

JURISDICTIONAL ANNEX 1.2.1: ULSTER COUNTY

Please fill in the contact details for the person filling in this page:	
Name:	Art Snyder
Title:	Director EC/EM
Representing:	ULSTER COUNTY
Email:	asny@co.ulster.ny.us
Phone:	845-331-7000

Local Jurisdiction Role/Position	Name	Email	Phone	Date Notified About Mitigation Plan Development Process	Agreed to participate? (Yes/No)
Land Use/ Community Planner	Dennis Doyle	dboy@co.ulster.ny.us	845-340-3339	8/21/2013	Yes
Emergency Manager	Art Snyder	asny@co.ulster.ny.us	845-331-7000	3/23/2012	Yes
Floodplain Manager/ Floodplain Administrator	N/A- the County itself does not participate in the NFIP				
Public Works Director / City Engineer	Brendan Masterson	bmas@co.ulster.ny.us	845-340-3123	8/21/2013	Yes
Building Code Official	Diane Beitel	dbei@co.ulster.ny.us	845-340-3414	8/21/2013	Yes
Fiscal/Budget Officer	Burton Gulnick, Jr.	bgul@co.ulster.ny.us	845-340-3460	1/23/2013	Yes
Manager/Administrator	Robert Sudlow	rsud@co.ulster.ny.us	845-340-3800	3/23/2012	Yes
Elected Officials	Dean Fabiano/Richard Parete	fabianordist4@yahoo.com rparete@verizon.net	845-340-3900	1/22/2013	Yes
Deputy OEM Director	Steve Peterson	spet@co.ulster.ny.us	845-331-7000	3/23/2012	Yes
Environmental Coordinator	Amanda La Valle	alav@co.ulster.ny.us	845-338-7455	8/21/2013	Yes
Other 3:					



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

Worksheet #3

Performing an assessment of Land Uses and Development Trends is one step of a FEMA-approved hazard mitigation plan update. This look into the future is important because development in hazard areas could put more assets at risk and, in turn, could work to increase potential disaster-related damages at a time when the mitigation plan's purpose is to reduce the potential for damages emanating from natural disasters. Land uses and development trends are based on the construction of new buildings, demolition of old buildings, or the planning, zoning or subdivision of new areas for development. A stagnant or decreasing population alone is not reason for stating that no development has occurred unless backed up by a lack of development.

An evaluation of land uses and development trends was undertaken by each participating jurisdiction as part of the development of the initial plan. Excerpts from the 2009 Plan's Land Uses and Development Trends section are included in the pages to follow, documenting your community's prior feedback. Please review your community's feedback shown in the table on the pages to follow, and identify any changes that have occurred since that time. Feedback should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

Please check box A or B below.

- ☐ A) I certify that I have reviewed my community's feedback from the 2009 Land Uses and Development Trends assessment and that all information previously provided is still current. *(If checking box A, then please return only this cover page.)*
- ☒ B) I certify that I have reviewed my community's feedback from the 2009 Land Uses and Development Trends assessment and that any information that has changed since that time is clearly shown on the attached markup. Any supporting comments I would like to note are indicated in the lines below. *(If checking box B, then please return this completed cover page and any pages with markups.)*

Name: Dennis Doyle

Title: Director,

Representing: Ulster County Planning Department

Email and Phone: ddoy@co.ulster.ny.us 845.340.3339



Local Land Uses and Development Trends

For the initial Plan, Core Planning Group members were asked to provide responses to a Land Uses and Development Trends Questionnaire for the individual jurisdictions. This brief questionnaire consisted of the following two questions:

1. Please describe development trends occurring within your jurisdiction, such as the predominant types of development occurring, location, expected intensity, and pace by land use. While details are preferred, it is ok if your feedback is qualitative and quite general, such as *“high-occupancy, high-density residential development is occurring near the waterfront”*.
2. Does your jurisdiction enforce regulations/ordinances/codes to protect new development from the effects of natural hazards? (Some examples might be floodplain management ordinances enforcing FEMA’s NFIP for new development or substantial improvements in the floodplain; steep slope ordinances for community’s which may have landslide hazards; earthquake resistant design criteria and/or high wind design criteria; or buffer zones in wildfire hazard areas.) If so, please describe.

Responses to these two questions, as submitted by each jurisdiction, are presented in the following table (as copied directly from the 2009 Approved Plan).



Table 3d.6
Summary of Responses - Land Uses and Development Trends Worksheet – 2009 Approved Plan
(Source: Core Planning Group Members)

Community	1. Land Uses and Development Trends in Hazard Areas	2. Regulations/Codes/Ordinances To Protect New Development From Natural Hazards
Ulster, County of	<p>The County is making extensive efforts to support agriculture while at the same time encouraging industrial development in defined areas. Simultaneously, several large housing projects have been proposed for the area.</p> <p>>Agriculture- Farming has a long rich history in Ulster County which is being threatened by residential development. Family farms that have for generations been the predominant land use within many communities are being replaced with housing developments. Ulster County is working to preserve several agriculture districts in the various fertile valleys of the County. <u>Significant portions of the floodplains of the Rondout and Esopus stream valleys are in agriculture. Losses of both lands from erosion and crops occur during heavy flooding.</u></p> <p>>Industrial development- Several areas of the County have been identified as potential “shovel-ready” candidates. The areas that are being touted as potential manufacturing/ industrial sites are the Tech City complex in the Town of Ulster, the <u>Saugerties Kings Highway District and Kingston Business Park in the City of Kingston. Other sites with and a few other (primarily existing) sites that have water, sewer and roadways that can support expanded business use including South Putt Corners Road in New Paltz and Business Parks along Route 9w in Lloyd.</u></p> <p>Tourism Development – Several major resort developments are moving toward approvals and likely to be constructed in the next few years. These include Williams Lake Hotel in Rosendale, the Bellaryre Resort in Shandaken. These resort presents challenges in design and implementation as they are located in heavily wooded areas and some section of the resorts are on steep slopes. Wildfires are of concern as are heavy thunderstorms that can overload stormwater systems. These represent a trend to reach the upscale market from New York Metro Area. Others, not located in hazard</p>	<p>Mostany of the land use regulations/ ordinances are implemented at the local level through <u>local governing bodies and the planning and zoning boards. Town Planning and Zoning Boards. In general, eEvery municipality in the county does participates in the National Flood Insurance Protection Program. <u>Flood mapping has been updated in all municipalities with new topographic information and detailed flood maps are available in the NYC Watershed towns, and eEvery municipality enforcesthese the NYS Uniform Fire and Prevention & Building Code. <u>Communities are much more aware of risks associated with flooding and have responded by restricting uses and reducing density in flood prone areas. In addition, some communities now restrict development in areas where access is across a floodplain and cannot be elevated above it. Additionally, seven towns have adopted steep slope ordinances for slopes greater than 15-20%. <u>Dangers associated with wildfires are addressed during individual site reviews however, few regulations or guidelines are in place to assist local boards.</u></u></u></u></p> <p>The Ulster County Planning Board is responsible for the review of local site plans, special permits, variances, comprehensive plans and zoning amendments. However, a local town planning board may take action contrary to the recommendations made by the County Planning Board by a majority plus one vote.</p>



Table 3d.6
Summary of Responses - Land Uses and Development Trends Worksheet – 2009 Approved Plan
(Source: Core Planning Group Members)

Community	1. Land Uses and Development Trends in Hazard Areas	2. Regulations/Codes/Ordinances To Protect New Development From Natural Hazards
	<p>areas are the <u>Wine Village in Highland and Diamond Mills in Saugeries and hotels in New Paltz and Ulster. Waterfront development has occurred in Kingston however these use existing historic buildings and recognize that flooding will occur.</u></p> <p>Since tourism has been identified as an extremely important industry in Ulster County, efforts are being made to protect open spaces, scenic vistas, historical areas and existing recreational/tourist destinations.</p> <p>>Housing- The several large housing projects that are planned in including those in Kingston and Gardiner have avoided hazard areas. The biggest trend that continues although abated is rural housing development in wooded areas that increases the risk of wildfires and access associated with flooded roads. Several large housing projects have been proposed in the vicinity of the City of Kingston primarily along the Hudson River. The Crossroads Ventures resorts project in Shandaken also will result in significant changes in density and the landscape of the western portion of the county. While these mega projects have been held up in the regulatory/ SEQRA process (in some cases for years already), other major housing projects have been pulled from consideration in large part due to community opposition. Mid size projects and the proliferation of "McMansions" continues throughout the county, especially in southern areas.</p>	
Denning, Town of	<i>Response was not received in 2009.</i>	<i>Response was not received in 2009.</i>



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

Worksheet #4

Performing a Capability Assessment is one step of a FEMA-approved hazard mitigation plan update. A mitigation planning Capability Assessment consists of taking an in-depth look at community mechanisms (such as plans, codes, ordinances, staffing, etc.) that can affect hazard mitigation activities. Performing the Capability Assessment helps communities identify the regulatory, administrative, technical, and fiscal capacities and capabilities of their jurisdiction and consider ways that these tools can be used to further hazard mitigation and disaster resiliency goals. Capability Assessments were undertaken by each participating jurisdiction as part of the development of the initial plan. Excerpts from the 2009 Plan's Capability Assessment section are included in the pages to follow, documenting your community's prior feedback.

First, review your community's feedback shown in the three tables attached, and clearly provide markups to identify any changes that have occurred since that time. Also, complete the highlighted columns which have been added since the plan was last prepared. Check box A or B. (Note: Municipalities whose rows are blank did not submit responses in 2009, and must do so now.)

- ☐ **A) I certify that I have reviewed my community's feedback from the 2009 Capability Assessment and that all information previously provided is still current. I have also completed new columns, as highlighted in yellow.**
- ☒ **B) I certify that I have reviewed my community's feedback from the 2009 Capability Assessment and that I have updated any information that has changed since that time (as shown on the attached markup). Any supporting comments I would like to note are indicated in the lines below. I have also completed new columns, as highlighted in yellow.**
-
-

Then, review and answer the supplemental questions on the last page, and check box C.

X C) I have completed responses to the supplemental questions on Page 6.

Completed worksheets should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

Name: _Steve Peterson

Title: _Director

Representing: Ulster County Emergency Communications / Emergency Management

Email and Phone: spet@co.ulser.ny.us 845 331.7000

Legal and Regulatory Capability -

Table 4-1
Legal and Regulatory Capability Inventory

Jurisdiction	Building Code	Zoning Ordinance	Subdivision Ordinance	Special Purposes Ordinance	Growth Management Ordinance	Site Plan Review Requirements	Comprehensive Plan	Capital Improvements Plan	Economic Development Plan	Emergency Response Plan	Post-Disaster Recovery Plan	Post-Disaster Recovery Ordinance	Real Estate Disclosure Ordinance	Evacuation Plan
Ulster County							√	√	√	√				x
Denning, Town of														
Ellenville, Village of														
Esopus, Town of														
Gardiner, Town of	√	√	√	√	√	√	√	√	√	√	√			
Hardenburgh, Town of														
Hurley, Town of	√	√	√	√		√	√			√	√			
Kingston, City of	√	√	√	√		√	√	√	√	√	√			
Kingston, Town of	√	√	√	√		√								
Lloyd, Town of	√	√	√	√	√	√	√			√				
Marbletown, Town of														
Marlborough, Town of	√	√	√	√	√	√	√	√	√	√	√	√		
New Paltz, Town of														
New Paltz, Village of	√	√	√			√	√			√				
Olive, Town of														
Plattekill, Town of														
Rochester, Town of														
Rosendale, Town of														
Saugerties, Town of														
Saugerties, Village of														
Shandaken, Town of	√	√	√	√		√	√			√				
Shawangunk, Town of														
Ulster, Town of	√	√	√	√		√	√			√				
Wawarsing, Town of														
Woodstock, Town of														

Administrative and Technical Capacity

Table 4-2 Administrative and Technical Capability Inventory														
Jurisdiction	Planner(s) with knowledge of land development and management practices	Engineer(s) with knowledge of land development and management practices	Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Planner(s) or Engineer(s) with an understanding of natural and/or human caused hazards	Floodplain manager	Surveyors	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in GIS and/or HAZUS	Scientists familiar with the hazards of the community	Emergency Manager	Grant writers	Code Enforcement Official	Public Works or Highway Superintendent	Emergency Management Coordinator
Ulster County	X	X	✓	✓		✓	✓	✓		✓	✓		X	X
Denning, Town of														
Ellenville, Village of														
Esopus, Town of														
Gardiner, Town of			✓	✓	✓		✓			✓	✓			
Hardenburgh, Town of														
Hurley, Town of			✓	✓										
Kingston, City of			✓	✓	✓		✓			✓	✓			
Kingston, Town of			✓		✓			✓		✓	✓			
Lloyd, Town of				✓	✓		✓	✓						
Marbletown, Town of														
Marlborough, Town of			✓	✓	✓	✓	✓	✓		✓	✓			
New Paltz, Town of														
New Paltz, Village of			✓	✓	✓	✓	✓			✓	✓			
Olive, Town of														
Plattekill, Town of														
Rochester, Town of														
Rosendale, Town of														
Saugerties, Town of														

Table 4-2 Administrative and Technical Capability Inventory														
Jurisdiction	Planner(s) with knowledge of land development and management practices	Engineer(s) with knowledge of land development and management practices	Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Planner(s) or Engineer(s) with an understanding of natural and/or human caused hazards	Floodplain manager	Surveyors	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in GIS and/or HAZUS	Scientists familiar with the hazards of the community	Emergency Manager	Grant writers	Code Enforcement Official	Public Works or Highway Superintendent	Emergency Management Coordinator
Saugerties, Village of														
Shandaken, Town of					✓									
Shawangunk, Town of														
Ulster, Town of			✓	✓	✓	✓		✓		✓	✓			
Wawarsing, Town of														
Woodstock, Town of														

Fiscal Capability

**Table 4-3
Fiscal Capability Inventory**

Jurisdiction	Community Development Block Grants (CDBG)	Capital Improvements Project Funding	Authority to Levy Taxes for Specific Purposes	Fees for Water, Sewer, Gas, or Electric Service	Impact Fees for Homebuyers or Developers for New Developments/Homes	Incur Debt through General Obligation Funds	Incur Debt through Special Tax and Revenue Bonds	Incur Debt through Private Activity Bonds	Withhold Spending in Hazard-Prone Areas	Other (i.e., coastal, sustainability, or climate change initiatives; or Brownfield funds)
Ulster County	√	√				√	√			X
Denning, Town of										
Ellenville, Village of										
Esopus, Town of										
Gardiner, Town of		√	√	√		√			√	
Hardenburgh, Town of										
Hurley, Town of			√			√	√	√		
Kingston, City of	√	√	√	√	√	√				
Kingston, Town of	√	√	√	√		√	√			
Lloyd, Town of			√	√	√	√	√		√	
Marbletown, Town of										
Marlborough, Town of	√	√	√	√	√	√	√			
New Paltz, Town of										
New Paltz, Village of		√	√	√	√	√				
Olive, Town of										
Plattekill, Town of										
Rochester, Town of										
Rosendale, Town of										
Saugerties, Town of										
Saugerties, Village of										
Shandaken, Town of				√						
Shawangunk, Town of										
Ulster, Town of	√	√	√	√		√	√			
Wawarsing, Town of										
Woodstock, Town of										

Municipality County of Ulster

<p>Would you classify your community's <u>legal and regulatory</u> capability to implement hazard mitigation strategies as high, moderate, or low?</p>	<p>Would you classify your community's overall <u>technical</u> capability to implement hazard mitigation strategies as high, moderate, or low?</p>	<p>Would you classify your community's overall <u>fiscal</u> capability to implement hazard mitigation strategies as high, moderate, or low?</p>	<p>Would you classify your community's overall <u>administrative</u> capability to implement hazard mitigation strategies as high, moderate, or low?</p>	<p>Would you classify your political leadership's willingness to enact policies and programs that reduce hazard vulnerabilities in your community as high, moderate, or low - even if met with opposition? (i.e., guiding development away from identified hazard areas)?</p>
Moderate	High	Low	High	High
<p>Discuss ways of bridging identified gaps in your local capabilities to ensure that they are in-line with your mitigation actions and goals.</p>				

WORKSHEET 5 - STATUS OF PAST PROJECTS

Jurisdiction	Mitigation Action	Previous Priority	Hazard(s) Addressed	Responsible Party/Parties to Implement	Status - Check One			Status Details	Relevance - Check One		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
Ulster County	Provide a General Overview of How Local Priorities May Have Changed Since the Last Version of the Plan: Portions of the County were greatly impacted by flooding 2010, 2011, and 2012 which has elevated disaster preparation and disaster mitigation (in particular) to a heightened level at the County. Priorities seem to be shifting more towards pre-emptive mitigation (see action worksheets) strategies in order to reduce damages from flooding and other disasters. Examples of current efforts within the County include residential flood buyout programs, a new \$15M capital program for infrastructure improvements, local flood analysis in four vulnerable mountain communities, as well as a future special flood hazard area buyout and community relocation program for several communities.							If not completed, identify barriers to implementation (i.e., lack of political support, funding, staff availability, etc.) or explain why the action is an ongoing one (i.e., acquisition of hazard prone land for open space can be completed for a given parcel or group of parcels, but there may be many more opportunities in the community and so the activity may be carried forward)			If you checked the box that the project is being carried forward to the updated mitigation strategy, describe if and how it has changed from the 2009 Plan. If you checked the box that the project is being omitted from the updated mitigation strategy, provide a brief explanation.
Ulster County	2.A. Expand and disseminate GIS and other hazard information on the internet.	Medium	All hazard	EC/EM			X	The Ulster County Parcel Viewer (website: http://ulstercountyny.gov/maps/parcel-viewer/) was revamped in 2013 and now includes greater natural hazard information than even before. These layers include: 2013 preliminary FIRMs, adopted FIRMs, previous FEMA Q3 dataset, MSA areas, wetlands, bedrock geology, watershed, etc). The data layers are also updated more regularly than before. Additionally, the GIS Information Services page now has datasets that can be downloaded at no cost (datasets include: 2013 aerial imagery, FEMA National Flood Hazard layer, hydrography, etc)	X		The project has not changed, however the County expects to continue to provide additional natural hazards datasets on the internet as they become available to us from partners (such as NYCDER, NYSDEC) or as we are able to secure grant funding so as to produce critical data for our use and dissemination.
Ulster County	4.D. Continue to implement best management practices for floodplain areas.	High	Flooding	EC/EM			X	This project is an ongoing effort and really instituted through each municipalities floodplain development ordinance. Ulster County has no authority over enforcing floodplain development in its component municipalities, however we often review planning documents and ordinances and make appropriate recommendations.		X	This action is too broad to clearly define. Instead of this action, Ulster County has provided additional actions (such as CRS) that are more specific and more clearly defined. Additionally, many more component municipalities are participating this time and most have projects that address this action.
Ulster County	4.E. Identify and document repetitively flooded properties. Explore mitigation opportunities for repetitively flooded properties, and if necessary, carry out acquisition, relocation, elevation, and flood-proofing measures to protect these properties.	High	Flooding	EC/EM			X	Since 2009, TS Irene, Lee, and Hurricane Sandy have all adversely impacted the County. Currently, the County is in the process of facilitating the buyout of 33 homes and will be involved in a forthcoming (2016) NYC-funded buyout/relocation program specific to 5 municipalities. Additionally, the county now maintains and updates a database in ArcGIS of RL, SRL, and other NFIP claims properties for use and dissemination to towns/villages for planning decisions.	X		It is anticipated that this action will expand over the coming years in that there is more funding available from the State (NY Rising/CDBG-DR, etc), Federal (FEMA HWA, etc), and NYC (watershed buyout/relocation program) for floodprone areas and the County has historically and will likely in the future play a critical role in these efforts as the small townships simply lack the capacity to administer.



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

Worksheet #6

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

For this Plan Update, FEMA requires:

- a summary of each jurisdiction's past progress in plan integration over the last planning cycle; and
- a description of plan integration activities that each jurisdiction expects to undertake over the course of the next planning cycle.

This worksheet has been set up, therefore, into two components with each portion focusing on one of the bullets above.

- Demonstration of Progress over the Last Planning Cycle – In the first component of this worksheet (shaded in blue), we have reiterated the targeted plan integration activities that were included in the last version of the plan (Section 9, beginning on Page 9-4) in a tabular form, and are asking each community to describe their respective accomplishments since the plan was adopted five years ago.
- Targeted Plan Integration Activities for the Next Planning Cycle – Similarly, in the second component of this worksheet (shaded in yellow), we have outlined a series of plan integration activities for the next five-year planning cycle. Please document to FEMA the manner in which your community will commit to integrate the hazard mitigation plan into your local government operations from this point forward.

Where integration activities are carried out by another jurisdiction through an intergovernmental agreement or by another layer of government (such as the county), please include a note on the bottom of this form and reference the section number on this form that the note is referring too.

Feedback should be returned to URS Project Manager Anna Foley at anna.foley@urs.com. If you have questions or need help, please email Anna or give her a call at 973-883-8562.

Name: Steve Peterson

Title: Director

Representing: Ulster County Emergency Communications / Emergency Management

Email and Phone: spet@co.ulster.ny.us 845 331.7000

DEMONSTRATION OF PAST PROGRESS OVER THE LAST PLANNING CYCLE

Please check all activities that your municipality has undertaken over the last five years.

1. Check here if you (or your predecessor on the CPG) issued a letter to each of your community's department heads to solicit their support and explore opportunities for integrating hazard mitigation planning objectives into their daily activities?	X
2. Check here if you (or your predecessor on the CPG) worked with your planning department to educate them on the Hazard Mitigation Plan and encourage that on the next update of your master plan, general or comprehensive plan, hazard mitigation for natural hazards is addressed. Please describe your coordination efforts in the space below.	
B. Check here if your municipality does not have a master, general, or comprehensive plan.	
C. Check here if your master, general or comprehensive was updated since 2009.	X
D. If you checked box 2C, please check here if natural hazard risk/mitigation was incorporated into the updated document, and describe how in the space below.	X
<p>The County must update its Multi-Jurisdictional Hazard Mitigation plan and encourage 100% participation by the municipalities of the County. Mitigation opportunities should focus on flooding and flood prone areas. The number one goal should be to protect vulnerable populations by reducing their exposure to flooding. This may be accomplished through acquisitions, elevations or relocation programs, and where proven effective, decreasing flood elevations by stream management techniques and resolving man made hydraulic constrictions. In addition to these reactionary activities, there must be local land use controls and infrastructure investment policies that discourages inappropriate land use and development in flood prone areas. Use of LIDAR, coupled with new hydraulic modeling, and other technologies, should be encouraged to develop more accurate flood plain delineation leading to greater accuracy in predicting expected flood levels, associated damages and prioritization in the use of funding.</p>	

<p>E. If you checked box 2C, please check here if a specific hazard mitigation element was added to the document, and describe in the space below.</p> <p>Encourage continued cooperation with the New York City Department of Environmental Protection. Support the use of the release channel to reduce water levels in the Ashokan Reservoir and explore ways to actively manage the Rondout Reservoir in the same manner. Support adaptive management of the reservoir, including the Operational Support Tool (OST) which allows water supply managers to make operating decisions based upon the most current data and long-range weather forecasts to predict future reservoir levels.</p> <p>The County should also maximize hazard mitigation funding to create a more resilient transportation and public works infrastructure. While engaging in these major public works projects, it is critical to utilize a science based approach to stream management. Factors such as climate change must be considered in siting and potentially relocating critical infrastructure such as water and sewer facilities.</p>	<p>X</p>
<p>3. Check here if you (or your predecessor on the CPG) coordinated with your building department to ensure that they have adopted and are enforcing the minimum standards established in the current State-adopted IBC. Please describe your coordination efforts in the space below.</p>	
<p>4. A. If your community participates in the NFIP and was only enforcing minimum requirements at the time of the first plan's adoption, check here if you (or your predecessor on the CPG) coordinated with your Floodplain Administrator to determine if enforcement beyond FEMA minimum requirements would be prudent for your community. Please describe your coordination efforts in the space below.</p>	
<p>B. Check here if your community was already enforcing regulations beyond FEMA minimum requirements.</p>	
<p>C. Briefly explain here what is currently being enforced beyond FEMA minimum requirements.</p>	
<p>D. Check here if your community has maintained its participation in the NFIP's Community Rating System (CRS).</p>	
<p>E. Check here if your community has joined the CRS since 2009.</p>	

F. Check here if your community has dropped out of the CRS since 2009.		
5. A. Check here if your community has a local zoning ordinance. B. Check here if you (or your predecessor on the CPG) worked with your local zoning board to educate them on the Hazard Mitigation Plan and encourage consideration of low occupancy, low-density zoning in hazard areas, when practicable. Please describe your coordination efforts in the space below.		
6. A. Check here if any job descriptions were revised to include mitigation-related duties to further institutionalize mitigation. B. If so, describe.		X
7. A. Check here if capital or operating budgets were revised to include a line item for mitigation project funding. B. Check here if capital or operating budgets already included this when the plan was first adopted.		
8. A. Check here if your Department of Public Works has adopted more rigorous procedures for inspecting and cleaning debris from streams and ditches (i.e., more frequently). B. If so, describe.		X
Ulster County DPW has instituted a plan that whenever there is work to be done, such as a paving project, they clean all ditch lines, inspect all culvert pipes and drainage areas to ensure that they are sufficient.		
9. A. Check here if your Planning Department has added hazard vulnerability to subdivision and site plan review criteria. B. If so, describe.		
10. (NOTE: A response to #10 is only required for UCECEM; all municipalities, please leave blank) Check here if UCECEM sought to identify a community conservation society or other interested voluntary organization to perform inventories of historic sites in hazard areas that might require special treatment to protect them from specific hazards. B. If so, describe.		
11. Check here if your community has reached out to partner groups in the community (i.e., nonprofit organizations, businesses, etc.) to identify those who may be willing to donate goods or services and create a database of contact information and indicated goods/services. B. If so, describe.		X
Ulster County has developed a Disaster Response and Recovery Committee. This committee is comprised of nonprofit organizations that are ready to assist during times of disaster. They have created a database of		

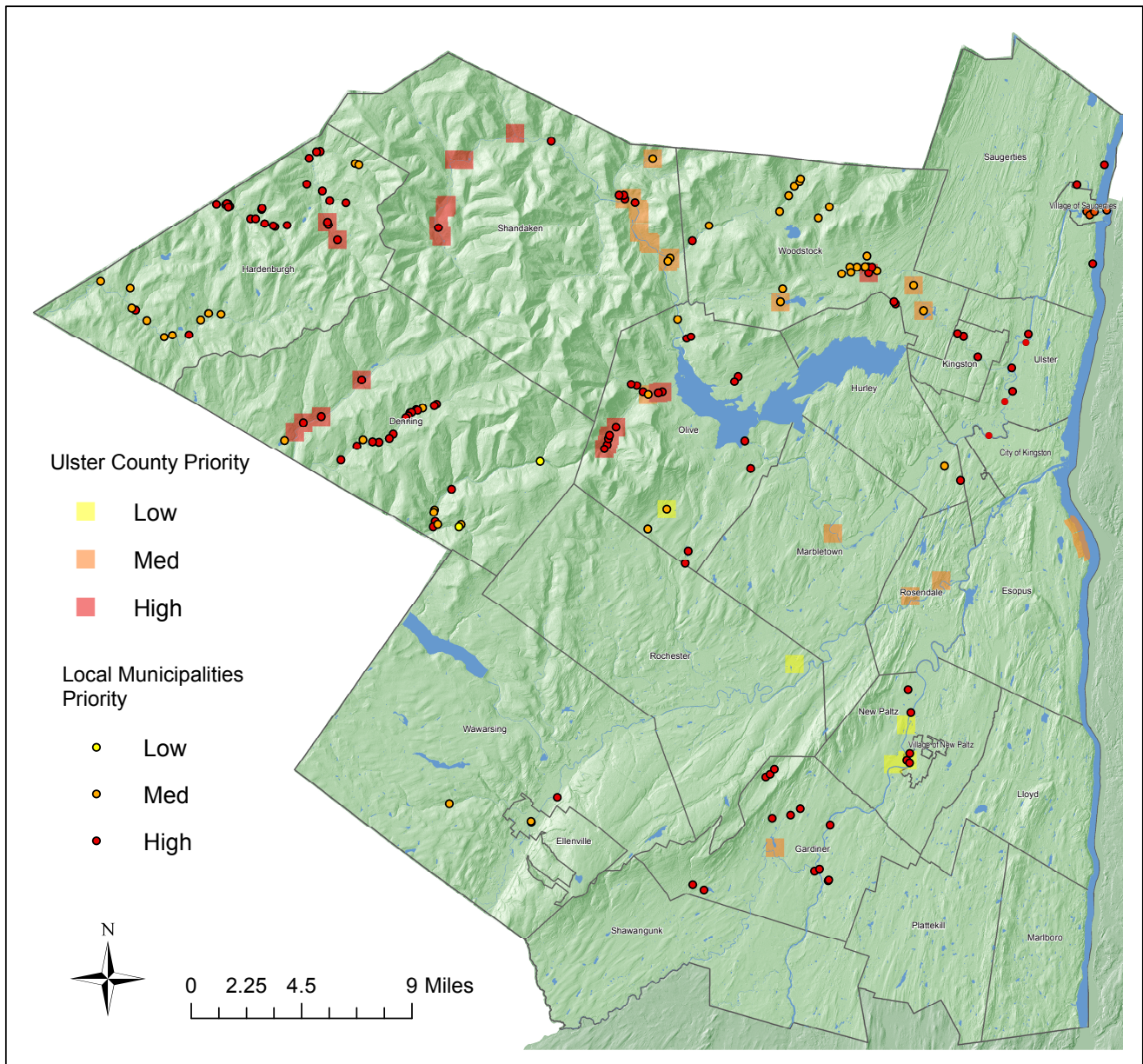
<p>where to obtain goods and services and meet on a monthly basis. This committee also consists of members from Faith Based Organizations.</p>	
<p>12. Check here if your community has actively sought citizen volunteers to help implement mitigation programs and activities.</p>	
<p>B. If so, please describe.</p>	
<p>13. A. (NOTE: A response to #13A is only required for UCECEM; all municipalities, please leave blank) Check here if a list was compiled of state agencies that can lend their time, expertise and funds to the implementation of hazard mitigation projects.</p>	X
<p>B. (NOTE: A response to #13A is only required for UCECEM; all municipalities, please leave blank) Check here if assistance was provided to participating jurisdictions in reaching out to state agencies for support.</p>	X
<p>C. If A or B was checked, please describe.</p> <p>NYS OEM Region II has been a part of the update to our MJHMP. NYS DOT has offered to assist in any mitigation projects that are approved.</p> <p>Ulster County has offered the opportunity of State Agency Assistance.</p>	
<p>14. A. Check here if your community has reached out to colleges and universities for technical assistance with hazard mitigation activities.</p>	X
<p>B. If so, please describe.</p> <p>Ulster County has included SUNY Ulster and SUNY New Paltz in the update process. As for Technical assistance, it was not required as the County had the means necessary to complete all work.</p>	
<p>15. A. Check here if your community has met at least once with your local library staff members to discuss the mitigation plan so they are well-versed in its purpose and understand where to direct interested parties for more information, to provide feedback, or to become involved.</p>	
<p>B. If so, please describe.</p>	

TARGETED PLAN INTEGRATION ACTIVITIES FOR THE NEXT PLANNING CYCLE

Please check all activities that your municipality is committing to undertake over the next five years.

1. CPG member will issue a letter to each department head to solicit their support and explore opportunities for further integration of hazard mitigation into the daily activities of the community as a whole.	X
2. A. Incorporate hazard mitigation for natural hazards in the next update of your master, general or comprehensive plan.	X
B. Add a specific hazard mitigation element to the next update of your master, general or comprehensive plan.	X
3. Adopt and enforce the minimum building standards established in the current State-adopted IBC	
4. A. Maintain community participation in FEMA's National Flood Insurance Program.	
B. Enforce codes and standards beyond FEMA minimum requirements.	
C. Join (or continue to maintain participation in) the NFIP's Community Rating System.	
5. Steer growth and development away from high risk locations by using the risk assessment from the hazard mitigation plan as a tool to monitor future updates of community land use plans, zoning and subdivision codes and the development review process.	X
6. Modify work plans, policies or procedures to include hazard mitigation concepts/activities.	X
7. Revise job descriptions to include mitigation-related duties to further institutionalize mitigation.	
8. Revise capital or operating budgets to include a line item for mitigation project funding.	
9. Issue directives to require departments/agencies in the community to carry out certain hazard mitigation activities.	X
10. Require the Department of Public Works to inspect and clean debris from streams and ditches more frequently.	X
11. Add hazard vulnerability to subdivision and site plan review criteria.	X
12. Perform inventories of historic sites in hazard areas in your community to identify where special treatment may be needed to protect them from specific natural hazards.	X
13. Reach out to state agencies for assistance with natural hazard mitigation activities.	X
14. Reach out to colleges and universities for technical assistance with natural hazard mitigation activities.	X
15. Adopt (or continue to enforce) a local stormwater management plan/ordinance.	X
16. Protect life and property in high hazard areas by limiting densities of new development.	X
17. Increase resilience by limiting the extension of public infrastructure in high hazard areas.	X
18. Reduce the vulnerability of future development in high hazard areas by reviewing development regulations, and modifying where needed.	X
19. Use the risk assessment to inform future updates of the community emergency operations plan, evacuation plan, and/or post disaster recovery plan.	X
20. Implement hazard mitigation activities through existing plans and policies.	X
21. Sponsor training on best practices for hazard mitigation for local government staff. (Note: this may be accomplished with other local governments.)	X

Proposed Mitigation Actions- Countywide



Ulster County Department of the Environment 2016

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #1 (2009 #2.A.)- Continue to Expand and disseminate GIS and other hazard information on the Internet</i>
Assessing the Risk	
Hazard(s) addressed	<i>all hazards</i>
Risk finding	<i>Ulster County continues to top the State in disaster declarations. By providing the best data available to the public, elected officials, and decision-makers as soon as it becomes available, local land use and other decisions can be made by taking into account the potential hazards for communities using these data. Ultimately, the risks can be reduced if hazard data is available and used preemptively.</i>
Describing the Action	
Action category	<i>public education;</i>
Action type	<i>information dissemination; website enhancements; workshops</i>
Action description	<i>The Ulster County Parcel Viewer (website: http://ulstercountyny.gov/maps/parcel-viewer/) includes natural hazard information. These layers include: 2013 preliminary FIRMs, adopted FIRMs, previous FEMA Q3 dataset, MS4 areas, wetlands, bedrock geology, watershed, etc). Additionally, the GIS Information Services page now has datasets that can be downloaded at no cost (datasets include: 2013 aerial imagery, FEMA National Flood Hazard layer, hydrography, etc). Better data and information - such as DFIRMs, FEMA GeoPlatform for Flood Hazards, NFIP datasets and many other datasets continue to become digitally available. The County will continue to acquire and share this information (via email, website, download, or workshops) with our residents and component municipalities.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Dollar figures for losses avoided are unquantifiable, however and expected to be well in excess of project cost.</i>
Cost estimate	<i>Low. Less than \$25,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are unquantifiable, but anticipated to be in excess of project costs, for a cost-effective project</i>
Technical	<i>Technically feasible.</i>
Political	<i>none;</i>
Legal	<i>none</i>
Environmental	<i>none;</i>

Social	<i>none;</i>
Administrative capability	<i>Ulster County has the staff to administer</i>
Local champion	<i>Ulster County Government</i>
Other community objectives	<i>economic development; natural resource protection</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Comprehensive Emergency Management Plan</i>
Responsible party	<i>Ulster County Environment, Planning, Information Services, and Emergency Management departments</i>
Potential funding sources	<i>Annual budget;</i>
Time line	<i>ongoing</i>
Reporting on Progress	
Action progress status	<i>Carried forward -The project has not changed, however the County expects to continue to provide additional natural hazards datasets on the Internet as they become available to</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #2 (2009 #4.E.) - 'Mitigate Repetitively Flooded Properties</i>
Assessing the Risk	
Hazard(s) addressed	<i>Riverine, Ponding, Tidal and storm-surge related Flooding</i>
Risk finding	<i>Since 2005, the County has participated in three flood buyout programs as flooding risks continue to persist and flood damages impact the well being of the County and its communities. There are currently 189 repetitive loss properties and 13 severe repetitive loss properties in the County.</i>
Describing the Action	
Action category	<i>planning, structural</i>
Action type	<i>relocation, elevations, floodproofing, acquisition</i>
Action description	<i>The County now has a GIS-based dataset of the repetitively flooded properties and those that are likely to flood. We will continue to explore mitigation opportunities for these repetitively flooded properties, and if necessary, carry out acquisition, relocation, elevation, and flood-proofing measures to protect these properties. Several opportunities are on the horizon to complement this undertaking, such as NY Rising/CDBG-DR, FEMA HMA, and NYCDEP-funded flood buyout/relocation programs. The County is likely to play a critical role in these efforts as the small townships simply lack the capacity to administer grant programs. Additionally, the county now maintains and updates a database in ArcGIS of RL, SRL, and other NFIP claims properties for use and dissemination to towns/villages for planning decisions.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Towns will benefit from fewer "at-risk" residents (and emergency responders potentially assisting these residents); there will be NFIP flood claims moving forward; Dollar figures</i>
Cost estimate	<i>High. But less than \$19M. Potentially \$10M. The total NFIP payments for the SRL and RL properties in the County is more than \$19M</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively flooded buildings (that sustain damages) has proven to be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>local municipalities will have to decide what level of commitment they can undertake - issues such as their loss of tax base have to be carefully considered.</i>
Legal	<i>none</i>
Environmental	<i>permits and SHPO, Phase I ESA reviews potentially needed</i>
Social	<i>socioeconomic considerations on a town by town basis</i>
Administrative capability	<i>Ulster County has the staff to administer</i>

Local champion	<i>Ulster County Dept of Environment, Planning Dept, and Emergency Management.</i>
Other community objectives	
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>UC Multi-Jurisdictional Hazard Mitigation Plan; NY Rising Community Reconstruction Program</i>
Responsible party	<i>Ulster County Environment, Planning, and Emergency Management departments</i>
Potential funding sources	<i>NYC Dept of Environmental Protection-funded voluntary Buyout Program; FEMA HMA grants - Hazard Mitigation Grant Program and Flood Mitigation Assistance; HUD's Community Development Block & Disaster Recovery Grants; NY Rising Community Reconstruction Program; NYSDHSES grant programs</i>
Time line	<i>Varies; depends on issues with each property, but usually in excess of 1.5 years for each property</i>
Reporting on Progress	
Action progress status	<i>Carried forward -Since 2009, TS Irene, Lee, and Hurricane Sandy have all adversely impacted the County. Currently, the County is in the process of facilitating the buyout of</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #3 (2009 #7.C) - Construction of Ice Control Structures</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Ice-out on certain rivers in Ulster County ranges from gradual melt-out to dynamic, downstream-progressing breakup events. The latter type can result in ice jams, ice jam flooding and scour of river bed sediment that pose a threat to residents and the environment.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>drainage improvement</i>
Action description	<i>This mitigation project would construct ice control structures such as booms, tension weirs and sloped-block barriers on rivers where ice jams cause localized flooding in populated areas. These rivers include, but are not limited to the Esopus Creek, the Rondout Creek, and the Wallkill River. Further study is needed to determine which community is the highest priority, as well as the most suitable structure at a given location - producing the highest benefit-to-cost ratio, and further analysis on the likeliness of sediment deposition in front of/around proposed structures.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Towns will benefit from fewer properties being flooded during ice-out events. Additionally, emergency responders/services will benefit from avoiding providing assistance to residents.</i>
Cost estimate	<i>High; Greater than \$500,000 but less than \$1M</i>
Cost effectiveness (i.e., benefit/cost)	<i>Cost effective as the action will reduce flood damages to private and municipal properties.</i>
Technical	<i>Technically feasible.</i>
Political	<i>yes, affected communities supportive</i>
Legal	<i>yes</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County in coordination with local municipalities</i>
Local champion	<i>affected local municipalities</i>
Other community objectives	<i>n/a</i>
Implementing the Action	

Priority	<i>Low</i>
Local planning mechanism	
Responsible party	<i>Emergency Management</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program and Pre-Disaster Mitigation; HUD's Community Development Block & Disaster Recovery Grants; NY Rising Community Reconstruction Program; NYSDHSES grant programs</i>
Time line	<i>1 year</i>
Reporting on Progress	
Action progress status	<i>Carried forward -The mitigation strategy has not changed since 2009. As staffing levels have changed, if funding becomes available we plan to implement.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #4 (2009 #10.A) - Map Wildland/Urban Interface Areas</i>
Assessing the Risk	
Hazard(s) addressed	<i>wildfire</i>
Risk finding	<i>These areas, where natural areas and development meet has gained increasing importance in the County as residents - particularly second-homeowners continue to build homes in rural settings adjacent to public or other protected lands. With more than 25% of the land area in the County (nearly 200,000 acres) protected as wild forest land, there is great poe ntial for a widespread forest fire.</i>
Describing the Action	
Action category	<i>planning</i>
Action type	<i>hazard mapping</i>
Action description	<i>In consultation with NYSDEC Forest Protection & Fire Management and local forest rangers, develop mapping of wildland/urban interface areas within the County. Results will be made available to all component municipalities as well as provided as a dataset on the Ulster County Parcel Viewer alongside other hazard mitigation layers.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Town and County emergency managers and planners will benefit from having a better understanding of interface areas and associated risks.</i>
Cost estimate	<i>\$10,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Planning projects are difficult to determine the cost effectiveness of because the level of implemntation (actual reduction of risk) will vary by community.</i>
Technical	<i>Technically feasible.</i>
Political	<i>yes</i>
Legal	<i>yes</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>yes</i>
Local champion	<i>Ulster County Emergency Management</i>
Other community objectives	<i>environmental quality</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>n/a</i>
Responsible party	<i>Ulster County Emergency Management and NYSDEC</i>

Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program and Pre-Disaster Mitigation; NYSDHSES grant programs; NYSDEC Environmental Protection and Improvement grants</i>
Time line	<i>1 year</i>
Reporting on Progress	
Action progress status	<i>Carried forward -The mitigation strategy has not changed since 2009. As staffing levels have changed, if funding becomes available we plan to implement.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #5 (2009 #10.D) - Endorse and Promote Prescribed Burning</i>
Assessing the Risk	
Hazard(s) addressed	<i>wildfire</i>
Risk finding	<i>With more than 25% of the land area in the County (nearly 200,000 acres) protected as wild forest land, there is great potential for a widespread forest fire. A number of small wildfires have already occurred over the last decade.</i>
Describing the Action	
Action category	<i>public education</i>
Action type	<i>policy</i>
Action description	<i>The County will endorse and promote prescribed burning in appropriate areas for hazard reduction.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Town and County emergency managers and planners will benefit from reducing the risk of having a devastating wildfire.</i>
Cost estimate	<i>none</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are unquantifiable, but since there are no fixed costs, the action will be cost-effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>yes</i>
Legal	<i>n/a</i>
Environmental	<i>none</i>
Social	<i>n/a</i>
Administrative capability	<i>yes</i>
Local champion	<i>Ulster County Emergency Management</i>
Other community objectives	<i>environmental quality</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>n/a</i>
Responsible party	<i>Ulster County Emergency Management in coordination with NYSDEC, non-profit land land trusts/forest managers, large private forest landowners, etc</i>
Potential funding sources	<i>n/a; staff time (personnel) already in County budget</i>
Time line	<i>immediate, ongoing</i>
Reporting on Progress	

Action progress status	<i>Carried forward -Since 2009 prescribed burns have been taking place in the Shawangunk Ridge Forest area. This will continue to be the practice, reducing the risk of forest fires.</i>
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Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #6 (2009 #12.B) - Emergency Response Review: Warning Systems & Shelters</i>
Assessing the Risk	
Hazard(s) addressed	<i>all hazards</i>
Risk finding	<i>The risk is that current plans become outdated or non implemented or followed during emergencies if they are not reviewed and maintained by authors and local stakeholders.</i>
Describing the Action	
Action category	<i>planning mechanism, public education</i>
Action type	<i>coordination</i>
Action description	<i>This proposed action will allow Ulster County review existing emergency response plans for enhancement opportunities. Additionally, the County will work with social support agencies, homeowners associations and general public to develop and implement monitoring and warning systems focused on vulnerable populations and provision of adequate shelter facilities. Ulster County continues to review and update our emergency response plans. UC OEM works with the Ulster County Disaster Response and Recovery Committee, a volunteer based organization that is active in response. Part of the responsibility of this committee is to track and update the vulnerable population in the County.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Local municipalities and the County will remain active in updating plans and also become more familiar with their contents, thus making implementation easier when needed.</i>
Cost estimate	<i>Low; staff time really - \$40-50,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are unquantifiable for this type of planning./education project, however over the long term, benefits will be well in excess of the proportionally low project costs</i>
Technical	<i>Technically feasible.</i>
Political	<i>yes</i>
Legal	<i>n/a</i>
Environmental	<i>none</i>
Social	<i>none</i>
Administrative capability	<i>yes</i>
Local champion	<i>Ulster County Emergency Management</i>
Other community objectives	<i>n/a</i>

Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Ulster County Comprehensive Emergency Management Plan</i>
Responsible party	<i>Ulster County Emergency Management in coordination with local municipalities</i>
Potential funding sources	<i>County budget (personnel)</i>
Time line	<i>6 months initially, then ongoing</i>
Reporting on Progress	
Action progress status	<i>Carried forward -This mitigation strategy has not changed since 2009.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #7 (2009 #2.E)- Countywide Hazard Mapping Using HAZUH-MH</i>
Assessing the Risk	
Hazard(s) addressed	<i>floods, hurricane, earthquake</i>
Risk finding	<i>Ulster County continues to top the State in disaster declarations. By providing the best available data (potential loss estimates from physical damage, economic loss, and social impacts) to the public, elected officials, and decision-makers, local land use and other decisions can be made by taking into account true exposure to risks.</i>
Describing the Action	
Action category	<i>public education; planning mechanism</i>
Action type	<i>information dissemination; data development</i>
Action description	<i>Expand GIS capabilities via acquisition of HAZUS-MH to collect and develop more sophisticated hazard mapping by estimating potential losses from disasters. The County will use information to update the hazard mitigation plan as well as to pass along to component municipalities so they are able to update comprehensive plans or hazard mitigation plans/strategies accordingly. The County will also ensure information will be available to the public and to relevant communities and agencies.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Dollar figures for losses avoided are unquantifiable, however and expected to be well in excess of project cost.</i>
Cost estimate	<i>\$10,000; software program is free - staff training on its use will be required as well as production/distribution of information it generates for each municipality</i>
Cost effectiveness (i.e., benefit/cost)	<i>Cost effectiveness is difficult to quantify, however the reduction in future losses to vulnerable structures will far outweigh the minimal cost</i>
Technical	<i>Technically feasible.</i>
Political	<i>none;</i>
Legal	<i>none</i>
Environmental	<i>none;</i>
Social	<i>none;</i>
Administrative capability	<i>Ulster County has the staff to administer</i>
Local champion	<i>Ulster County Government</i>
Other community objectives	<i>economic development; capital improvements</i>
Implementing the Action	
Priority	<i>Medium</i>

Local planning mechanism	<i>Comprehensive Emergency Management Plan</i>
Responsible party	<i>Ulster County Environment, Planning, Information Services, and Emergency Management departments</i>
Potential funding sources	<i>FEMA HMA grants - Pre-Disaster Mitigation; NY Rising Community Reconstruction Program; NYSDHSES grant programs</i>
Time line	<i>1 year to get up and running, then ongoing</i>
Reporting on Progress	
Action progress status	<i>Carried forward -This project has not been implemented due to lack of funding and staffing priorities, such as adequately recovering from Irene, Lee, and Sandy since 2011.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #8 - Community Rating System Program</i>
Assessing the Risk	
Hazard(s) addressed	<i>Riverine, Ponding, Tidal and storm-surge related Flooding</i>
Risk finding	<i>The National Flood Insurance Program's Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community mitigation actions taken. There are 10 levels (classes) of CRS, and as communities do more to reduce risk, they move down to class 9, 8, etc (and each class results in a 5% reduction in NFIP premiums. Currently there are no municipalities in Ulster County enrolled in CRS. Many residents and businesses in Ulster County will likely see much higher insurance rates in the near future - approximately 600 of the 1400 policyholders will be affected by the removal of pre-FIRM subsidies</i>
Describing the Action	
Action category	<i>planning</i>
Action type	<i>education; technical support; community engagement/participation</i>
Action description	<i>This project would have County staff provide technical and professional assistance to local municipalities for their engagement and advancement in the NFIP's CRS program. Hazard mitigation planning, community outreach, public information dissemination, flood protection information, and mapping and regulations interpretation are all actions that the County staff would expect to undertake as part of this effort.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Policy holders (residential and businesses) in CRS communities benefit from better resiliency and lower NFIP premiums; towns also benefit from reduced premiums on flood-</i>
Cost estimate	<i>\$20,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>This project will be cost effective over time as NFIP policyholders in the as-yet-to-be-determined municipalities will receive anywhere from 5-40% off of their flood insurance policy premiums annually. Cumulatively, this will far outweigh the relatively low cost of the staff time needed to initiate and continue the project.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>none</i>

Social	<i>Anyone living or conducting business in a SFHA may benefit from this type of project;</i>
Administrative capability	<i>Ulster County has the staff to administer</i>
Local champion	<i>Ulster County Dept of Environment and Planning Dept.</i>
Other community objectives	<i>2009 Open Space Plan;</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>UC Multi-Jurisdictional Hazard Mitigation Plan;</i>
Responsible party	<i>Ulster County Environment, Planning, and Emergency Management departments</i>
Potential funding sources	<i>NYSDHSES grant programs; FEMA Pre-Disaster mitigation funding; NYSDOS planning grants; NYSEDA Climate Smart Communities grants</i>
Time line	<i>1 year initially, then ongoing</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #9 - Temporary Housing</i>
Assessing the Risk	
Hazard(s) addressed	<i>Temporary Housing</i>
Risk finding	<i>In the event of a major disaster in Ulster County it has been identified that temporary housing may be needed. Ulster County will work to identify suitable locations and negotiate necessary MOU's for temporary housing units to be placed in the County.</i>
Describing the Action	
Action category	<i>Planning Mechanism</i>
Action type	<i>Temporary Housing</i>
Action description	<i>This action will involve the identification of several locations throughout the County for the placement of temporary housing. It will also include negotiating the necessary agreement's with municipalities and property owners.</i>
Existing, future &/or NA	<i>N/A</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>This project will provide safe housing for displaced residents in the event of a disaster.</i>
Cost estimate	<i>Low; Less than \$50,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits of planning mechanisms, such as this, are difficult to quantify. In the event of a disaster, the benefits will by substantial, far outweighing the rather small, initial start-up costs that will be absorbed by the involved/responsible personnel.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Ulster County supports this effort.</i>
Legal	<i>Ulster County will work with local municipalities.</i>
Environmental	<i>Ulster County will work wit the DEC and local authorities on environmental regulations.</i>
Social	<i>None.</i>
Administrative capability	<i>Ulster County; NYS.</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>N/A</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Ulster County Comprehensive Emergency Management Plan.</i>
Responsible party	<i>Ulster County Emergency Management Director.</i>
Potential funding sources	<i>Annual budget (staff time/personnel); NYSDHSES grants</i>

Time line	<i>Less than 1 year</i>
Reporting on Progress	
Action progress status	<i>New action.</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #10 - New Paltz Vicinity - Wallkill River Flood Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>drainage improvement</i>
Risk finding	<i>The Wallkill River (and the Klein Kill Creek), in the vicinity of the Village of New Paltz, inundates portions of several Ulster County roads in this populated area, resulting in dangerous rescue conditions for emergency responders and lengthy detours for residents and first responders alike.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project aims to proactively address known inundation prone areas on three different County-maintained roads. These sections of road are County Rd #18A between State Route 299 and Mountain Rest Road, as well as the portion along the Klein Kill (Humpo Creek); County Road #117 between Springtown Road and Libertyville Road; County Road #61 from its junction with State Route 299 going 3/4-mile south. In addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure and to neighboring private property.</i>
Cost estimate	<i>\$1,000,000-\$3,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) will be cost effective. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town and Village of New Paltz are supportive</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permits</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Low</i>
Local planning mechanism	<i>DPW has deemed a more permanent fixes are required so as to avoid prohibitive annual maintance costs;NY Rising</i>

Responsible party	<i>County of Ulster</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget</i>
Time line	<i>One year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #11 - Kyserike Road Flooding</i>
Assessing the Risk	
Hazard(s) addressed	<i>drainage improvement</i>
Risk finding	<i>Kyserike Road (UC Road 29A) is an important local road that services several homes and farms. In this location, a low-lying stretch of road frequently becomes inundated by the Kripplebush Creek causing detours and requiring routine maintenance.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will rehabilitate and will likely result in having to raise a portion of the 1,000 linear feet of roadway that becomes inudated with flood water during storm events. Location is near the roads intersection with Lucas Turnpike - Longitude: -74.181080, Latitude: 41.805941, in addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure and to neighboring private property.Road will remain passable for emergency services during storm events.</i>
Cost estimate	<i>\$350,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) will be cost effective. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permits</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Uslter</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Low</i>
Local planning mechanism	<i>DPW has deemed a more permanent fix is required so as to avoid prohibitive annual maintance costs</i>
Responsible party	<i>County of Ulster</i>

Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget; capital budget</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #12 - Bruynswick Road Culvert Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>drainage improvement</i>
Risk finding	<i>Bruynswick Road is a critical County-owned road that services dozens of homes and businesses. In this location, a decaying culvert continues to cause backwatering and requires constant maintenance. Inundation of the roadway is common and results in lengthy detours.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will replace this antiquated and likely undersized culvert to appropriate size based upon hydraulic and hydrology (H&H) analysis. Location is Longitude: -74.197763, Latitude: 41.697549, in addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and to neighboring private property and will eliminate routing maintenance by DPW staff.</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>project will improve fish passage</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW has deemed a more permanent fix is required so as to avoid prohibitive annual maintenance costs</i>
Responsible party	<i>County of Ulster</i>

Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget</i>
Time line	<i>H&H analysis - 1 month; culvert replacement - 2 weeks</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #13 - Binnewater Road Culvert Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>drainage improvement</i>
Risk finding	<i>Binnewater Road is a critical County-owned road that services dozens of homes and businesses. In this location, a decaying culvert continues to cause backwatering and requires constant maintenance. Inundation of the roadway is common and results in lengthy detours.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will replace this antiquated culvert to appropriate size based upon hydraulic and hydrology (H&H) analysis. Location is Longitude: -74.088935, Latitude: 41.845346, in addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and to neighboring private property and will eliminate routing maintenance by DPW staff.</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>project will improve fish passage</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW has deemed a more permanent fix is required so as to avoid prohibitive annual maintenance costs</i>
Responsible party	<i>County of Ulster</i>

Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget</i>
Time line	<i>H&H analysis - 1 month; Culvert replacement - 3 weeks</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #14 - Tongore Road Embankment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>hillslope failure</i>
Risk finding	<i>Ulster County Rd #13 (Tongore Rd) is a critical road that connects the Lower Esopus Valley with NYS Route 213. In this location, a large embankment continues to slump into the Esopus Creek. This site continues to worsen each year, and soon the failure will impact the road, resulting in lengthy detours.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will stabilize the location using geostabilization techniques that have proved to be effective in the County at locations similar to this one. Location is Longitude: -74.149650, Latitude: 41.882993, in addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure and to neighboring private property.</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>The initial design and construction costs will be high, however over time this project will be cost effective, as the existing conditions contain a slumping roadway that requires active maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>project will improve water quality by preventing further erosion</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW has deemed a more permanent fix is required so as to avoid prohibitive annual maintenance costs and likelihood of slope failure/road closure during a major flood event.</i>

Responsible party	<i>County of Ulster</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #15 - River Road Embankment Stabilization</i>
Assessing the Risk	
Hazard(s) addressed	<i>hillslope failure</i>
Risk finding	<i>River Road (Ulster County Road #81) is a critical road that serves dozens of homes, businesses, and highly-used public access areas on the hillside along the Hudson River. Due to erosion, multiple locations along this road continually slump and slide down to the river, cutting off access and resulting in lengthy detours.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project will stabilize several locations using various geostabilization techniques dependant upon site conditions. Project area is approximately from house #105 south to #242 - a distance of 1.4 miles. The vast majority of this stretch of road is located on a cliff perched above the Hudson River. Locations is stretch of road between Longitude: -73.951976/ Latitude: 41.869592 and Longitude: -73.962244/ Latitude: 41.889275, in addition to other areas as yet to be determined.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and property and will eliminate routine maintenance and monitoring by DPW staff.</i>
Cost estimate	<i>\$1M</i>
Cost effectiveness (i.e., benefit/cost)	<i>The initial design and construction costs will be high, however over time this project will be cost effective, as the existing conditions contain a slumping roadway that requires active maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>project will improve water quality by preventing further erosion</i>
Social	<i>none</i>
Administrative capability	<i>County of Ulster</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>River Road is designated as a Scenic Road and is an important asset for economic development and tourism in Ulster County and the Town of Esopus.</i>

Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW has flagged as an area that continually needs maintenance and in need of more permanent fix.</i>
Responsible party	<i>County of Ulster</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program; capital budget</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #16 - West Branch Neversink Infrastructure Protection - Debris Removal</i>
Assessing the Risk	
Hazard(s) addressed	<i>Flooding</i>
Risk finding	<i>With several significant flooding events within the past decade, gravel bars have formed and large woody debris has accumulated in many locations throughout the Town. Several of these depositional areas are in locations that either direct streamflow alongside or directly at Frost Valley Road, or are located just upstream of bridges.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>flood hazard mitigation</i>
Action description	<i>This project would removal or remediate multiple locations (wood and/or gravel) throughout the West Branch Neversink River along Frost Valley Rd (County Rte 47). If practicable, the material would be used onsite and done as part of a larger, organized plan for sediment transport and woody debris management with the Rondout-Neversink Stream Program. These locations continue to collect additional debris during bankful storm events: Woody debris (Longitude: -74.521518, Latitude: 41.976082 (high falls brook); Longitude: -74.568025, Latitude: 41.950814 (fall brook)); Woody debris & Gravel (Longitude: -74.553708, Latitude: 41.954369)</i>
Existing, future &/or NA	<i>protects existing road and access to private properties</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and to neighboring private property along a vital road that provides access to a major YMCA campus.</i>
Cost estimate	<i>\$150,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; The start up costs and will be high, however over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive and will work closely with Ulster County; affected home owners</i>
Legal	<i>In the town's jurisdiction, but structure is County responsibility, and Town supports the project.</i>
Environmental	<i>NYSDEC permit</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Yes; Town of Denning town board, residents</i>
Other community objectives	<i>none</i>

Implementing the Action	
Priority	High
Local planning mechanism	Rondout - Neversink Stream Management Plan
Responsible party	Ulster County Highway Department
Potential funding sources	Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)
Time line	One month
Reporting on Progress	
Action progress status	New action

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #17- County Route 47 "Frost Valley S-Turn"</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>A section of Ulster County Route 47 along the West Branch Neversink River (a very remote mountainous area less than 5 miles away from Frost Valley YMCA, a camp that hosts roughly 38,000 people annually), is very vulnerable to even moderate (10-year) storms and has been inundated and washed out by flooding on several occasions since the 1980s. Not only is this is a critical road for access to State land and the remote YMCA Campus, it also serves as the only ingress/egress for a hundred homes (and emergency service personnel) other than a 70-mile, 2 hour detour.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement;</i>
Action description	<i>This project would provide and help maintain accessibility to residents and the YMCA Camp that could and has been isolated during minor flooding events. A stretch of the road (3,500') that in pinched between mountainside and the river makes two very tight bends - locations that have been inundated and/or washed out with floodwaters on multiple occasions. A portion of this roadway is currently "one lane". A more permanent solution for protecting the most vulnerable, low-lying spot - located on the outside of a meander in the stream is needed. The design that has been put forth calls for driving H piles into bedrock and then installing precast concrete panels in between the H piles. Additionally, DPW will replace the culvert pipes and the angle that they cross Frost Valley Road (CR 47). By installing a more vertical wall along the stream will allow DPW to shift the road a bit to allow a better drainage system along the hill side. Project location also continues downstream to the next meander bend where a similar situation is occurring. Location is: Longitude: -74.574712, Latitude: 41.945518</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project aims to provide uninterrupted ingress/egress to a hundred homes, businesses and the YMCA camp, NYS land during and after flood events (detour is 2 hours); reduction in local water surface elevations</i>
Cost estimate	<i>\$1,000,000 (but dependant upon types of solutions)</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address ongoing problem where road washed out in flood events; The design and construction costs are high, however over time this project will be cost effective. This project benefit-to-cost ratio (BCR) was 1.4 using the FEMA BCA Toolkit.</i>
Technical	<i>Technically feasible.</i>

Political	<i>Towns of Denning is are supportive.</i>
Legal	<i>Town of Denning supports the project and will work with UC DPW.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County; Town of Denning</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>floodplain reclamation (upstream and downstream);</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Rondout Neversink Stream Management Plan</i>
Responsible party	<i>Ulster County; Rondout Neversink Stream Program</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #18 - Upper Dry Brook Road Stream Bed Management</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>The Dry Brook stream has deposited a large gravel bar and threatens to encroach into Dry Brook Road (County Rte 49) cutting off ingress egress by the residents upstream. Location is on dead end road which would cut-off access to residents and emergency personnel if it fails.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>Road/stream rehabilitation</i>
Action description	<i>This project will create increased access, improved stream function and increased safety by removing the gravel bar and re-positioning the stream after hydraulic study to improve infrastructure for continued vehicular travel for a length of 500'. Project location is 350' downstream of Dry Brook Road and Erickson Road. Location is Longitude: -74.548141, Latitude: 42.069141</i>
Existing, future &/or NA	<i>protects existing road and access to more than 20 properties on dead end road</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and reduce likelihood of inaccessible homes (more than 20) along dead end road</i>
Cost estimate	<i>\$200,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; The start up costs and will be high, however over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of hardenburgh is supportive, as are affected homes</i>
Legal	<i>property owner ingress/egress</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>County of Ulster</i>
Other community objectives	<i>Capital improvement</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Community Rising CDBG-DR</i>
Responsible party	<i>Ulster County DPW</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP)</i>
Time line	<i>One month</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #19 - Dry Brook Watershed Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>In the Dry Brook watershed there are several vulnerable locations that frequently become inundated or routinely wash out during the flash-floods that often hit the steep mountainsides and narrow valleys in the Town. Because many of the town roads are dead-ends, residents and emergency responders get cut-off.</i>
Describing the Action	
Action category	<i>infrastructure protection</i>
Action type	<i>drainage improvement</i>
Action description	<i>'This project would upsize one culvert and repair one abutment in the Dry Brook watershed in accordance with the results of the hydraulic & hydrology analyses for each specific location. These crossings accumulate trees and gravel debris during even moderate storm events. This project would repair a County owned Covered Bridge at Eagle Rd on Dry Brook where abutment scour is the major issue that needs to be repaired before the abutment (and potentially the bridge) is lost to flooding. Location is Lat/Lon = 42.587 -74.5401; Additionally, on Dry Brook Rd., a three-foot round culvert, that is very under-sized, needs to be replaced. Location is Lat/Lon = 42.06933 -74.548.</i>
Existing, future &/or NA	<i>protects existing road and access to several properties</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure and provide uninterrupted ingress/egress for state land and private properties</i>
Cost estimate	<i>\$300,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Yes, money saved in long term to proactively address known problem; The start up costs and will be high, however over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive, as are affected homeowners</i>
Legal	<i>private property ingress/egress; Ulster County will cooperate with Town</i>
Environmental	<i>NYSDEC permit required; water quality benefits</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW</i>
Local champion	<i>Town of Hardenburgh town board, residents</i>
Other community objectives	<i>capital improvement</i>

Implementing the Action	
Priority	High
Local planning mechanism	DPW had identified as needed future remediation
Responsible party	Ulster County DPW
Potential funding sources	Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); capital budget
Time line	Two months
Reporting on Progress	
Action progress status	New action

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #20 - West Shokan Bank Stabilization, Infrastructure Protection, and Debris Removal</i>
Assessing the Risk	
Hazard(s) addressed	<i>Flooding</i>
Risk finding	<i>This project would stabilize banks, remove gravel deposition, and remove woody debris along County Route 42 in West Shokan hamlet. This is roughly a mile from Ashokan Reservoir to Maltby Hollow. This area is the only access/egress for 183 homes. Two of the highest importance areas are at Longitude: -74.283762/ Latitude: 41.967746 and Longitude: -74.286900/Latitude: 41.966992.</i>
Describing the Action	
Action category	<i>Structural; infrastructure, natural resource protection, education</i>
Action type	<i>stream remediation, infrastructure protection</i>
Action description	<i>Goal is protection of the 183 homes and infrastructure located above a susceptible structure and unpredictable stream section</i>
Existing, future &/or NA	<i>protects existing structures and future development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>property protection and access will not be interrupted; emergency services available; protection of public and private infrastructure</i>
Cost estimate	<i>High; Costs will vary depending upon which mitigation measures, which have the most benefits, are ultimately chosen</i>
Cost effectiveness (i.e., benefit/cost)	<i>cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible. Flooding problem that compromises homes and roads/bridges, and Emergency Services, could be solved long-term.</i>
Political	<i>Public, town is supportive.</i>
Legal	<i>NYSDEC permit may be required</i>
Environmental	<i>water quality benefits; ecosystem habitat benefits</i>
Social	<i>none</i>
Administrative capability	<i>Town Board and/or Ulster County would be lead</i>
Local champion	<i>Yes; Town of Olive town board, 183 homeowners very vocal</i>
Other community objectives	<i>Yes; prevents isolated properties/areas; capital improvements to roads and bridges</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Town and state building codes; NY Community Rising Reconstruction Plan; West Shokan Local Flood Analysis</i>

Responsible party	<i>Olive Town Board; Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program</i>
Time line	<i>One year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #21 - Route 42 Bridge (Watson Hollow Bridge)</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Because of diminishing capacity to convey floodwaters effectively, water is scouring out eastern abutment as well as causing a backwatering effect upstream of the bridge, resulting in inundation and other erosion problems.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>The capacity of this bridge continues to decrease due to debris (gravel and trees) accumulating in front of one of the two openings of the structure. The bridge causes localized flooding upstream and contributes to severe streambank/road embankment failure downstream. By reducing constriction (debris management) and reinforcing the abutment, this project will substantially reduce future damage to existing infrastructure and to county property and surrounding private property. LOCATION is Longitude: - 74.286986, Latitude: 41.967102</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Private property protection and access will not be interrupted; emergency services available; protection of public and private infrastructure</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>Structure is County responsibility, however the Town is very supportive of the project.</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>Ulster County, town</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising Plan; West Shokan Local Flood Analysis;</i>
Responsible party	<i>Ulster County</i>

Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program; capital budget</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #22 - Route 42 Maltby Hollow Bridge</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Debris-accumulating at bridge causes flooding up and downstream and erosional hazard to the road and bridge abutments. More than 100 homes upstream would be cut off from the rest of the town.</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>drainage improvement</i>
Action description	<i>By reducing constriction (debris management- large woody debris and gravel) and reinforcing the abutments, this project will substantially reduce future damage to existing infrastructure, county property, and surrounding private property. LOCATION is Longitude: -74.294853, Latitude: 41.966257</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Private property protection and access will not be interrupted; emergency services available; protection of public and private infrastructure</i>
Cost estimate	<i>\$500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Cannot determine cost/benefit fully at this time; Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of Olive is very supportive although not under its jurisdiction.</i>
Legal	<i>NYSDEC regs;</i>
Environmental	<i>water quality benefits; habitat improvement</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>Ulster County, town</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>West Shokan Local Flood Analysis</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program; capital budget</i>

Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #23 - County Route 3 Road Flooding</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Road routinely floods during small storms cutting of ingress/egress</i>
Describing the Action	
Action category	<i>Structure/Infrastructure project</i>
Action type	<i>road elevation and drainage improvement</i>
Action description	<i>This project would alleviate inundation of County Road 3 (750' of road) by conducting an initial engineering study/analysis to determine appropriate mitigation action (road-raising, upsizing culverts, bridge construction, etc necessary). LOCATION is Longitude: - 74.280826, Latitude: 41.898239 in Samsonville - just north of Jomar Lane</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Reduction of road inundation flooding to allow access during storm events; emergency services</i>
Cost estimate	<i>\$500,000 - \$1M</i>
Cost effectiveness (i.e., benefit/cost)	<i>Money will be saved in long term to proactively address on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of Olive is very supportive.</i>
Legal	<i>NYSDEC regs/permit potentially</i>
Environmental	<i>Project may impact surrounding wetlands?</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>Ulster County, town</i>
Other community objectives	<i>n/a</i>
Implementing the Action	
Priority	<i>Low</i>
Local planning mechanism	<i>Town of Olive Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; NY Rising Community Reconstruction Program; capital budget</i>
Time line	<i>Four months</i>

Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #24- Upper Bushkill Infrastructure Protection and Debris Removal</i>
Assessing the Risk	
Hazard(s) addressed	<i>Flooding</i>
Risk finding	<i>A critical mountainous road in a rural portion of the Town is extremely vulnerable to washouts during flash flooding events, resulting in loss of ingress/egress (County Rte 42) through remote areas located above a susceptible structure and unpredictable stream section</i>
Describing the Action	
Action category	<i>Structural; infrastructure, natural resource protection</i>
Action type	<i>stream remediation, infrastructure protection; drainage improvements</i>
Action description	<i>This project would stabilize failing hillslopes, protect infrastructure, and remove woody debris along County Route 42 in the following locations: 1) Near Kanape Brook, downstream of parking area. Road embankment is approximately 40 feet high and has 4-6 feet of bank left to erode before road is in danger of washing out. Post-Irene stream work by NYSDEC Operations buried wood on the inside of a meander bend, further pushing flow toward failing road embankment - Longitude: -74.327627 / Latitude: 41.936805; 2) Near Kanape Brook, downstream of parking area. This site is less hazardous but still cause for concern, as there is less than 10 feet of bank left to erode before the road washes out. Longitude: -74.326624 Latitude: 41.940285; 3) Upstream of the Kanape Brook Trail Head area along Watson Hollow road. This area is where sheet piling has been installed (many years ago) along one thread of the Bushkill and a metal culvert carries flow under the roadway. This area is full of large woody debris (LWD) and has an associated hillslope failure with fine sediments. The stream in the area is very tight and narrow and will continue to fill with debris and cause damage to the roadway in future smaller storms - Longitude: -74.329823/Latitude: 41.934230; 4) Upstream of Ashokan Realty building there is a County culvert that is undersized and accumulates sediment. Photograph of area (taken approximately 1 year after Tropical Storm Irene) shows the culvert almost completely filled by sediment - Longitude: -74.325784 / Latitude: 41.942263; 5) Along Watson Hollow Road near South Hollow there is revetment and a failing hillslope. There is a concern that this is a location of instability for the road and a potential erosion site - Longitude: -74.320516 / Latitude: 41.946999</i>
Existing, future &/or NA	<i>protects existing structures and future development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Property protection and access to 183 homes will not be interrupted; emergency services available; protection of public and private infrastructure</i>
Cost estimate	<i>High; >\$1M, but highly dependant upon mitigation measures chosen/most beneficial</i>
Cost effectiveness (i.e., benefit/cost)	<i>Design/construction cost will be high, however money will be saved in long term to proactively address (with a long-term fix) on-going problem where routine maintenance and monitoring must occur. Over time this project will be cost effective.</i>

Technical	<i>Technically feasible. Flooding problem that compromises homes and roads/bridges, and Emergency Services, could be solved long-term.</i>
Political	<i>Public, town is supportive.</i>
Legal	<i>In the town's jurisdiction, but road is County responsibility, and Town supports the project; NYSDEC permits required</i>
Environmental	<i>Potential water quality and stream ecosystem benefits</i>
Social	<i>none</i>
Administrative capability	<i>Town Board and Ulster County would be lead</i>
Local champion	<i>Yes; Town of Olive town board, homeowners very vocal</i>
Other community objectives	<i>Yes; prevents isolated properties/areas; capital improvements to roads and bridges</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>NY Rising Plan; Bush Kill Stream Management Plan; West Shokan Local Flood Analysis</i>
Responsible party	<i>Olive Town Board; Ulster County DPW</i>
Potential funding sources	<i>Emergency Watershed Protection (EWP) program; Flood Hazard Mitigation Implementation Program (FHMIP); Stream Management Implementation Grants (SMIP); NY Rising Community Reconstruction Program; capital budget</i>
Time line	<i>Six months up to one year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #25 - Zena/Sawkill Road Stormwater Remediation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Currently an under-sized culvert, in conjunction with a low spot in the road causes backwatering and inundation of a well-traveled road even during moderate flows resulting in a roadway that becomes impassable and results in a 5-mile detour through a residential neighborhood.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>drainage improvement;</i>
Action description	<i>Between #s 739-759 on Zena/Sawkill Rd. a low-lying area at a sharp turn in the road and Sawkill Creek, floods the roadway regularly during heavy rain events. A study is likely needed to determine if the under-sized culvert can be upsized on its own or if a combination of culvert replacement and raising of the roadway is needed. Longitude: -74.083873, Latitude: 42.029114</i>
Existing, future &/or NA	<i>future and existing development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>This will improve the capacity of stormwater during medium flow events, thus protecting the roadway and nearby homes</i>
Cost estimate	<i>Project construction costs are TBD - would vary depending upon project chosen (but likely between \$100,000 - \$500,000). Hydraulic & hydrology study should be completed</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Woodstock Town Board is very supportive</i>
Legal	<i>Structure is County responsibility, and Town supports the project; NYSDEC permit needed</i>
Environmental	<i>will improve the fish habitat, reduce erosion.</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>capital improvements; habitat restoration</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>NY Rising Plan;</i>

Responsible party	<i>Ulster County DPW</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; FHWA Emergency Relief Program; Emergency Watershed Protection (EWP) program;</i>
Time line	<i>Study = 3 months; Construction = 2 months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #26 - Zena-Sawkill Road Culvert Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Currently an under-sized culvert causes inundation of a well-traveled road during moderate flows resulting in a roadway that becomes impassable and results in a 2-mile detour through a dense residential neighborhood.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>drainage improvement;</i>
Action description	<i>This project will re-size and replace a small culvert on Zena Rd. by the Zena Health Center, where water flows over the road. Project location is Longitude: -74.076239, Latitude: 42.014197</i>
Existing, future &/or NA	<i>future and existing development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>This will improve the capacity of stormwater during medium flow events, thus protecting the roadway</i>
Cost estimate	<i>\$25,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective particularly for such a small project. Existing conditions require active and on-going maintenance by staff.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Woodstock Town Board is supportive and will work with Ulster County to mitigate</i>
Legal	<i>NYSDEC permit</i>
Environmental	<i>will improve the habitat, reduce erosion</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>capital improvements; habitat restoration</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>NY Rising Plan;</i>
Responsible party	<i>Ulster County DPW</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; Emergency Watershed Protection (EWP) program;</i>
Time line	<i>One month</i>

Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #27 - Glenford-Wittenberg Road Culvert Replacement</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Currently an under-sized/clogged culvert causes inundation on well-traveled road in a populated neighborhood during small flow events. The impasse results in a 15-mile detour over top of Ohayo Mountain.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>drainage improvement;</i>
Action description	<i>This project will replace a small culvert on Glenford/Wittenberg Rd (by Pond Rd). It is likely (part of project would be H&H analysis) that the culvert is undersized (or partially plugged) that causes localized flooding in a residential neighborhood; Longitude: - 74.189395, Latitude: 42.020142,</i>
Existing, future &/or NA	<i>future and existing development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>This will improve the capacity of stormwater during medium flow events, thus protecting the roadway</i>
Cost estimate	<i>\$10,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town Board is supportive and will work cooperatively with Ulster County DPW</i>
Legal	<i>NYSDEC permit needed</i>
Environmental	<i>will improve the environment;</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>capital improvements; habitat restoration</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>DPW has flagged as needing remediation</i>
Responsible party	<i>Ulster County DPW</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; Emergency Watershed Protection (EWP) program; capital project budget</i>

Time line	<i>One month</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #28 -Ohayo Mtn Rd Infrastructure Protection</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Just outside of the hamlet of Woodstock, a portion (300' of road) is slumping into the Saw Kill. There are areas where guard rails are sinking into the stream, where the road is eroding into the stream, and where the stream is undermining the road.</i>
Describing the Action	
Action category	<i>structural</i>
Action type	<i>drainage improvement; infrastructure protection</i>
Action description	<i>Project would stabilize the embankment, protect the roadway throughout this stretch of the Mill Stream/Ohayo Mountain Road where it runs alongside the Sawkill stream which provides critical access to the town center. Longitude: -74.119385, Latitude: 42.036905</i>
Existing, future &/or NA	<i>future and existing development</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>This will protect the County roadway and prevent further loss to the stream. Protect water quality</i>
Cost estimate	<i>\$300,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>public health and safety are the benefits; 'Over time, mitigation of repetitively inundated roadways (that sustain damage) and private driveways will be cost effective. Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town Board is supportive and will assist Ulster County as needed</i>
Legal	<i>NYSDEC permit likely needed</i>
Environmental	<i>will improve the environment by preventing erosion;</i>
Social	<i>Final design could incorporate public access</i>
Administrative capability	<i>Ulster County DPW would be lead</i>
Local champion	<i>Ulster County</i>
Other community objectives	<i>capital improvements; habitat restoration</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>County DPW has deemed necessary before conditions worsen;</i>
Responsible party	<i>Ulster County DPW</i>

Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; NY Rising Community Reconstruction Program; Emergency Watershed Protection (EWP) program;</i>
Time line	<i>Two months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #29- Creekside Drive Embankment Protection and Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Creekside Drive is a County road that is impacted often by flooding. There are several locations where flood damage occurs repeatedly, including several road embankments and at a critical bridge. This is a vital road for the community as it is the only other way to access the western portion of the County other than State Rte 28, which is susceptible to flood damage.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project would evaluate the bridge and replace if the H&H analysis indicates that it causes a hydraulic constriction resulting in backwatering. Additionally, two locations at the far west end of the road, the road embankments are being severely eroded away by the Esopus Creek. These locations would be repaired (using geo-stabilization) so as to prevent further loss of material (and the road in the future) to the stream. Locations are Longitude: -74.398646, Latitude: 42.121084 (bridge); Longitude: -74.447017, Latitude: 42.105907 and at Longitude: -74.439368, Latitude: 42.105581 (embankment failures). There are also additional locations, as yet to be determined, that are impacted by riverine flooding and/or flooding of the road by culverts that drain the mountainside and plug with debris in storm events.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure (State Route 42, Creekside Drive, and downstream flood control structures) and to neighboring private properties that are in the inundation zone as well as protecting the roadway</i>
Cost estimate	<i>\$1M</i>
Cost effectiveness (i.e., benefit/cost)	<i>Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost.</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town will support/assist Ulster County DPW as needed</i>
Legal	<i>In the town's jurisdiction, but structure and embankments are County responsibility, and Town supports the project; NYSDEC permit required;</i>
Environmental	<i>project will help water quality as it will prevent further streambank erosion</i>
Social	<i>none</i>

Administrative capability	<i>Ulster County</i>
Local champion	<i>county, Town of Shandaken</i>
Other community objectives	<i>none</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan; Shandaken Local Flood Analysis</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program; Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #30 - McKenley Hollow Bridge & Area Mitigation Measures</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>A section of Ulster County Route 47 downstream of McKenely Hollow, as well as the terminus of the road itself (intersection with Co Rte 47) and surrounding homes is very vulnerable to moderate storms and has been inundated by flooding on several occasions since the 1980s. Several locations within one mile up and downsteam are very vulnerable to embankment failure from flooding, which would also force road closure if it were to fail. This is a critical road for access to several businesses, State land, and a large and remote YMCA Campus.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement; relocation;</i>
Action description	<i>This project would provide and help maintain accessibility to residents and the YMCA Camp that could and has been isolated during minor flooding events. It would further provide protection for residences in the immediate area around the intersection of McKenley Hollow and Ulster County Rte 47. A stretch of the road (1,600') has been inundated and/or washed away with floodwaters on several occasions A more permanent solution for protecting this low-lying spot in the road is needed and options such as elevation, improved drainage, or relocation of the road, need to be explored. Additionally, two other locations upstream of McKenley Hollow continue to worsen - a 1000' long stretch immediately upstream of McKenley Hollow bridge and another location - approximately quarter-mile upstream where the shoulder of the road is being eroded, resulting in a 50+' drop down to the creek. Approximately one mile below McKenley Hollow (down stream) is another bend in the road (and creek) where the road continues to slump down to the creek below as a result of erosion form the stream nearby, as well as constant groundwater and sheet flow off the mountainside and under the road. The locations include: Longitude: -74.453488, Latitude: 42.078987 (hillslope); Longitude: -74.454733, Latitude: 42.077769 and Longitude: -74.459555, Latitude: 42.063959 and Longitude: -74.457549, Latitude: 42.060528 (embankments); Longitude: -74.459856, Latitude: 42.066922 (roadway improvements). Additional locations in this are exist, however as yet to be determined at this time.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project aims to provide uninterrupted ingress/egress to a hundred homes, businesses and the YMCA camp flood events (dead-end road); reduction in local water surface elevations</i>
Cost estimate	<i>\$3-5M (dependant upon types of solutions)</i>

Cost effectiveness (i.e., benefit/cost)	<i>Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost. Over a 50-year project lifespan, the project is expected to be cost effective</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town is supportive although not all infrastructure is under its jurisdiction. Town will support/assist Ulster County DPW as needed</i>
Legal	<i>Town supports the project and will work with UC DPW; NYSDEC permit required</i>
Environmental	<i>water quality benefits (relocation of homes and stable stream banks), stream ecosystem habitat improvements</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County; Town of Shandaken, NYCDEP</i>
Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>recreational access; flood buyouts; floodplain reclamation (upstream and downstream)</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan; NY Rising Plan;</i>
Responsible party	<i>Ulster County; Town of Shandaken, NYCDEP</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Flood Mitigation Assistance; Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program; NYC-funded Flood Buyout Program</i>
Time line	<i>Likely in Phases over 5 to 10 years</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #31 - Old Mt Tremper Bridge Removal</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This old County-owned bridge has been closed since 1986 because of its deteriorated condition and could pose a downstream flood hazard if it collapses into the Esopus Creek.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This defunct bridge is closed to pedestrians and vehicles, as it was deemed unsafe by NYS bridge inspectors in 1986 and closed to vehicles at that time. It was eventually closed to pedestrians (1990). Its closure was due to abutment and center pier scour, and it is unlikely that any rehabilitation has occurred on this structure since. This concrete-decked bridge is 35' wide and approximately 260 feet in length. As it is a substantially sized structure, it is feared that in a future flood it will be lost, and damage/plug a critical bridge immediately downstream (only 1,400'). Project would be to remove this structure. (Location is Longitude: -74.278414, Latitude: 42.044875)</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to downstream existing infrastructure (NYS Route 28 bridge over Esopus Creek) and to neighboring private property. Additionally, its removal shows a moderate (less than 0.5-foot) reduction in water surface elevations immediately upstream at the 1% annual risk flood.</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Calculating benefits for something like this is difficult because flood reduction benefits to property owners and potential damages to downstream bridge would be guesses. Over a 50-year project lifespan, the project is expected to be cost effective</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of Shandaken supports the project</i>
Legal	<i>NYSDEC permit required;</i>
Environmental	<i>will benefit water quality by its removal; reduces flood risk</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>

Other community objectives	<i>recreational access; floodplain reclamation</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>NY Rising Plan; Mt Tremper Local Flood Analysis</i>
Responsible party	<i>Ulster County DPW</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Emergency Watershed Protection (EWP) program; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program;</i>
Time line	<i>Three months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #32- Replacement of Bridge Street Bridge</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge provides crucial ingress and egress from the hamlet of Phoenicia. The structure has been damaged (and closed for several months) on two occasions since 2005.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This project would replace the Bridge Street bridge with a structure that would be able to convey the 100-year flood. Currently, the structure is not only under-sized (overtopped by both 50 and 100-year storms; a 25 year storm reaches the low cord - according to the flood profile in the recent FEMA Flood Insurance Study), but also has accumulated debris (gravel) in front of it, thus reducing capacity. A recent Local Flood Analysis was conducted and determined (using HEC-RAS modeling) that the bridge creates a backwater effect such that if the bridge were to be removed, local WSE would be reduced by 2'. After TS Irene, Ulster County rehabilitated the bridge to pre-storm conditions, however the engineering report indicating that in order to convey the 100-year storm, the bridge would need to be about 6' higher and 65' longer. Project would be to up-size this structure to appropriate size based upon H&H analysis. Location is Longitude: - 74.312054, Latitude: 42.081855</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will provide allow for ingress/egress to the entire hamlet of Phoenicia which has proven to be prone to flooding; Larger bridge will result in reduction in local water</i>
Cost estimate	<i>\$7,500,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Existing conditions require active and on-going maintenance by staff. Benefits are difficult to quantify, but anticipated to be in excess of project cost. Over a 50-year project lifespan, the project is expected to be cost effective</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of Shandaken is supportive although the bridge is not under its jurisdiction.</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>part of larger vision to have recreational trail along stream and to relocate several at-risk SRL and RL properties nearby</i>
Administrative capability	<i>Ulster County</i>

Local champion	<i>Town of Shandaken</i>
Other community objectives	<i>recreational access; flood buyouts; floodplain reclamation (upstream and downstream)</i>
Implementing the Action	
Priority	<i>High</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan; NY Rising Plan; Phoenicia Local Flood Analysis</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program;</i>
Time line	<i>One year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #33- Plank Road Embankment Protection and Preemptive Stormwater Mitigation</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>Plank Road is a 3.5-mile County road that is impacted often by flooding. There are several locations where flood damage occurs repeatedly, including several road embankments and at culverts that often plug or are under-sized and overtop. This is a vital road for the community as it is the only other way to access points west of Mt Tremper other than State Rte 28, which is susceptible to flood damage at an under-zide bridge in Mt Tremper and at "campground curve" near Phoenicia.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This road is pinched between steep mountainsides on the north and the Esopus Creek to the south for the entirety of its 3.5-mile length. The storm runoff from the mountainsides cause the culverts - there are approximately fifty (50) of them, to become inundated and water flows over the road in numerous locations during modest storm events. Additionally, the Esopus Creek has repeatedly washed out portions of this road on numerous occasions, and more permanent mitigation measures are needed. This project would evaluate all of the culverts and replace those that an H&H analysis indicate causes a hydraulic constriction that results in backwatering and inundation of the roadway. Additionally, in several locations the road embankments are being severely eroded away by the Esopus Creek. These locations would be repaired (using geo-stabilization) so as to prevent further loss of material (and the road in the future) to the stream. Locations include Longitude: -74.293509, Latitude: 42.056043; Longitude: -74.300869, Latitude: 42.073061; Longitude: -74.306631, Latitude: 42.082207 (embankment failures). Several of the critical culvert locations are: Longitude: -74.292206, Latitude: 42.055195; Longitude: -74.300735, Latitude: 42.061974; Longitude: -74.301679, Latitude: 42.075832; Longitude: -74.300735, Latitude: 42.074192 (culverts). There are also additional locatations, as yet to be determined, that are impacted by riverine flooding and/or flooding of the road by culverts that drain the mountainside and plug with debris in storm events.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Substantially reduce damage to existing infrastructure (Plank Road surface, emabnakments, drainage ditches, etc) and to neighboring private properties that are in the inundation zone or immediately up or downstream.</i>
Cost estimate	<i>\$1,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are difficult to quantify, but surely over a 50-year period, will be in excess of project costs. Existing conditions, particularly at the culverts require active and on-going maintenance by staff after heavy rains.</i>

Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permit required for areas along the Esopus Creek</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>NY Rising Plan; Mt Tremper Local Flood Analysis; Shandaken Town Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program;</i>
Time line	<i>One year</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #34- Stony Clove Lane Bridge Replacement post Flood Buyout</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge at the base of a dead end town road that provides access to nearly forty homes is likely undersized and has proven to be subject to repetitive erosion/depositional-related damages.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This bridge is subject to high scour and could be under-sized for its location. On the south side of the bridge a Repetive Loss Property is currently being bought out, so there may be an opportunity to increase the conveyance capacity of the bridge so as to prevent it washing out in the future. Project would be to up-size this structure to appropriate sized based upon H&H analysis. Location is Longitude: -74.289716, Latitude: 42.105546</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Project will provide allow for ingress/egress to more than three dozen homes during flood events (dead-end road); reduction in local water surface elevations</i>
Cost estimate	<i>\$750,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Benefits are difficult to quantify, but over a 50-year period, will be in excess of project costs with accounting for damages avoided from flood inundation around the structure at nearby homes</i>
Technical	<i>Technically feasible.</i>
Political	<i>Town of Shandaken is supportive although the bridge is not under its jurisdiction. The Town will support/assist Ulster County as needed</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>
Implementing the Action	
Priority	<i>Medium</i>
Local planning mechanism	<i>Shandaken Town Flood Hazard Mitigation Plan</i>

Responsible party	<i>Ulster County</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program;</i>
Time line	<i>Six months</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #35- Replacement of Bridge 202 (Plank Rd)</i>
Assessing the Risk	
Hazard(s) addressed	<i>flooding</i>
Risk finding	<i>This County-owned bridge has been shown through recent HEC-RAS modeling to cause a significant backwatering effect during 50-year storms that inundates Miller Road, a dead-end road with about 20 homes.</i>
Describing the Action	
Action category	<i>Structural project</i>
Action type	<i>drainage improvement</i>
Action description	<i>This under-sized bridge has been damaged several times in the last 25 years and flood profiles show it is overtopped by several feet during a 100-year storm. Recent HEC-RAS modeling has shown that if it were to be replaced (increasing its capacity), a 4.5' water surface elevation reduction (100' upstream of the structure) would result at the 100-yr event. A 0.6' WSE reduction would occur at a 10-year storm. Project would be to up-size this structure. Location is Longitude: -74.276692, Latitude: 42.046675</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>'Substantially reduce damage to existing infrastructure (Miller Rd) and to neighboring private properties that are in the inundation zone.</i>
Cost estimate	<i>\$1,000,000</i>
Cost effectiveness (i.e., benefit/cost)	<i>Existing conditions cause deposition of debris around bridge and stabilization work around abutments, which require active and on-going maintenance by staff. Benefits are difficult to quantify, but will be well in excess of project cost over a 50-year project lifespan.</i>
Technical	<i>Technically feasible.</i>
Political	<i>none</i>
Legal	<i>none</i>
Environmental	<i>NYSDEC permit required</i>
Social	<i>none</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>county, town</i>
Other community objectives	<i>none</i>
Implementing the Action	
Priority	<i>Medium</i>

Local planning mechanism	<i>NY Rising Plan; Mt Tremper Local Flood Analysis; Shandaken Town Flood Hazard Mitigation Plan</i>
Responsible party	<i>Ulster County</i>
Potential funding sources	<i>FEMA HMA grants - Hazard Mitigation Grant Program, Emergency Watershed Protection (EWP) program; Stream Management Implementation Program grants; Catskill Watershed Corporation Flood Hazard Mitigation Implementation Program;</i>
Time line	<i>When grant funding becomes available</i>
Reporting on Progress	
Action progress status	<i>New action</i>

Action Worksheet	
Your plan name	<i>Ulster County Multi-jurisdictional Hazard Mitigation Plan</i>
Your community name	<i>County of Ulster</i>
Community action number	<i>County of Ulster #36 - Ulster County Adaptation to Climate Change</i>
Assessing the Risk	
Hazard(s) addressed	<i>Riverine Flooding, Tidal and storm-surge Flooding, Sea Level Rise, severe blizzards, drought</i>
Risk finding	<i>Climate change is already occurring, and some additional change is inevitable. Ulster County is following the path set by New York State as it continues to adapt to new conditions and prepares for these changes in order to protect citizens and reduce the costs of recovery.</i>
Describing the Action	
Action category	<i>policy</i>
Action type	<i>education; technical support; community engagement/participation</i>
Action description	<i>Ulster County will continue to combat climate change locally through programming/services, technical assistance, education, and public policies. Recent accomplishments to build upon include: 2015 Recipient of a U.S. EPA Green Power Leadership Award & induction into the elite EPA 2016 Green Power Leadership Club (GPLC); U.S. EPA continues to rank Ulster County as a leader in Green Power Use (most currently ranked 26th nationally among local governments); 2015 National Achievement Award from the National Association of Counties for County Resiliency and Sustainability for the "Carbon Footprint Reduction program;" Ulster County is First and Only Municipality in NY to Become a NYSEDA Clean Energy Community; Awarded the Bronze-Level Certified Climate Smart Community by the NYS Department of Environmental Conservation (one of three municipalities, and the only county, in the state to reach this level which is the highest that has been achieved through the program). The 2013 Ulster County Sustainability Guide outlines many of the goals and actions needed to combat climate change.</i>
Existing, future &/or NA	<i>existing and future</i>
Evaluating the Action	
Losses avoided (i.e., benefits)	<i>Benefits of the County acknowledging and working toward mitigating effect of climate change will be quicker recovery post disaster, including reduction in loss of life, less</i>
Cost estimate	<i>N/A; We anticipate all of this work will be done through local laws and public policy</i>
Cost effectiveness (i.e., benefit/cost)	<i>Undesirable climate change impacts frequently outweigh the possible benefits. Impacts are projected for public health, natural resources, agriculture, transportation, tourism, water supply and quality, public infrastructure, energy, and many other sectors.</i>
Technical	<i>Technically feasible.</i>
Political	<i>The County Executive is extremely supportive, and has shown so through recent County policy</i>
Legal	<i>none</i>

Environmental	<i>None, following policies/procedures and enrolling in programs administered by NYS agencies, such as the NYSDEC.</i>
Social	<i>Anyone living or conducting business in a high-hazard risk area, such as the 500-year floodplain, may benefit from this type of project;</i>
Administrative capability	<i>Ulster County</i>
Local champion	<i>County executive, Ulster County Dept of Environment, Planning Dept, Emergency Management, Public Works, Health Dept.</i>
Other community objectives	
Implementing the Action	
Priority	<i>high</i>
Local planning mechanism	<i>see mechanisms listed at: http://ulstercountyny.gov/environment/energy-usage-climate-protection</i>
Responsible party	<i>All Ulster County departments and staff</i>
Potential funding sources	<i>NYSDHSES grant programs; FEMA Pre-Disaster mitigation funding; NYSDOS planning grants; NYSERDA Climate Smart Communities grants</i>
Time line	<i>five years</i>
Reporting on Progress	
Action progress status	<i>New action</i>



Ulster County Multi-Jurisdictional Hazard Mitigation Plan Update

OUTREACH LOG:

Summary of Outreach Activities to the General Public and Other Stakeholders

PARTICIPATING JURISDICTION: County of Ulster

DATE OF ACTIVITY	TYPE OF ACTIVITY	ACTIVITY DETAILS	LEAD DEPARTMENT AND/OR STAFF TITLE WHO UNDERTOOK ACTIVITY
1/22/13	Resolution Adopted	Ulster County passed Resolution #13, officially adopting the update to the Multi-Jurisdictional Hazard Mitigation Plan.	Ulster County OEM Director and the Ulster County Legislature
8/21/13	Letter to Stakeholders	Letter to stakeholders announcing the update and seeking participation.	Ulster County OEM Director
8/21/13	Letter To Ulster County Commissioner of Health and Mental Health	Letter seeking participation in the update.	Ulster County OEM Director
8/23/13	Letter received from American Red Cross.	Letter received from American Red Cross agreeing to participate.	Ulster County OEM Director
8/26/13	Letter received from SUNY Ulster.	Letter received from SUNY Ulster agreeing to participate.	Ulster County OEM Director

9/3/13	Letter received from SUNY New Paltz.	Letter received from SUNY New Paltz agreeing to participate.	Ulster County OEM Director
9/4/13	Letter to all Fire Departments, Rescue Squads and Police Agencies.	Letter to all Fire Departments, Rescue Squads and Police Agencies announcing the update and seeking participation. There are a total of 50 Fire Departments, 17 Rescue Squads, 14 Police Agencies in Ulster County.	Ulster County OEM Director
9/12/13	Letter received from NYS Thruway.	Letter received from NYS Thruway Authority agreeing to participate.	Ulster County OEM Director
9/13/13 – through current.	Ulster County Website	Ulster County Multi-Jurisdictional Hazard Mitigation Plan update information and all related forms added to the Ulster County Website.	Ulster County OEM Director
11/7/13	Ulster County Executive Press Release.	Ulster County Executive Michael Hein announces the Ulster County Multi-Jurisdictional Hazard Mitigation Plan update and seeks participation.	Ulster County Executive's Office
10/30/14	Town of Olive Flood Advisory meeting	Bennett reported to those present that that Ulster County is in the process of updating its multi-jurisdictional hazard mitigation plan. Bennett reported that the Town of Olive did not participate last time. Bennett asked those in attendance to submit potential projects/comments whether from Olive or other communities for inclusion in the Plan.	Aaron Bennett, UC Environmental Planner
11/3/14	Claryville Local Flood Analysis meeting	Bennett reported to those present that that Ulster County is in the process of updating its multi-jurisdictional hazard mitigation plan and is having a workshop on 11/21 at the County Office Building for municipalities. Bennett reported that the Town of Denning did not participate last time, however they	Aaron Bennett, UC Environmental Planner

		are now. Bennett asked those in attendance to submit potential projects/comments whether from Denning or other communities for inclusion in the Plan.	
11/12/14	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	Bennett reported to those present that that Ulster County is in the process of updating its multi-jurisdictional hazard mitigation plan and is having a workshop on 11/21 at the County Office Building for municipalities. Bennett asked those in attendance to submit potential projects/comments whether from Shandaken or other communities for inclusion in the Plan.	Aaron Bennett, UC Environmental Planner
2/25/15	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	Bennett reported to those present that that Ulster County is still in the process of updating its multi-jurisdictional hazard mitigation plan. Final information is due by summer. Bennett reported that all communities in the NYC Watershed continue to remain active in the process and the County is still taking public input.	Aaron Bennett, UC Environmental Planner
3/12/15	Town of Olive Flood Advisory Committee meeting	Supervisor Rozelle discussed UCMJHMP Project Lists with committee members and the public present. Bennett added to the discussion and provided estimated due dates for submission of potential projects and for comments.	Sylvia Rozelle, Olive Town Supervisor; Aaron Bennett, UC Environmental Planner
3/19/15	Ashokan Watershed Stream Management Program – Stakeholder's Council meeting	Bennett provided the group with an update for the Plan's end date (summer 2015) and asked for submission of potential projects by stakeholders as well as for any comments pertaining to the update.	Aaron Bennett, UC Environmental Planner
4/15/15	Email to municipal highway superintendents	<p>TEXT OF EMAIL INCLUDED: Dear Town Highway Supervisors,</p> <p>As part of the process in updating the Ulster County Multi-Jurisdictional All-Hazard Mitigation Plan, I will be meeting with Ulster County DPW staff at the end of next week to begin the process of identifying areas that should be included in the revised Plan that are under the County's jurisdiction. I am reaching out to you today to not only remind you to continue to work on the "Action Sheets" for your town's portion</p>	Aaron Bennett, UC Environmental Planner

		<p>of the Plan, but also to ask if you could send me a list of those areas in your town that you feel should also be identified by the County DPW on its list. A simple bulleted list of locations would serve just fine. I will then articulate those to County DPW and encourage and advocate for their inclusion.</p> <p>I firmly believe that the more detailed, accurate, and complete the locations in this plan are the better off ALL of Ulster County will become the next disaster. I can't promise that all of the locations you provide me will make it into the County's portion of the Plan, however I can assure you that I will advocate for their inclusion. Additionally, you can always include them on the list of potential projects for your town.</p>	
7/10/15	Shandaken Area Flood Assessment and Remediation Initiative (SAFARI)	<p>Bennett reported to those present that that Ulster County is nearing the end of the process of updating its multi-jurisdictional hazard mitigation plan. Final information is due by mid-August. Bennett reported that all communities in the NYC Watershed continue to remain active in the process and the County is still taking public input.</p>	Aaron Bennett, UC Environmental Planner

***Please add additional pages as needed and return via email to Anna Foley at: anna.foley@urs.com.
For questions, please call 973-883-8500.***