

GENESEE COUNTY HAZARD MITIGATION PLAN UPDATE Mitigation Strategy Workshop – AGENDA MEETING DATE/TIME: March 18, 2025 @ 3:00PM



In-Person Meeting

Genesee County Office of Emergency Management 7690 State St. Rd., Batavia, NY 14020

- 1. Opening Remarks
- 2. Project Status
 - Where we are in the process
 - Public outreach
- 3. Identifying and Developing Mitigation Strategies
- 4. Review Previous Actions
- 5. Developing New Potential Actions
- 6. Next Steps
 - Continue developing actions
 - Work with Tetra Tech staff to complete outstanding worksheets
- 7. Questions
- 8. Workshop

Genesee County Project Contact

Timothy Yaeger, Director
Genesee County Office of Emergency Management
(585) 344-0078 | tim.yaeger@geneseeny.gov

Tetra Tech Project Contacts

Jessica Stokes, MSEM, NJCEM Emily Vassallo (973) 630-8017 | jessica.stokes@tetratech.com (717) 839-5655 | emily.vassallo@tetratech.com



Purpose of Meeting:	Mitigation Strategy Workshop		
Location of Meeting:	Genesee County Office of Emergency Management (7690 State St. Rd., Batavia, NY 14020)		
Date of Meeting:	March 18, 2025 (3:00 pm – 5:00 pm)		
 Tim Gary Genesee Shel Genesee Carla Genesee Craig Genesee Brian Fran Com Genesee 	County Emergency Management Services Yaeger, Coordinator Patnode, Deputy Coordinator Seth Allen, Financial Management Assistant County Legislature Sety Stein, Chair County Department of Social Services and Youth Mindler, Commissioner County Public Works Se Smith, Deputy Commissioner County Sheriff's Office Frieday, Chief Deputy Red Riccobono, Director of Emergency Munications County Administration Mi Fernngel, Deputy County Manager	Alexander (T) Ron Merrill, Town Board Member Alexander (V) Pork Breton, Mayor Bergen (T) Joseph Chimino, Mayor Ralph Marsocci, Former Mayor Bergen (V) Gary Cecere, Code Enforcement Officer Darien (T) Jerry Yoder, Zoning/Code Enforcement Officer Elba (V) Norm Itjer, Mayor NYS DHSES Kevin Clapp, HMP Supervisor Tetra Tech Jessica Stokes, Project Manager Emily Vassallo, Lead Planner	

Agenda Summary	1
----------------	---

The purpose of the meeting was to describe the contains within the mitigation strategy, provide an opportunity for jurisdictions to review their previous mitigation actions, complete outstanding worksheets with assistance from Tetra Tech planners, discuss what makes a good mitigation action, review previous goals and objectives, and identify potential 2025 mitigation actions.

Item No.	Description	Action item(s):
1	Introductions	
2	Project Status Public Outreach Toolkit Social media templates and posts Press release templates Printable materials	Planning Partnership Post about the plan update and complete/send out surveys.
	Surveys Stakeholders – 0 responses Neighboring communities – 2 responses Public – 0 responses HMP Website	Tetra Tech Resend outreach materials to Planning Partnership.
3	 Identifying and Developing Mitigation Strategies The Mitigation Strategy is the County's roadmap to reduce the risk of hazards identified in the HMP. The strategy is based on hazard impacts, asset vulnerability, and the County's capabilities. Mitigation Actions are specific activities, such as policies, projects, and studies, that stakeholders identify to reduce risk. Forward-looking and incorporate changing conditions for the life of the County's assets 	-





	 Consider changing demographics, development patterns, impacts of 	
	climate change.	
	 Examples of actions may include elevating electrical and HVAC 	
	equipment to reduce the likelihood of damage from floodwaters or	
	planting trees to lower temperatures exacerbated by pavement.	
	What is a <i>Mitigation Strategy</i> ?	
	 A group of projects or actions to reduce the impacts of the hazards of 	
	concern on your community	
	Plans and Regulations	
	 Structure and Infrastructure Studies and Projects 	
	 Natural Systems Protection Studies and Projects 	
	Education and Awareness Programs	
	 Terms to describe the <u>Mitigation Strategy</u> include: 	
	 Mitigation Action Plan or Action Plan 	
	 Mitigation Projects or Initiatives or Actions 	
	 Need a clear connection between vulnerabilities identified in the risk 	
	assessment and proposed mitigation actions.	
	The capability assessment can provide insight into challenges and	
	opportunities for the mitigation strategy.	
	All actions proposed in the mitigation strategy must have a factual basis tied to	
	hazards (this shouldn't be a wish list!)	
4	Hazards of Concern	-
	Civil Unrest, Dam Failure, Drought, Earthquake, Epidemic, Extreme	
	Temperature, Flood, Hazardous Materials, Severe Storm, Severe Winter Storm,	
	Terrorism, Transportation Accidents, Utility Interruption, Wildfire	
5	Developing New Potential Actions	
	Quality not quantity	
	1. Each action needs detailed information on the why, who, what, and	
	when of the action.	
	2019 projects	
	1. If a project is not finished and still a priority, include in 2025 HMP	
	Remove general projects or make more specific	
	3. Remove ongoing capabilities like maintenance or annual outreach	_
	Each hazard needs at least one mitigation action	
	 If your jurisdiction has Repetitive Loss Properties - an action is needed to 	
	mitigate the properties (elevation or acquisition) with specifics (street or	
	neighborhood names, not specific addresses)	
	Four types of Mitigation Actions	
	1. Plans and regulations	
	Structure and Infrastructure	
	3. Natural systems protection	
	4. Education and awareness	
6	2025 HMP Suggested Goals and Objectives	
	Reduce the likelihood and impacts of hazards on life, property, and the	
	environment.	-
	 Objective 1.1: Develop and/or update local regulations based on current information and best practices. 	
	Current information and best practices.	





- Objective 1.2: Maintain natural systems to reduce the impacts of hazards.
- Objective 1.3: Strengthen understanding of, and adaptation to, a changing climate
- Objective 1.4: Encourage the use of green and natural infrastructure
- 2. Protect life, property, critical infrastructure, the environment, and the economy from the impacts of natural, technological, and human-caused disasters.
 - Objective 2.1: Acquire, retrofit, or relocate structures from floodprone areas.
 - Objective 2.2: Retrofit critical infrastructure to protect against hazard impacts.
 - Objective 2.3: Ensure that critical facilities can continue to function during and after hazard impacts.
 - Objective 2.4: Work with residents to maintain drainage ditches on private property.
 - Objective 2.5: Encourage residents and business owners to insure their property against hazard impacts, including through flood insurance through the National Flood Insurance Program (NFIP).
- 3. Educate the public, officials, and other stakeholders about the hazards they face and what can be done to mitigate hazard impacts.
 - Objective 3.1: Work with legislators to develop and enact legislation that reduces long-term vulnerability to hazards.
 - Objective 3.2: Increase public awareness of the hazards and risks faced by the County's residents and businesses, and what measures they can take to protect their property.
 - Objective 3.3: Increase local government official awareness regarding funding opportunities for mitigation and participating/contributing to plan updates.
- 4. Reduce the risk of natural hazards for socially vulnerable populations.
 - Objective 4.1: Identify and provide additional resources to vulnerable and marginalized populations that have reduced capacity to respond to hazards compared with the general population.
 - Objective 4.2: Encourage the establishment of policies to help ensure the prioritization and implementation of mitigation actions and/or projects designed to benefit socially vulnerable populations and underserved communities
- **5.** Address long-term vulnerabilities from hazardous dams.
 - Objective 5.1: Ensure dam infrastructure is maintained.
 - Objective 5.2: Support the identification of and access to funding for the repair or replacement of dams.
 - Objective 5.3: Ensure emergency action plans are developed and updated.

Comments:

- Concern regarding Objective 2.4 with private property owner cooperation in terms of flood related issues on a small creek.
- Recommendation to update Goal 4 to include human-caused hazards.
- Recommendation to update Goal 4 to be "the best of the County and jurisdictional ability".

7 Workshop





	Work on New Action Development Workshop to identify problem areas within	
	your jurisdiction	
	 Work with Tetra Tech Planner(s) to complete missing worksheets 	
8	Next Steps	
	 Share information about the HMP Update via social media, community groups, and networks 	-
	Schedule meeting with Tetra Tech planner to complete annex	
	Complete and return the New Action Development worksheet within 2 weeks	
9	Questions/Discussion	
	 There is HMGP funding available through DHSES. Grant applications are due at the end of April. More information for these opportunities can be found on the DHSES website (www.dhses.ny.gov/hazard-mitigation). 	-

Types of Mitigation Actions

A mitigation action is a specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. Implementing mitigation actions helps achieve the plan's mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process.

The primary types of mitigation actions to reduce long-term vulnerability are:

- Local Plans and Regulations (LPR)
- Natural Systems Protection (NSP)
- Structure and Infrastructure Projects (SIP)
- Education and Awareness Programs (EAP)

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	 Comprehensive plans Land use ordinances Subdivision regulations Development review Building codes and enforcement NFIP Community Rating System Capital improvement programs Open space preservation Stormwater management regulations and master plans
Structure and Infrastructure Projects	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. Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.	 Acquisitions and elevations of structures in flood prone areas Utility undergrounding Structural retrofits Floodwalls and retaining walls Detention and retention structures Culverts Safe rooms
Natural Systems Protection	These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.	 Sediment and erosion control Stream corridor restoration Forest management Conservation easements Wetland restoration and preservation
Education and Awareness Programs	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 or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	 Radio or television spots Websites with maps and information Real estate disclosure Presentations to school groups or neighborhood organizations Mailings to residents in hazard-prone areas StormReady Firewise Communities













Purpose of Mitigation Strategy



- The **Mitigation Strategy** is the County's roadmap to reduce the risk of hazards identified in the HMP. The strategy is based on hazard impacts, asset vulnerability, and the County's capabilities.
- Mitigation Actions are specific activities, such as policies, projects, and studies, that stakeholders identify to reduce risk.
 - Forward-looking and incorporate changing conditions for the life of the County's assets
 - Consider changing demographics, development patterns, impacts of climate
 - Examples of actions may include elevating electrical and HVAC equipment to reduce the likelihood of damage from floodwaters or planting trees to lower temperatures exacerbated by pavement.
 - Actions included in the plan are eligible for certain types of FEMA funding.

7

Using Your Mitigation Strategy to Reduce



- What is a Mitigation Strategy?
- A group of projects or actions to reduce the impacts of the hazards of concern on your community

 - Plans and Regulations
 Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs
- · Terms to describe the Mitigation Strategy include:
 - Mitigation Action Plan or Action Plan
 - Mitigation Projects or Initiatives or Actions

Your Mitigation Strategy is included in your annex. include detailed information that can serve as starting points for grant applications and guide implementation

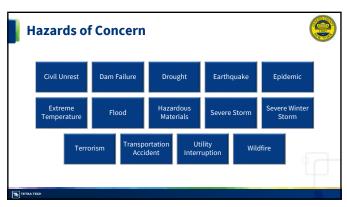
8

Connecting to the Mitigation Strategy



- Need a clear connection between vulnerabilities identified in the risk assessment and proposed mitigation actions.
- The capability assessment can provide insight into challenges and opportunities for the mitigation strategy.
- · All actions proposed in the mitigation strategy must have a factual basis tied to hazards (this shouldn't be a wish list!)

	Capability Assessment	
Risk Assessment	I	Problem Areas in Community
	Mitigation Strategy	

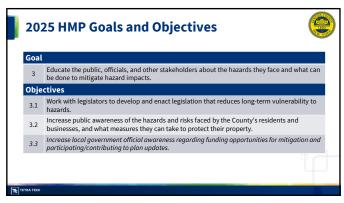




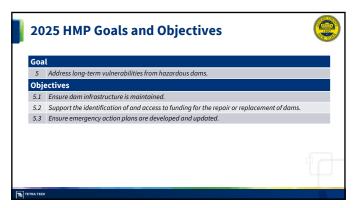














Requirements for the Mitigation Strategy Update



- Quality not quantity
- Each action needs detailed information on the why, who, what, and when of the action.
- 2019 projects
 - If a project is not finished and still a priority, include in 2025 HMP

 - Remove general projects or make more specific
 Remove ongoing capabilities like maintenance or annual outreach
- · Each hazard needs at least one mitigation action
- If your jurisdiction has Repetitive Loss Properties an action is needed to mitigate the properties (elevation or acquisition) with specifics (street or neighborhood names, not specific addresses)
- If your jurisdiction has a High Hazard Potential Dam, an action will be included to work with the dam owner to assess the integrity of the dam and ensure EAPs are up to date and shared.
- If your jurisdiction has Critical Facilities identified to be in the flood hazard area, an action will be included to notify the facility manager(s) of the risk and inform them of flood mitigation methods.

19

Where do you need to focus?



- \bullet $\mbox{\bf Stronger\,connection}$ between the risk assessment and mitigation strategy
- More specific, achievable actions
 - · Specific projects, in specific locations, in a specific timeframe
 - Focus on socially vulnerable populations and underserved communities
- Diverse actions
 - You need at least one action per hazard of concern. Think about actions that can cover multiple hazards.
 - Include a variety of action types (e.g., plans, floodproof critical facilities, outreach programs, etc.)

20

Examples of Hazard Mitigation





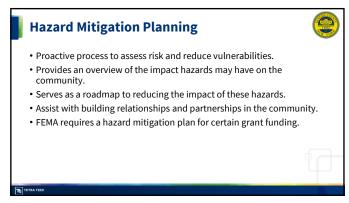
- Enlarging the size of a culvert to increase capacity
- Implementing zoning to restrict development in hazard prone areas
- Public awareness campaigns aimed at educating the public on risk

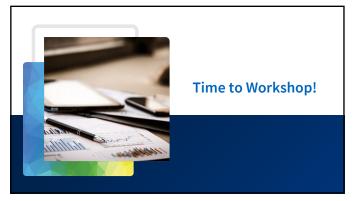


- · Conducting tabletop exercises and drills
- Stockpiling essential supplies and equipment
- Informing the public about emergency procedures

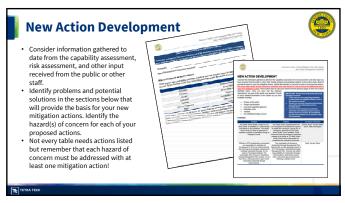










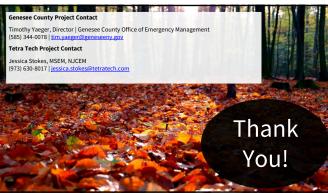


Next Steps



- NOW: Complete your worksheets, ask questions, and provide to Tetra Tech staff
- NOW: Provide update to Tetra Tech staff on any missing worksheets, when you will submit them, and how Tetra Tech can assist you
- AFTER WORKSHOP: Continue to share information about the HMP Update via social media, community groups, and networks. Let us know who you share information with!
- NEXT MONTH: Work with Tetra Tech planners to complete annexes and finalize actions.

18 28





DAM FAILURE				
Personal Scale	Corporate Scale	Government Scale		
 Manipulate the hazard: None Reduce exposure to the hazard: Relocate out of dam failure inundation areas. Reduce vulnerability to the hazard: Elevate home to appropriate levels. Increase Capability: Learn about risk reduction for the dam failure hazard. Learn the evacuation routes for a dam failure event. Educate yourself on early warning systems and the dissemination of warnings. 	 Manipulate the hazard: Remove dams. Harden dams. Reduce exposure to the hazard: Replace earthen dams with hardened structures. Relocate facilities out of dam failure inundation areas. Reduce vulnerability to the hazard: Floodproof facilities within dam failure inundation areas. Increase Capability: Educate employees on the probable impacts of a dam failure. Develop a continuity of operations plan. 	 Manipulate the hazard: Remove dams. Harden dams. Reduce exposure to the hazard: Replace earthen dams with hardened structures. Relocate critical facilities out of dam failure inundation areas. Consider open space land use in designated dam failure inundations areas. Reduce vulnerability to the hazard: Adopt higher floodplain standards in mapped dam failure inundation areas. Retrofit critical facilities within dam failure inundation areas. Increase Capability: Map dam failure inundation areas. Enhance emergency operations plans to include a dam failure component. Institute monthly communications checks with dam operators. Inform the public on risk reduction techniques. Adopt real-estate disclosure requirements for the re-sale of property located within dam failure inundation areas. Consider the probable impacts of climate change in assessing the risk associated with the dam failure hazard. Establish early warning capability downstream of listed high-hazard dams. Consider the residual risk associated with protection provided by dams in future land use decisions. 		



DROUGHT			
Personal Scale	Corporate Scale	Government Scale	
 None Reduce exposure to the hazard: Consider stored water/captured water techniques during dry seasons. Establishing an irrigation time/scheduling program or process so that all agricultural land gets the required amount of water. Through incremental timing, each area is irrigated at different times so that all water is not consumed at the same time. Spacing usage may also help with recharge of groundwater. Reduce vulnerability to the hazard:	Jone Jone Jone Jone Jone Jone Jone Jone	 Manipulate the Hazard: Ground Water Recharge through stormwater management. Implement cloud seeding techniques during dry seasons. Reduce exposure to the hazard: Identify and create ground water back up sources. Create /identify new impounded water supply points. Developing new or upgrading existing water delivery systems to eliminate breaks and leaks. Reduce vulnerability to the hazard: Water use conflict regulations. Reduce water system losses. Distribute water saving kits. Identify sites ideally suited for ground water recharge. Implement stormwater retention in regions ideally suited for groundwater recharges. Utilize drought resistant landscapes on community owned facilities. Encourage citizens to take watersaving measures. Increase Capability: Public education on drought resistance. Identify alternative water supplies for time of drought. Mutual aid agreements with alternative suppliers. Develop a drought contingency plan. Develop criteria-"triggers" for drought related actions. Improve accuracy of water supply forecasts. 	



	DROUGHT		
 Planting "cover crops," such as oats, wheat, and buckwheat, to prevent soil erosion. Increase Capability: 		0	Provide incentives to influence active water conservation techniques such as water user rate reductions.
 Practice active water conservation techniques. 		0	Consider providing incentives to property owners that utilize drought
 Seek ways to operate wells in such a way to enhance their functional longevity and supply capability. 		0	resistant landscapes in the design of their homes. Use of water buffalo tankers.
		0	Promote well usage techniques that strive to enhance functional longevity and supply capability of private water supply wells.
		0	Develop an ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling
			swimming pools, etc.



EARTHQUAKE CONTROL OF THE PROPERTY OF THE PROP			
Personal Scale	Corporate Scale	Government Scale	
 Manipulate the Hazard: None Reduce exposure to the hazard: Locate outside of hazard area (off soft soils). Reduce vulnerability to the hazard: Retrofit structure (anchor house structure to foundation). Secure household items that can cause injury or damage such as water heaters, bookcases, and other appliances. Build to higher design standards. Increase Capability: Practice "drop, cover and hold" Develop household mitigation plan, such as creating a retrofit savings account, communication capability with outside, 72 hr. self-sufficiency during an event. Increase capability by having cash reserves for reconstruction. Become informed on the hazard and risk reduction alternatives available. Develop a post-disaster action plan for your household. 	 Manipulate the Hazard: None Reduce exposure to the hazard: Locate/relocate mission critical functions outside hazard area where possible. Reduce vulnerability to the hazard: Build redundancy for critical functions/facilities. Retrofit critical buildings/areas housing mission critical functions. Increase Capability: Adopt higher standard for new construction Consider "performance-based design' when building new structures. Increase capability by having cash reserves for reconstruction. Inform your employees on the possible impacts of earthquake and how to deal with them at your work facility. Develop a Continuity of Operations Plan (COOP). 	 Manipulate the Hazard: None Reduce exposure to the hazard: 	



	EARTHQUAKE	
Personal Scale	Corporate Scale	Government Scale
		buildings for mitigation
		opportunities.
		 Develop a post disaster action plan
		that includes a grant funding and
		debris removal components.
		 Utilize warning systems.
		 Educate builders and developers
		on seismic construction standards.



	EXTREME TEMPERATURE	
Personal Scale	Corporate Scale	Government Scale
 Manipulate the Hazard: Increase tree plantings Installation of green roofs to provide shade and remove heat Use cool roofing products that reflect sunlight and heat away from a building Reduce exposure to the hazard: None Retrofit pipes including locating water pipes on the inside of building insulation or keeping them out of vulnerable spaces to extreme cold Increase Capability: None 	 Manipulate the Hazard: Increase tree plantings Installation of green roofs to provide shade and remove heat Use cool roofing products that reflect sunlight and heat away from a building Reduce exposure to the hazard: None Retrofit pipes including locating water pipes on the inside of building insulation or keeping them out of vulnerable spaces to extreme cold Increase Capability: Set rules restricting outdoor work during extreme temperature events 	 Manipulate the Hazard: Increase tree plantings Encourage installation of green roofs to provide shade and remove heat Encourage the use of cool roofing products that reflect sunlight and heat away from a building Reduce exposure to the hazard: None Reduce vulnerability to the hazard: Require minimum temperatures in housing/landlord codes Increase Capability: Educate citizens regarding the dangers of extreme heat and cold and the steps they can take to protect themselves when extreme temperatures occur Establish warming and cooling centers Establish extreme temperature planning in emergency operation plans Create a database to track those individuals at high risk of death such as the elderly, homeless, etc.



	FLOOD	
Personal Scale	Corporate Scale	Government Scale
 Manipulate the Hazard: Clear stormwater drains and culverts Reduce exposure to the hazard: Locate or re-locate outside of hazard area Institute low impact development techniques on property Reduce vulnerability to the hazard: Retrofit existing structures and utilities above Base Flood Elevation (BFE) Floodproof existing structures (wet- or dry floodproofing). Store hazardous materials above BFE or outside of floodprone areas Increase Capability: Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72-hr. self-sufficiency during and after an event Buy flood insurance 	 Manipulate the Hazard: Clear stormwater drains and culverts Reduce exposure to the hazard: 	 Manipulate the Hazard: Clear stormwater drains and culverts Dredging, levee construction, providing retention areas. Structural flood control: levee's, dams, channelization, revetments. Construct regional stormwater control facilities Lead and develop a county-wide stream clearing strategy including the development of thresholds for response/action. Reduce exposure to the hazard: Locate/re-locate critical facilities outside of hazard area Acquire or relocate identified repetitive loss properties. Promote open space uses in identified high hazard areas via techniques such as: PUD's, easements, setbacks, greenways, sensitive area tracks. Adopt land development criteria such as PUD's, Density transfers, clustering Institute low impact development techniques on property Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff Pass an ordinance to incorporate additional zoning classifications into flood zones within each municipality. Increase floodplain standards within municipal ordinances and include provisions for enforcing best practice standards Consider increasing minimum freeboard beyond 1' freeboard state requirement Continue development application reviews by County Planning Board to reduce risky development practices. Reduce vulnerability to the hazard:



FLOOD	
Personal Scale Corporate Scale	Government Scale
Personal Scale Gui purate Scale	 Harden structures and infrastructure (wet and dry-floodproofing) Provide redundancy for critical functions and infrastructure Adopt appropriate regulatory standards such as cumulative substantial improvement/damage, freeboard, lower substantial damage threshold, compensatory storage. Stormwater management regulations and master planning. Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on down-stream communities. Participate in the Community Rating System (CRS) Implement as-built regulatory requirements Implement site review ordinances/requirements Establish stream maintenance programs with stakeholders (e.g. Soil and Water Conservation District) - support county leads of such efforts Incorporate retrofitting/replacement of critical facilities and infrastructure in Capital Improvement Plans (CIPs) Promote the use of vegetation/plants as green erosion control measures to reduce localized flooding. Work with environmental groups to address removal of debris, log jams, etc. in flood vulnerable stream sections Increase Capability Produce better hazard maps, and improve access to flood hazard mapping Capture/survey "high-water" marks during flood events.



on appropriate mitigation options available to businesses and homeowners Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information) Establish an additional layer of zoning within flood hazard areas Develop strategy to take advantage of post disaster opportunities Improve compliance with and enforcement of the NFIP Develop mitigation partnerships with regional stakeholders Join Community Rating System (CRS) program, or improve level of participation in CRS Develop and implement a public information strategy for flood hazard awareness, flood insurance (NFIP) and mitigation Maintain existing data as well as gather new data needed to define risks and vulnerability. Create a building and elevation inventory of structures in the floodplain I dentify flood prone areas that may be in need of new flood studies Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g. elevations, relocations) Charge a hazard mitigation fee on all new		FLOOD	
on appropriate mitigation options available to businesses and homeowners Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information) Establish an additional layer of zoning within flood hazard areas Develop strategy to take advantage of post disaster opportunities Improve compliance with and enforcement of the NFIP Develop mitigation partnerships with regional stakeholders Join Community Rating System (CRS) program, or improve level of participation in CRS Develop and implement a public information strategy for flood hazard awareness, flood insurance (NFIP) and mitigation Maintain existing data as well as gather new data needed to define risks and vulnerability. Create a building and elevation inventory of structures in the floodplain I dentify flood prone areas that may be in need of new flood studies Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g. elevations, relocations) Charge a hazard mitigation fee on all new	Personal Scale	Corporate Scale	
funding source for initiatives or grant cost share requirements. o Integrate floodplain management policies	Personal Scale		 Provide technical information and guidance on appropriate mitigation options available to businesses and homeowners Enact tools to help manage development in hazard areas (stronger controls, tax incentives, information) Establish an additional layer of zoning within flood hazard areas Develop strategy to take advantage of post disaster opportunities Improve compliance with and enforcement of the NFIP Develop mitigation partnerships with regional stakeholders Join Community Rating System (CRS) program, or improve level of participation in CRS Develop and implement a public information strategy for flood hazard awareness, flood insurance (NFIP) and mitigation Maintain existing data as well as gather new data needed to define risks and vulnerability. Create a building and elevation inventory of structures in the floodplain Identify flood prone areas that may be in need of new flood studies Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g. elevations, relocations) Charge a hazard mitigation fee on all new permits to create a hazard mitigation funding source for initiatives or grant cost share requirements.



	FLOOD	
Personal Scale	Corporate Scale	Government Scale
		 Establish incentives to promote flood hazard mitigation of private property (e.g. permit fee waivers). Adopt ordinances/standards for cumulative damages and/or improvements Upgrade NFIP Floodplain ordinance, as well as other ordinances to current or above current state and federal standards. Develop and adopt a COOP Join "Storm Ready" Program Participate in county and regional training programs Provide additional training/certification to NFIP floodplain administrators and code officials. Implement annual training to account for turnover of municipal officials. Maintain and enhance flood forecasting ability, including the establishment and maintenance of critical stream gages Explore grant funding opportunities and potential partnerships to help maintain existing gages and install additional gages to improve forecasting and flood warning ability. Promote awareness and participation in alert systems Support and participate in regional flood management efforts Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones. Provide continued and enhanced training for emergency responders Establish a revolving "bank" or budget line item to fund grant application support Continue to review updated Flood Insurance Rate Maps to ensure accuracy as well as maintaining lines of communication with homeowners to make them aware of



FLOOD		
Personal Scale	Corporate Scale	Government Scale
		 potential changes related to their property status. Provide trainings for FPA's on the NFIP/Floodplain Best Practices and also pursue CFM accreditation for municipal FPA's. Build and maintain relationships to develop regional watershed/floodplain mitigation solutions. Pursue grant funding opportunities to fund repairs of catchments and infrastructure on a proactive basis. Explore grant funding opportunities related to climate change to fund mitigation projects.



	SEVERE STORM	
Personal Scale	Corporate Scale	Government Scale
Manipulate the Hazard: None Reduce exposure to the hazard: None Reduce vulnerability to the hazard: Retrofit structures (improved roofing, glazing, insulation, etc.) Provide for redundant heat and power Contact municipality or utilities to trim or remove trees that could affect power lines Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation Program. Increase Capability: Improve awareness of impending severe weather (e.g. obtain a NOAA weather radio) Promote 72-hour self-sufficiency Provide for redundant heat and power	Manipulate the Hazard: None Reduce exposure to the hazard: None Reduce vulnerability to the hazard: Relocate critical infrastructure, such as power lines, underground Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations. Increase Capability: Contact municipality or utilities to trim or remove trees that could affect power lines Create redundancy (e.g. backup generators) Improve awareness of impending severe weather (e.g. obtain a NOAA weather radio) Develop a Continuity of Operations Plan (COOP) Monitor impending storm events so that you can release employees in such a manner as to not negatively impact emergency response personnel/services.	Manipulate the Hazard: None Reduce exposure to the hazard: None Reduce vulnerability to the hazard: Harden infrastructure such as locating utilities underground. Trimming trees back from power lines Designate and strengthen critical road sections and bridges. Adopt ordinances that regulate the type and quantity of trees planted near utility lines Relocate critical infrastructure, such as power lines, underground Increase Capability: Support programs such as "Tree Watch" that proactively manage problem areas by use of selective removal of hazardous trees, tree replacement, etc. Enforce building codes Increase communication alternatives Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors. Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines Promote awareness and participation in alert systems Provide NOAA weather radios to the public Create/Enhance "mutual aid" agreements for response to all emergencies



	SEVERE STORM	
Personal Scale	Corporate Scale	Government Scale
		 Create/identify evacuation routes to be utilized during severe storm events.
		Develop debris management plans.Join "Storm-Ready" program
		 Provide early warning of impending severe storm events to identified critical or essential facilities. This would include facilities such as large employments centers, schools, hospitals
		 Promote emergency power supplies to private property.
		 Improve, expand or harden communications facilities and services
		 Recruit additional emergency personnel or use mutual aid agreements
		 Increase sheltering capabilities
		 Increase capability to respond to power outages and downed power lines. Establish partnerships with utility providers through pro-active planning.



SEVERE WINTER STORM	
Personal Scale Corporate Scale	Government Scale
 Manipulate the Hazard: None Reduce exposure to the hazard: Plant appropriate trees near home Manipulate the Hazard: None Reduce exposure to the hazard: None 	 Manipulate the Hazard: None Reduce exposure to the hazard: None Reduce vulnerability to the hazard: Harden infrastructure such as locating utilities underground where appropriate. Trimming trees back from power lines Designate snow routes and strengthen critical road sections and bridges. Adopt codes and regulations that address the issues of parking of vehicles along roadways during severe weather events. Develop or enhance the capacity/capability of stormwater conveyance systems. Provide backup power sources at vital critical facilities.



	SEVERE WINTER STORM	
Personal Scale	Corporate Scale	Government Scale
		appropriate planting near overhead power, cable, and phone lines Provide weather radios to
		 Provide weather radios to vulnerable populations Enhance public awareness
		campaigns to address those issues of alert and warning and actions to take during severe weather events.
		 Utilize the best available technology to enhance the warning systems for all severe weather events (i.e.: tornado warning systems).
		 Coordinate severe weather warning capabilities and the dissemination of warning amongst those agencies within the planning are with the highest degree of capability.
		 Encourage local ordinances for planting tree near lines and join Tree City USA.
		 Increase tree management programs.
		Join the Community Rating SystemJoin "Storm-Ready"
		 Retrofit critical structures and promote hazard resistant construction
		 Keep open communications and education of hazards for mobile home communities
		 Retrofit above-ground utilities to underground facilities if appropriate
		 Create a salt reserve or research alternates to stretch salt reserve.
		 Ensure accessibility to hospitals. Provide better debris logistics and removal.
		Provide better communication systems and back-up communication systems to inform



SEVERE WINTER STORM		
Personal Scale	Corporate Scale	Government Scale
		public of hazards and to
		communicate during the hazard
		event.



	WILDFIRE	
Personal Scale	Corporate Scale	Government Scale
 Manipulate the Hazard: Clear potential fuels on property; dry, overgrown underbrush; diseased trees Reduce exposure to the hazard: Clean and maintain defensible space around structures Locate outside hazard area Mow regularly Reduce vulnerability to the hazard: Create and maintain defensible space around structures, provide water on site. Use fire-retardant building materials Create defensible spaces around your home. Increase Capability: Employ Firewise techniques to safeguard your home Identify alternative water supply points proximate to your home such as swimming pools, lakes, streams Support your local fire department Be aware of weather conditions that support/enhance the probability of wildfires 	 Manipulate the Hazard: None Reduce exposure to the hazard: None Reduce vulnerability to the hazard:	Manipulate the Hazard: None Reduce exposure to the hazard: Clear fuels (dry underbrush, diseased trees) on land that can trigger and maintain wildfires Implement Best Management Practices on public lands Reduce vulnerability to the hazard: Create and maintain defensible space around structure and infrastructure Higher regulatory standards Establish water main supply and hydrants in unhydranted areas Decrease hydrant spacing Increase Capability: Public outreach and education efforts Identify fire response and alternative evacuation routes Seek alternative water supplies in urban wildland interface areas. Become a "Firewise" community Increase capability to fight wildfires utilizing equipment that can support wildfire fighting such as: tankers, engines with "pump-and-run" capabilities, dump tanks for tanker shuttle operations. Develop and implement wildfire management plans. Establish Mutual Aid Agreements with the Tender Task Force