website development?	Yes – several staff throughout the County are experienced in web development.
Hazard mitigation information available on your website; if yes, describe	Yes – resources on mitigation are available at https://www2.tompkinscountyny.gov/planning/climate-adaptation



Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Social media for hazard mitigation education and outreach; if yes, briefly describe.	Yes – Facebook and other social media often utilized for mitigation and response planning.
Citizen boards or commissions that address issues related to hazard mitigation; if yes, briefly describe.	Yes – Environmental Management Council has Adaptation Committee; also, active Local Emergency Planning Committee (LEPC) is convened by DoER
Other programs already in place that could be used to communicate hazard-related information; if yes, briefly describe.	Yes – Swift911
Warning systems for hazard events; if yes, briefly describe.	Yes – the County uses 211, IPAWS, EAS, mass notification system, and NY Alert
Natural disaster/safety programs in place for schools; if yes, briefly describe.	No

9.1.4.5 Community Classifications

The table below summarizes classifications for community programs available to the Tompkins County.

Table 9.1-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	Not applicable	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Not applicable	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Not applicable	-	-
NYSDEC Climate Smart Community	Yes	Silver Level	2019
Storm Ready Certification	Yes	Need to renew by July 2021	2018
Firewise Communities classification	No	-	-

Note:

N/A Not applicable
NP Not participating
- Unavailable

9.1.4.6 Adaptive Capacity

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

- Does Tompkins County have access to resources to determine the possible impacts of climate change upon the Tompkins County? Yes
- Is the administrative supportive of integrating climate change in policies or actions? Yes



- Is climate change already being integrated into current policies/plans or actions (projects/monitoring) within the Tompkins County? Yes

Table 9.1-8. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low*
Disease Outbreak	Medium
Drought	Medium
Extreme Temperature	Medium
Flood	Medium
Harmful Algal Bloom	Medium
Infestation and Invasive Species	Medium
Severe Storm	Medium
Severe Winter Storm	High

**High Capacity exists and is in use*

Medium Capacity may exist; but is not used or could use some improvement

Low Capacity does not exist or could use substantial improvement

Unsure Not enough information is known to assign a rating

9.1.4.7 National Flood Insurance Program

Management and regulation of the regulatory floodplains is done at the local level. Refer to the individual jurisdictional annexes for details on the NFIP for each municipality.

9.1.4.8 Additional Areas of Existing Integration

- **Tompkins County Sheriff’s Office** - The Sheriff’s Office has plans, policies and procedures in place. The Sheriff’s Office is an active participant in Local Emergency Planning Committee (LEPC) that is inclusive of first response agencies, city departments, schools, emergency managers, public information officers, non-profit and private members.
- **Training and Exercise Committee** – This is a sub-committee of the LEPC made of up first responders, law enforcement and others that works closely with hospitals, schools, and the airport.
- **Public Outreach** - The Public Information & Outreach (PIO) team conducts outreach activities for National Preparedness Month. The Tompkins County Health Department actively speaks with local businesses and schools about health emergency preparedness and briefs the community on plans and gather community feedback. The County Office for the Aging and the Department of Social Services engage in outreach efforts as well. Other County agencies attend community events, conduct outreach and work closely with municipalities. The County has a dedicated website for citizen awareness and preparedness. The County additionally distributes FEMA materials during outreach events. The County has also participated in the Governor’s Citizens Preparedness training and leverages real world events to conduct outreach and educate the public. They actively seek engagement from the public to participate in County exercises.



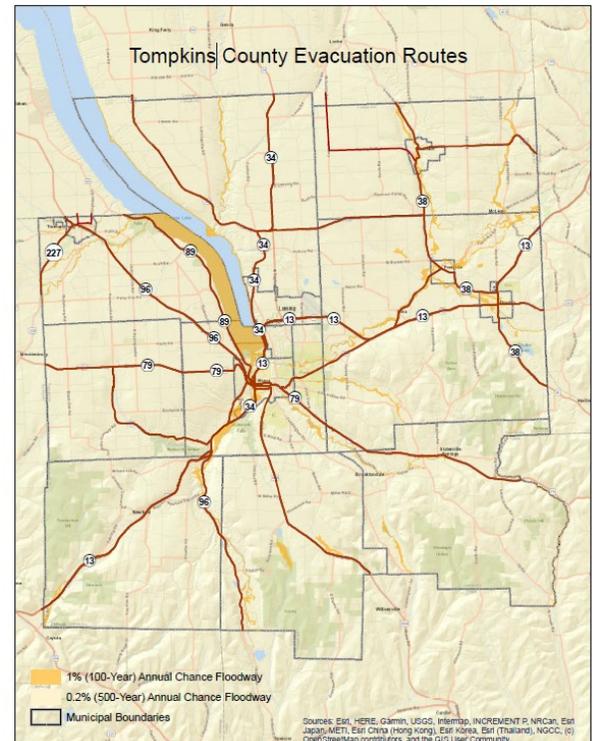
- **Conservation and Mitigation** – The County recognizes the multiple benefits to a range of conservation, land use and mitigation measures. The County also regularly invests in projects that advance both conservation and mitigation goals through its Natural Infrastructure Capital Program. Lands that provide ecosystem services and risk reduction measures, such as upland wetland and forestland, are formally protected through this program.
- **Resiliency and Recovery Planning** – Recognizing the need to strengthen community resiliency through the refinement of recovery planning measures, Tompkins County obtained a grant through the New York State Department of State to develop a resiliency and recovery plan of which the hazard mitigation serves as a piece of. Work on this effort will aim to better connect the four phases of emergency management – mitigation, preparedness, response – and recovery.

9.1.4.9 Evacuation, Sheltering, Temporary Housing, and Permanent Housing

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

Evacuation Routes

Tompkins County relies on its NYS highways for evacuation routes both through and within the county. As an example, for flood noted in the map below, evacuation routes are overlaid with mapped floodplains. Any need to navigate around flooded areas could be accommodated largely by a combination of State Highways. Most expansive flood plain areas are located in the City of Ithaca, so in the case of an active flood event impacting the City, travelers across the County would be encouraged to avoid travelling through the City and instead be routed around. The location of Cayuga Lake naturally directs traffic through the City so it is important that safe routes are clearly identified and communicated through a variety of formats. More detailed routing and communication measures are outlined in each separate jurisdictional annex where high risk areas are clearly identified.



Sheltering

A list of active shelters and their capabilities are maintained and regularly updated by the American Red Cross and the Tompkins County Department of Emergency Response and shared with the County Hazard Mitigation Coordinator in the Department of Planning & Sustainability. In some cases, both official and unofficial shelters noted in the municipal annexes in which they lie.

Temporary Housing

Temporary housing locations are largely determined by each local municipality. Short term temporary housing may in part be fulfilled by area hotels, collegiate residence halls (based on time of year) and area State Parks. Longer term housing options are evaluated and identified in local municipal annexes.

Permanent Housing

Based on local land use authority, permanent housing locations are determined by each local municipality. Most Tompkins County communities have identified locations, through local planning and zoning efforts, where existing infrastructure/land can sustain an increase in permanent housing. Additionally, please refer to Figure 4-15 in the Section 4 (County Profile), which provides information on Tompkins County buildable lands.

9.1.5 Tompkins County Hazard Event History

Tompkins County has a history of natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The County's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Tompkins County. For details of hazard events that impacted the County, refer to Volume I, Section 5.0 of this plan.

9.1.6 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The Hazard Profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. Refer to Sections 5.1 (Methodology) and Section 5.3 (Risk Ranking) for details on the County's risk assessment results and data used to determine the ranking.



9.1.6.1 Critical Facilities and Lifelines

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

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

Table 9.1-9. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Addressed by Proposed Action
		1% Event	0.2% Event	
Tompkins County Dept. of Motor Vehicles	Government	No	Yes	2021-Tompkins County-006
Tompkins County Old Jail	Government	No	Yes	2021-Tompkins County-006
Tompkins County Old Courthouse	Government	No	Yes	2021-Tompkins County-006
Tompkins County Courthouse	Government	No	Yes	2021-Tompkins County-006

Source: 2020 HAZUS Analysis

9.1.6.2 Hazard Ranking

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

As discussed in Section 5.3 (Hazard Ranking), each participating jurisdiction may have differing degrees of risk exposure and vulnerability compared to Tompkins County as a whole. Therefore, each Tompkins County ranked the degree of risk to each hazard as it pertains to their own community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Tompkins



County. The County has reviewed the 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 Tompkins County indicated the following:

- Flooding remains the hazard that has the broadest impact to Tompkins County that is also the hazard that we can collectively do the most to reduce risk.
- In addition to the conservation impacts of HABs and Infestation/Invasive Species, there is considerable physical and economic impacts anticipated from these hazards.
- The County supports the hazard rankings identified in this planning effort.

Table 9.1-10. Hazard Ranking Input

Hazard	Ranking
Disease Outbreak	Medium
Drought	High
Extreme Temperature	Medium
Flood	High
Harmful Algal Bloom	Medium
Invasive Species	Medium
Severe Storm	High
Severe Winter Storm	Medium

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

**Tompkins County changed the initial ranking of this hazard based on event history, municipal experience, and feedback from the Tompkins County Steering Committee*

9.1.6.3 Identified Issues

Tompkins County has identified the following vulnerabilities within their community:

- Much of the County is more vulnerable to flooding due to inaccurate, outdated Flood Insurance Rate Maps (FIRMs). FIRMs are currently being updated and should be finalized in 2022. Map Update process will provide opportunity to educate community on flood risk, mitigation and benefits of flood insurance.
- Certain populations, including those of low-income, the homeless and the elderly, bear a disproportionate burden of impact from natural hazards.

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

- Respondents are most concerned with climate change, drought, extreme temperatures, severe weather, and severe winter storms.
- Most respondents feel somewhat prepared to get along without electricity or natural gas for one to 5 days.



- Most respondents have not had their residence damaged by a hazard event.
- Most do not have property located in a designated floodplain nor do they have flood insurance.
- Most do not know of any particular community vulnerabilities that impact particular groups such as children, elderly or those with mobility issues.
- Most respondents think that their municipality cares about their well-being in relation to hazard events.

9.1.7 Mitigation Strategy and Prioritization

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

9.1.7.1 Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2014 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.



Table 9.1-11. Status of Previous Mitigation Actions

Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		<ol style="list-style-type: none"> Next Steps Project to be included in 2021 HMP or Discontinue If including action in the 2021 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
					Cost	Level of Protection	
TC 1	Improve general outreach information through Tompkins Ready and other formats. Include in that outreach an increased awareness on what warning and advisory systems mean.	All Natural Hazards	DOER	Complete!	Cost	-	Active, but relying more on 211. Not an action that needs to be continued. Currently utilize 211, Facebook/twitter.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 2	Establish and promote undeveloped buffers for streams and wetlands. This should include continuing the funding and administration of the Tompkins County Stream Restoration and Flood Hazard Mitigation Program.	Flash Flood, Landslide, Water Contamination	TCPD	In Progress	Cost	~\$5,000 annually	Active action which is now a part of the County's Natural Infrastructure Capital Program.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	Bank stabilization, water quality improvements	
TC 3	Replacement/rehabilitation or other resilient actions for transportation infrastructure with reoccurring flooding issues (see list of specific County locations in Appendix H)	Flash Flood, Severe Storm	TC Highway Division	In Progress	Cost	-	Continue and refine action based on updated risk analysis.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 4	Continue supporting aquifer studies to gain better understanding of regional groundwater and to enhance their protection	Flood (Flash & Lake)	TCPD	In Progress	Cost	-	Aquifer studies currently occurring in the Town of Dryden, but, discontinue action as USGS funding support for this program is concluding.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 5	Increase collaboration between government and community organizations	Epidemic	TC Health Dept.	In Progress	Cost	-	Update action to reflect collaboration of pandemic planning across organizations.
					Level of Protection	-	



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		1. Next Steps 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.
					Damages Avoided; Evidence of Success	Cost	
	regarding the containment and response plans for epidemic events				Damages Avoided; Evidence of Success	-	
TC 6	Improve farm health by participating in the integrated disease prevention through the NYS Cattle Health Assurance Program and supporting agricultural agencies that assist farms in improve this health.	Epidemic	SWCD	Complete!	Cost	Low	Discontinue, action complete.
					Level of Protection	Moderate	
TC 7	Further identify vulnerable populations, including disabled, elderly, children, non-native speakers, and the homeless and identify mitigation measures to reduce adverse impacts to these groups from hazard impacts	Multi-Hazard	County Human Services Cabinet	Complete!	Damages Avoided; Evidence of Success	Increased public knowledge	Vulnerable populations are better identified and discussed as part of this planning work. Action should be updated to identify actions to help reduce risk to vulnerable populations.
					Cost	Low	
TC 8	Establish and implement a system for regularly collecting detailed information about structural damages, costs, injuries and other details relevant to tracking impacts of hazard events.	Multi-Hazard	DOER	Complete!	Level of Protection	Moderate	Process currently in place at DOER for collection damages related to hazard events. Process could be improved for ease of data collection with advancements in technology. Explore as new action.
					Damages Avoided; Evidence of Success	Facilitated Planning	
TC 9	Develop a County-wide debris management plan	All Natural Hazards	County Public Works Cabinet	In Progress	Cost	~\$30,000	Debris management plan will be developed as a part of NYS Department of State funded companion resiliency and recovery plan (2021).
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
					Cost	-	



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		<ol style="list-style-type: none"> Next Steps Project to be included in 2021 HMP or Discontinue If including action in the 2021 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
TC 10	Conduct annual climate science outreach to municipalities and other large institutions and businesses to share latest climate change information for use in the design of a variety of work, including capital projects	All Natural Hazards	TCPD	Ongoing	Level of Protection	-	This is an ongoing capability that is conducted as updates are provided. The Northeast Regional Climate Center (NRCC) at Cornell as well as updates to the State ClimAid report are used as the foundation of this outreach.
					Damages Avoided; Evidence of Success	-	
TC 11	Meet annually with utilities to discuss needs and operations to ensure preparation for increasing storm events, including tree trimming, supplies of repair materials, and backup plans for outages. The meeting should also focus on increasing communication and coordination, during, and after events.	Severe Storm	City of Ithaca	Ongoing	Cost	-	DoER actively attends meetings with NYSEG regarding this and is the more appropriate lead on this action.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 12	Continue to advocate for the update of county Flood Insurance Rate Maps. In addition look for ways to map additional flood-related hazards and manage development in high risk areas. This could include the development of a pilot project with USGS to create interactive flood inundation maps for a stream corridor with regular flooding concerns, such as Fall Creek or Sixmile Creek	Flood (Flash & Lake)	TCPD	Complete!	Cost	High	Discontinue, FIRMs currently being updated and should be finalized by 2022.
					Level of Protection	High	
					Damages Avoided; Evidence of Success	Better flood maps	
TC 13	Conduct an enhanced inventory of critical facilities in	Flood (Flash & Lake)	DOER	In Progress	Cost	-	Actively being done for all County and included as a part of the resiliency and



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		1. Next Steps 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.
	the County and share information with municipalities and other facility owners. The inventory should include facilities for water and wastewater treatment, transit operations, emergency responder operations, and culverts and bridges				Level of Protection	-	recovery plan and other efforts. Discontinue.
					Damages Avoided; Evidence of Success	-	
TC 14	Once critical facilities have been inventoried, perform engineering-based risk assessments that take into account projected climate change, to understand potential impacts to critical facilities and service operations under different climate change scenarios. Assessments should include complete adaptations plans that include decision making software, such as the COAST model, and include recommendations for retrofits or acquisitions based on these assessments	Flood (Flash & Lake)	Municipalities	In Progress	Cost	~\$20,000	Currently underway as a part of Tompkins County resiliency and recovery plan work (2021).
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 15	Convene an annual meeting and training session for all municipal Floodplain Administrators to discuss topics of interest and address training needs	Flash Flood	TCPD	No Progress	Cost	Low	Continue and seek to convene group in 2021 in preparation for FIRM updates.
					Level of Protection	High	
					Damages Avoided; Evidence of Success	NA	



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		1. Next Steps 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.
					Cost	Level of Protection	
TC 16	Develop and implement a plan to reduce flood damage in the Sixmile Creek Watershed, including specific attention to aging pipeline crossings along the Creek	Utility failure, Flash Flood	Town of Caroline	In Progress	Cost	-	Pipeline analysis complete; some mitigation measures complete, can discontinue action as work has been documented and priorities are monitored as a part of mitigation plan update.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 17	Support dredging in and around the Cayuga Inlet Flood Control Channel to reduce threat of flood inundation	Lake Flood	City of Ithaca	In Progress	Cost	-	Dredging project largely complete in Cascadilla Creek, plans currently active for dredging Inlet. Continue as action in update to allow for certification of Inlet levee.
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 18	Create a database and map of fire hydrants (including dry hydrants) and water resources that can be used for firefighting and share that information with municipalities. Based on this information develop an action plan for improving access to these resources.	Fire	DOER	Complete	Cost	Moderate	Action complete for several fire districts and is their area of responsibility. Much of this data has been transferred to ITS. Discontinue.
					Level of Protection	High	
					Damages Avoided; Evidence of Success	Enhanced EMS/ FIRE Services	
TC 19	Work with local businesses to formalize continuity of operations plans	Terrorism	DOER	Active	Cost	~\$20,000	COOP planning addresses all hazards and added work is being done related to that as part of the NYS Dept of State funded resiliency and recovery plan (2021).
					Level of Protection	-	
					Damages Avoided; Evidence of Success	-	
TC 20	Analyze impacts from droughts across sectors and develop more comprehensive	Drought	DOER	Active	Cost	-	Some drought impacts to be addressed through Resiliency and Recovery Plan
					Level of Protection	-	



Project #	Project Name	Hazard(s) Addressed	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if complete)		<ol style="list-style-type: none"> Next Steps Project to be included in 2021 HMP or Discontinue If including action in the 2021 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
					Damages Avoided; Evidence of Success		
	drought management plans and management systems				Damages Avoided; Evidence of Success	-	(2021), but Soil and Water should be listed as likely more appropriate lead party.
TC 21	Engage the NYS Canal Corporation in proactive discussions to develop a process for regulating lake levels	Lake Flood	City of Ithaca	Complete	Cost	Low	Clarification of lake level management done as a part of the City flood inundation effort. Discontinue.
					Level of Protection	Moderate	
					Damages Avoided; Evidence of Success	Increase in Intermunicipal and intercounty collaboration	



9.1.7.2 Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

Tompkins County has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2014 Plan:

- County helped to implement both phases of the Ludlowville Stormwater Control Project, with funding support from FEMA and NYSDEC, which reduces flood risk in the Hamlet of Ludlowville, Town of Lansing.
- County successfully obtained resiliency planning funding from the New York State Department of State to implement various aspects identified in the previous mitigation plan, including development of a debris management plan, a public/private continuity of operations planning process and drought/flood analysis for critical facilities and lifelines.

9.1.7.3 Proposed Hazard Mitigation Initiatives for the Plan Update

Tompkins County participated in a mitigation action workshop in October 2020 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: e.g., FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013).

Table 9.1-12 summarizes the comprehensive range of specific mitigation initiatives Tompkins County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives are previous actions carried forward from the last plan to be again included in this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

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

Table 9.1-13 provides a summary of the prioritization of all 18 proposed mitigation initiatives for the Plan update.



Table 9.1-12. 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
2021-Tompkins County-001	Tompkins County Cover Crop Leadership Program	2, 3	HABs, Flood, Severe Storm, Drought	Problem: Exposed soil on farmland in Tompkins County has eroded fields and disrupted road infrastructure during flood events. Associated runoff further contaminates roadside ditches and connected waterways. This contamination decreases water quality and exacerbates the potential for the development of HABs. Solution: Implement a program that includes adequate equipment, materials, and staffing to expand cover crop implementation on area farmland.	No	No	3 Years	Tompkins County Soil and Water Conservation District (TCSWCD)	\$660,000	Broad reaching water quality, infrastructure and soil benefits	WQIP, USDA CSP/EWPP, EPA Nonpoint Water Source Project Grants	High	NSP	NR, PP
2021-Tompkins County-002	Tompkins County Green Ditch Improvement Program	1, 3	Flood, Severe Storm, HABs	Problem: County road ditches regularly convey excessive amounts of water during flood/severe storm events which threatens infrastructure and can further convey contaminants that have adverse water quality impacts and exacerbate HABs. Solution: Develop a "green ditch" improvement program that identifies different options to utilize materials to repair road ditches and/or improve function on county roads. This program should develop a clear blueprint of the equipment and materials required for various situations along with all the associated costs and how impacts will be evaluated in order to share with other municipalities. The first phase of project would identify priority locations for "green ditch" improvements – and outline pilot projects that could be implemented – in order to sharpen cost estimates and clarify implementation obstacles.	No	No	5 Years	Tompkins County Highway; Town Highway Departments	\$300,000 Total Estimate; Phase I \$30,000	Water quality and protection of County infrastructure	FEMA BRIC, NYSDEC WQIP, Green Innovation Grant Program (EFC GIGP), Community Resilience Training Program, NYS Climate Resiliency Farming Program, Cornell Local Roads	High	SIP, EAP, NSP	PP, SP, NR
2021-Tompkins County-003	Flood Insurance and Mitigation Outreach	4, 5	Flood	Problem: Several residents living both in and outside of the current Special Flood Hazard Areas (SFHAs) in Tompkins County do not carry flood insurance, nor do they know about the benefits of the NFIP, resulting increased vulnerability to flood events. Solution: To increase local "flood literacy" as well as reduce flood vulnerability, the County and local partners should develop and implement an outreach and education program to inform residents on SFHAs, the benefits of flood insurance and how they can obtain it. Outreach should come through a variety of formats and should aim to reach those individuals who are most vulnerable to flood risk.	No	No	1 Year	Tompkins County Dept. of Planning & Sustainability (DPS); Tompkins County Department of Emergency Response (DOER)	\$15,000	Increased education and resiliency across county	Community Resilience Training Program, National Endowment for the Arts Our Town Grant, Partners for Places Funding, EPA Environmental Justice Small Grants Program	High	EAP	PI
2021-Tompkins County-004	Groundwater Vulnerability Evaluation	1	Drought	Problem: Many rural landowners who rely on private wells are vulnerable to water shortage as drought events become more frequent in the region. Solution: Conduct a study to clarify which parts of the county are most vulnerable to groundwater shortages and identify potential options to address shortages. Develop a range of solutions to pursue in times of shortage, as well as proactive solutions that could be undertaken to prevent shortages from occurring. Consider building off of work local communities such as Enfield has done on this front with the New York Rural Water Association and explore the use of sentinel wells from aquifer studies to help monitor groundwater issues.	No	No	3 Years	Tompkins County Environmental Health, DPS	~\$30,000	Redundant water supply plan	Resilient Communities Program, USDA Water and Environmental Program FEMA BRIC, New York Rural Water Association	Medium	NSP, LPR	NR, PR, ES

Table 9.1-12. 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
2021-Tompkins County-005	Expanded and Improved Broadband Coverage	1,4	All Hazards	Problem: Communications through the county are sometimes interrupted, particularly in rural parts of the county, which can result in increased vulnerability to hazard events. Specific areas of concern include locations between Dryden and Caroline, and the southern portion of Caroline, Newfield, Western Enfield, Groton, and Danby. Solution: The County is actively working with the Southern Tier Network and Fujitsu to understand options for supporting expansion of broadband in the county. Once this work is complete the County and municipal partners will work to implement the actions identified in the study to improve broadband coverage and access in underserved areas	No	No	1 Year for the feasibility study, Many Years for build-out of infrastructure	DPS	\$80,000 for the feasibility study, millions for build-out	Increase communication capabilities throughout county; provide continuity of operations during a disaster	REDC, Federal Grant Sources, Local Funds	Med	SIP	ES
2021-Tompkins County-006	County Facility Flood Mitigation Assessment	1,4	Flood	Problem: The Tompkins County DMV, Old Jail, Old Courthouse and County Courthouse are located in part of the currently mapped 500-Year Floodplain. Solution: Further assess these County buildings to mitigate flood impacts and determine steps necessary for retrofitting and also for any necessary education or evacuation plans for use in times of flood. If any larger scale retrofits are determined to be necessary, apply for FMA funding to implement facility improvements.	Yes	No	3 Years	Tompkins County Facilities	Unknown	Unknown	HMGP, USACE Floodplain Management Services Program, USACE Small Flood Control Program, Local funds	Low	SIP	PP
2021-Tompkins County-007	Non-Emergency Protective Resilience Hubs	5	Extreme Temperatures, Severe Storm, Severe Winter Storm, Disease Outbreak	Problem: At-risk populations lack safe, clean locations to gather during hazard events that are not extreme enough to require that formal shelters be established. Solution: Conduct feasibility study for the development of publicly accessible protective resilient spaces that could be formed and supported by local service providers. Feasibility study should outline when such a facility would be used, key components that such a space should include and the types of groups that should be reached to inform them of the facility services.	No	No	3 Years	COFA (County Office for the Aging), TC Family and Children Services	\$10,000	Safe space for those isolated individuals and those without permanent residences to utilize in adverse weather conditions, including those events where shelters may not be open.	EPA Environmental Justice Small Grants Program, Partners for Places Funding, Local Funds	Med	SIP	PR
2021-Tompkins County-008	Model Tree Management Planning	3	Invasive Species, Severe Storm	Problem: Invasive species and severe storms can have on negative impacts due to tree fall and damage to public property. Solution: Work with "Joint Forestry Team" to identify guidance document and key components to a local tree management plan. The plan should include funding options to help develop tree inventories, management plans, native planting and implementation of recommendations.	No	No	2 Years	TCSWCD, Joint Forestry Team (US Forest Service, NRCS, National Association of State Foresters, Natural Association of Conservation Districts)	\$10,000	Unknown	Cornell City and Regional Planning Internship Program, New York State Main Street Program, NYSDEC Tree Inventory Funding	Medium	NSP	NR
2021-Tompkins County-009	Low Income Heating/Cooling Investment	4,5	Extreme Temperature	Problem: Low-income and elderly community members have higher risk to extreme temperature events in part due to inefficiencies in HVAC systems and under-insulated residences. Further, there is a lack of coordination between the various energy improvement funding options. Solution: Coordinate, publicize and implement the programs that advance retrofits for energy efficient heating and cooling for low-income affordable housing. Should further examine barriers (social/physical) for improving access to these resources and integrate hazard mitigation funding actions along with energy improvements.	No	No	2 Years	Get Your Green Back Tompkins – Cornell Cooperative Extension of Tompkins County (CCETC)	Varied	More resilient, cost effective housing	NYSERDA, grants and loans, HEAP	Low	LPR	PR

Table 9.1-12. 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
2021-Tompkins County-010	Resilient Business Investment	1,2	All Hazards	Problem: Despite wide ranging threats many local businesses are hesitant to invest in risk reduction measures Solution: Summarize mitigation recommendations and funding resources available to local businesses and push information out through a variety of formats. Initial focus will be on flood mitigation efforts given broad interest and concern on this hazard.	No	No	3 years	Tompkins County Chamber of Commerce	Low	More resilient businesses and economy	New York Main Street Program, Institute for Business and Home Safety, Insurance providers	High	LPR	PR
2021-Tompkins County-TC-011	Snow Removal Real-time Tracking Improvements	1,4	Severe Winter Storm	Problem: County Highway has invested in GPS telematics systems for its snow removal operations that provide real-time communication. System functionality is, however, limited to just location-based information. Solution: Continue supporting the installation of telematic systems on plows and other Highway vehicles to provide real-time location information – including through use of the Internet of Things - but also investigate additional technological options that can connect systems in order to increase the efficiency and safety of snow removal operations. Share findings of this technology with other highway departments in the region.	No	No	1 year	Tompkins County Highway, Cornell Local Roads	Low	High	State Hazard Mitigation Funds, Local Funds	Low	LPR	PR
2021-Tompkins County-012	Virgil Creek Dam Maintenance	1,4	Flood	Problem: The County-owned Virgil Creek Dam requires maintenance to ensure long term functionality. Disrepair will lead to failures in dam function and result in vulnerabilities downstream. Additionally, the surrounding community is unclear as to dam function and components including current dam failure warning system. Solution: Make necessary dam improvements and provide education to the community on the dam's function and associated warning system.	No	Yes	3 Years	Town and Village of Dryden, Tompkins County	~\$75,000	Improved dam function, clearer understanding of warning system and what to do in case of dam failure	NYSDEC, National Dam Rehabilitation Program	High	SIP	SP, ES
2021-Tompkins County-013	Aquatic Invasive Species Management Plan	3	Invasive Species	Problem: Funding for hydrilla management is costly and does not have sustained funding support. Solution: Develop a long-term funding strategy for the management of hydrilla and other emerging aquatic invasive species.	No	Yes	4 years	Tompkins County Soil and Water Conservation District, Army Corps of Engineers	\$500,000 Annually	Sustained funding for long-term hydrilla management	NY PRISM, ACOE	Med	NSP	NR
2021-Tompkins County-014	Redundant Facility and Fleet Power Systems	1,4,5	Severe Storm	Problem: Large and small County energy users (buildings and fleet) rely on electricity to support government functions. Severe storms can disrupt electricity supply, and thus certain government functions. Solution: Assess County buildings to determine back up power needs such as permanent electric generators, or electric retrofits to accommodate generator use; and to explore options for independent, clean energy sources such as solar based electric vehicle charging stations.	Yes	No	2 Years	DoER, Tompkins County Facilities	Unknown	County Facilities and Fleet more prepared for disruptions to electric supply	NYSDEC CSC Grant Program, FEMA HMGP	Medium	SIP	PR, SP
2021-Tompkins County-015	Staff Support and Development for Resiliency Action Implementation	1-5	All Hazards	Problem: Local municipalities and agencies have expressed difficulty implementing certain hazard mitigation actions due to a lack of sustained planning capacity. Many communities do not have access to full-time staff or have staff that is trained to implement and sustain mitigation actions. In addition, support to provide enhanced outreach on activities to increase life safety (including dam safety) will provide increased public safety. Solution: Develop a program that provides builds and sustains local municipal capability for mitigation and resiliency action implementation, including dam safety This may include a program that focuses on matching young professionals and graduate level students directly with municipalities.	No	No	3 Years	Cornell University, Ithaca College, TC3 and Tompkins County	Unknown	Significant increase in mitigation project implementation	AmeriCorps, BRIC C&CB	Med	LPR	PR

Table 9.1-12. 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
2021-Tompkins County-016	Support Coordinated Public Health-Community Response Planning During a Communicable Disease	1,2	Disease Outbreak	Problem: Disease outbreaks are likely to continue to emerge and are a fast-evolving concern for the region, particularly in light of COVID 19. Solution: Review COVID-19 "after action reports" and identify improvements that could be put in place prior to next disease outbreak. This should include identifying which collaborations that emerged during the COVID-19 pandemic should be maintained and supported by the County, even after the COVID-19 crisis wanes.	No	No	1 Year	Tompkins County Health Dept and DoER	Low	Increased community safety and reduced impacts of pandemic	Operating Budget	Medium	LPR	PR
2021-Tompkins County-017	Local Government Hazard Event Impact Tracking	1,4	All Hazards	Problem: The process of collecting information about hazard events, including structural damages, costs, related injuries and other details relevant to tracking impacts of hazard events, is currently reliant on printed paper and not in a digital format. This makes tracking and updating critical information burdensome and difficult to reference. Solution: Establish and implement an electronic system for all entities in Tompkins County to easily collect, input and access detailed information about structural damages, costs, injuries and other details relevant to tracking impacts of hazard events of all sizes. Program should strive to integrate with other existing archival systems and be usable and accessible to all partners.	No	No	1 Year	DOER, ITS	Low	Increase understanding of damages after a hazard event; creates a system to track damages, losses, etc.	NYS Local Government Records Management Improvement Fund, Local Funds	High	LPR	ES
2021 – Tompkins County - 018	Joint Medical Supply Storage Facility Feasibility Study and Implementation	1,4	Disease Outbreak	Problem: Area medical providers, including Cayuga Medical Center (Tompkins County's sole hospital and key critical facility) lack adequate, secure, permanent storage facilities for medical material, including PPE, which limits their ability to comply with NYS Department of Health - Hospital PPE 90-Day Supply Requirements. Solution: Develop a feasibility study to reach out to other regional health agencies and organizations that may require preparedness storage needs. Such as study should clarify the size and requirements of a storage facility and identify potential locations that could be utilized or perhaps built.	Yes	No	2 Years	DOER, Cayuga Medical Center	Medium	Compliance with State Health regulations; increased capacity to address disease outbreak	CDBD CARES funding, HMGP, BRIC Capability and Capacity Building	Medium	SIP	ES
2021 – Tompkins County - 019	Dam Safety Program	1,2,3	Flood, Severe Storm	Problem: There are multiple "high hazard" Class C dams located within Tompkins County. While Tompkins County does not have any specific ownership rights over these dams, there are general outreach that could be conducted on a broad scale across the jurisdictions to increase resilience. Solution: In accordance with NYSDEC Dam Safety guidelines, the County will support annual inspection and update of the dams' Emergency Action Plans (EAPs) by engineers, and supported NYSDEC as necessary. If increased significant risk to the downstream areas is found, the County will work with the owner, engineers, and NYSDEC Dam Safety to develop a plan to update and improve the conditions of the dam. Also, the County will conduct outreach to all residents living within the vicinity of the dam, providing relevant response measures that could be used by private residents if the dam were to ever fail. This can include fact sheets, meetings, social media advertisement, and other types of outreach.	Yes	No	5 years	Tompkins County	Low	Compliance and safety	BRIC, County Budget	High	EAP	PI

Table 9.1-12. 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
2021 – Tompkins County - 020	Beebe Lake Dam Clarification	1,2,3	Flood, Severe Storm	The hazard classification of the Beebe Lake Dam is unclear due to a conflict in the NYSDEC and Army Corps of Engineers data sets. The County will work with Cornell to contact the NYSDEC and Army Corps of Engineers to confirm the hazard classification of the Beebe Lake Dam to resolve the conflict in categorization between the two data sets. In addition the County will request a copy of the EAP for record.	N	N	1 Year	Tompkins County	Low	Compliance and safety	County Budget	High	LPR	PR

Notes:

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

Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

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

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

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

Critical Facility:

Yes ● Critical Facility located in 1% floodplain

Mitigation Category:

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

CRS Category:

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

Table 9.1-13. 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	Total	High / Medium / Low
2021-Tompkins County-001	Tompkins County Cover Crop Leadership Program	0	1	1	0	0	0	0	1	1	1	1	1	1	1	9	High
2021-Tompkins County -002	Tompkins County Green Ditch Improvement Program	0	1	1	0	0	0	0	1	1	1	1	1	1	1	9	High
2021-Tompkins County – 003	Flood Insurance and Mitigation Outreach	0	0	1	1	1	1	1	0	1	1	0	1	1	0	9	High
2021-Tompkins County – 004	Groundwater Vulnerability Evaluation	1	0	1	1	1	1	1	0	1	1	0	0	0	0	8	Medium
2021-Tompkins County – 005	Expanded and Improved Broadband Coverage	1	0	1	1	1	0	0	0	1	1	1	0	0	0	7	Medium
2021-Tompkins County – 006	County Facility Flood Mitigation	1	1	1	1	1	0	-1	0	0	0	0	0	0	0	4	Low
2021-Tompkins County – 007	Non-Emergency Protective Resilience Hubs	1	0	1	1	1	0	0	0	1	1	1	0	0	0	7	Medium
2021-Tompkins County – 008	Model Tree Management Planning	1	0	1	1	0	0	0	0	0	1	1	0	0	0	5	Medium
2021-Tompkins County - 009	Low Income Heating/Cooling Investment	1	0	0	1	1	0	0	0	1	-1	1	0	0	0	4	Medium
2021-Tompkins County – 010	Resilient Business Investment	1	1	1	0	1	0	1	0	1	1	1	1	0	0	9	High
2021-Tompkins County – 011	Snow Removal Technological Improvement	1	0	1	1	0	0	0	0	0	1	0	1	0	0	5	Medium
2021-Tompkins County – 012	Virgil Creek Dam Maintenance	1	1	1	1	1	1	0	0	1	1	0	0	1	0	9	High



Table 9.1-13. 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	Total	High / Medium / Low
2021-Tompkins County – 013	Aquatic Invasive Species Management Plan	1	1	1	1	0	0	0	0	0	1	0	0	0	0	5	Medium
2021-Tompkins County – 014	Redundant Facility and Fleet Power Systems	0	0	0	1	1	0	0	1	1	1	0	0	1	1	7	Medium
2021-Tompkins County – 015	Staff Support and Development for Resiliency Action Implementation	1	1	1	1	0	0	1	0	1	1	1	0	0	0	8	Medium
2021-Tompkins County – 016	Support Coordinated Public Health-Community Response Planning During a Communicable Disease	1	0	1	1	0	0	0	0	1	1	0	1	1	0	7	Med
2021-Tompkins County – 017	Local Government Hazard Event Impact Tracking	1	1	1	1	0	0	1	0	0	1	1	1	1	1	9	High
2021-Tompkins County-018	Joint Medical Supply Storage Facility Feasibility Study and Implementation	1	0	1	1	0	0	0	0	1	1	0	0	1	1	7	Medium
2021 – Tompkins County - 019	Dam Safety Program	1	1	1	1	1	0	0	1	1	1	1	1	1	1	12	High
2021 – Tompkins County - 020	Lake Beebe Dam Clarification	1	1	1	1	1	0	0	1	1	1	1	1	1	1	12	High

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



9.1.8 Proposed Mitigation Action Types

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

Table 9.1-14. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				PR	PP	PI	CRS		
	LPR	SIP	NSP	EAP				NR	SP	ES
Flood	010, 015, 020	002, 005, 006, 012	001, 002	002, 003; 019	010, 015, 020	001, 002, 006	003; 019	001, 002,	002, 012	005, 012, 017
Severe Storm	010, 011, 015, 017, 020	005, 007, 014	001, 008	019	007, 010, 011, 014, 015, 020		019	008	014	005, 017
Severe Winter Storm	010, 015, 016, 017	005, 007			007, 010, 015					005, 017
HABs	010, 015, 017	002, 005	001; 002	002	010, 015	001, 002		001; 002	002	005, 017
Invasive Species	010, 013, 015	005	007, 014		010, 015			008, 013		005, 017
Drought	004, 010, 015, 017	005	001, 04		004, 010, 015, 017	001		001, 004,		004, 005, 017
Disease Outbreak	010, 015, 016, 017	005, 007, 018			007, 010, 015				018	005, 016
Extreme Temperatures	009, 010, 015, 017	005, 008			007, 010, 015	009				005, 017

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

9.1.9 Staff and Local Stakeholder Involvement in Annex Development

The County 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 jurisdiction representatives. 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. The following table summarizes who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.1-15. Contributors to the Annex

Name	Title	Method of Participation
Scott D. Doyle	DPS Associate Planner	Coordinator
Jon Negley	TCSWCD District Manager	Action Item Guidance
Jessica Verfuss	DOER Deputy Director	Shelter, Evacuation and Action Item Guidance
Jeff Smith	Highway Manager	Action Item Guidance
Angel Hinickle	TCSWCD Resource Conservation Specialist	Action Item Guidance
Katie Borgella	DPS Commissioner	Action Item Guidance



Action Worksheet			
Project Name:	Tompkins County Cover Crop Leadership Program		
Project Number:	2021-Tompkins County-001		
Risk / Vulnerability			
Hazard(s) of Concern:	HABs, Flood, Severe Storm, Drought		
Description of the Problem:	Exposed soil on area farmland has eroded fields during flood events and associated runoff sometimes contaminates roadside ditches that flow to waterway adding to the adverse impacts to water quality and potentially the development of local HABs.		
Action or Project Intended for Implementation			
Description of the Solution:	Implement a staffed program with adequate equipment and materials to increase the amount of farmland currently utilizing cover crops. Work with Cornell University and Cooperative Extension Services to discuss the development of this program.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is the critical facility located in the 1% annual chance flood area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	-	Estimated Benefits (losses avoided):	
Useful Life:	3 Year Program intended to assess impact and chart frame formalization of program moving forward.	Goals Met:	Goals 2 and 3
Estimated Cost:	\$660,000	Mitigation Action Type:	NSP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021-2024
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	WQIP, USDA CSP/EWPP, EPA Nonpoint Water Source Project Grants
Responsible Organization:	Tompkins County Soil and Water Conservation District and TC DPS	Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Invest in normal program	\$50,000	Limited impact
	Develop Cover Crop Leadership Program	\$220,000 annually for three year trial	Assess level of impact by number of farms participating, and number of added acres cover cropped
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Tompkins County Cover Crop Leadership Program	
Project Number:	2021-Tompkins County-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	None
Property Protection	1	Soil protection high
Cost-Effectiveness	1	Very cost effective, proven practice
Technical	0	Low tech solution
Political	0	None
Legal	0	None
Fiscal	0	None
Environmental	1	Significant environmental benefit
Social	1	Collective effort can have significant impact
Administrative	1	Easy to implement
Multi-Hazard	1	Benefits both flooding and HABs
Timeline	1	Can begin with limited lead up
Agency Champion	1	Soil and Water has led with great work on this subject
Other Community Objectives	1	Added way to support local farmland and further protect rural landscape
Total	9	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Tompkins County Green Ditch Improvement Program		
Project Number:	2021-Tompkins County-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, HABs		
Description of the Problem:	County road ditches regularly convey excessive amounts of water during flood/severe storm events which threatens infrastructure and can convey contaminants that have adverse water quality impacts and exacerbate HABs. Areas include roads along Salmon Creek as well as the corridor of Route 79 and 96.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop an improvement program that identifies different options to repair road ditches on county roads. This includes the procurement for the necessary materials, staffing, and an inventory of ditches that need to be improved. The program will improve the quality of the ditches and water quality and support the "greening" of county road ditches. First phase of project should include the prioritizing and scoping of important locations for improvement – and conducting pilot projects.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is the critical facility located in the 1% annual chance flood area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	-	Estimated Benefits (losses avoided):	Water quality and protection of County infrastructure
Useful Life:	~10 years +. Well installed ditch improvements can last at least a decade.	Goals Met:	Goals 1 and 3
Estimated Cost:	~\$300,000	Mitigation Action Type:	SIP, EAP, NSP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021-2024
Estimated Time Required for Project Implementation:	5 Years	Potential Funding Sources:	FEMA BRIC, NYSDEC WQIP, Green Innovation Grant Program (EFC GIGP), Community Resilience Training Program, NYS Climate Resiliency Farming Program
Responsible Organization:	Tompkins County Soil and Water Conservation District and TC DPS	Local Planning Mechanisms to be Used in Implementation if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Invest as current	\$10,000	Limited impact
	Develop Green Ditch Program	\$60,000 annually for three year trial	# of miles of County Road supported by green ditches



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

Action Worksheet		
Project Name:	Tompkins County Green Ditch Improvement Program	
Project Number:	2021-Tompkins County-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	None
Property Protection	1	Soil protection high
Cost-Effectiveness	1	Very cost effective, proven practice
Technical	0	Low tech solution
Political	0	None
Legal	0	None
Fiscal	0	None
Environmental	1	Significant environmental benefit
Social	1	Collective effort can have significant impact
Administrative	1	Easy to implement
Multi-Hazard	1	Benefits both flooding and HABs
Timeline	1	Can begin with limited lead up
Agency Champion	1	County Highway has led with great work on this subject
Other Community Objectives	1	Highly visible work that could translate to local government highway departments as well
Total	9	
Priority (High/Med/Low)	High	

