9.1 CATTARAUGUS COUNTY

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

9.1.1 Hazard Mitigation Planning Team

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

Table 9.1-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Kimberly A. Merrill Secretary to the Commissioner of Public Works Address: 8810 Route 242, Little Valley, NY 14755 Phone Number: (716) 938- 2480 Email: kamerrill@cattco.org	Name/Title: Naomi Gennings, NIMS Coordinator Address: 303 Court Street, Little Valley, NY 14755 Phone Number: (716) 938-2212 Email: nagennings@cattco.org
Alternate Point of Contact	
Name/Title: Mark C. Burr, P.E., Director of Engineering Address: 8810 Route 242, Little Valley, NY 14755 Phone Number: (716) 938-2431 Email: mcburr@cattco.org	

9.1.2 Municipal Profile

Cattaraugus County lies in the Southwestern part of New York State. The county is bordered to the north by Erie and Wyoming Counties, to the east is Allegany County, to the south is the State of Pennsylvania, and to the west is Chautauqua County. The county was formed in 1808 from Genesee County and originally named "Town of Olean." Cattaraugus County has a total area of 1,324 square miles (including both land and water).

The major river of Cattaraugus County is the Allegheny River, located in the southern portion of the county. To the north, Cattaraugus Creek forms the border between Cattaraugus County and Erie County and flows west into Lake Erie. Great Valley Creek and Little Valley Creek drain the central portion of the county into the Allegheny River. Other important waterways within the county include Ischua, Oil, Olean, Tunungwant, Conewango, Little Conewango, Mansfield, and Caneadea Creeks.

Data from the 2018 U.S. Census Population Estimates indicate that the county has a total population of 76,483 with 5.7 percent of the county population 5 years of age or younger and 18.4 percent of the county population 65 years of age or older (U.S. Census Bureau American Community Survey 5-Year Estimates, 2018).

9.1.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.1-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Section 5.4 (Hazard Profiles) illustrates the geographically-

delineated hazard areas and the location of potential new development, where available. These hazard areas and new development are also illustrated in each of the municipal annexes.

Table 9.1-2. Recent and Expected Future Development

Type of Development	2014		2015		2016		2017		2018	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ Outside regulatory floodplain)										
	Total	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**	**Total**	**Within SFHA**
Single Family	Information on building permits for new construction can be found in Sections 9.2 – 9.44 in the jurisdictional annexes.									
Multi-Family										
Other (commercial, mixed-use, etc.)										
Total										

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2014 to Present					
National Fuel Gas	Commercial	1	77.001-1-52.10	None	Natural Gas Compressor Station
National Grid	Commercial	1	76.001-1-6.3	None	Electric Sub-Station
Olean Manor	Residential	1	94.037-1-24.2	None	Senior Living Center/Nursing Home
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Alle-Catt	Commercial	132	Multiple Parcels	None	Wind Farm

Note: SFHA Special Flood Hazard Area (1% flood event)

9.1.4 Capability Assessment

Cattaraugus County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 6.4 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community's adaptive capacity for the impacts of climate change.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized in Capability Assessment (Section 9.1.4).

Planning, Legal, and Regulatory Capability

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

Table 9.1-3. Planning, Legal, and Regulatory Capability

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements							
Building Code	Yes	Building Code	State	DPW	Yes	Yes	-
Comment: None							
Zoning Code	No	-	-	-	No	-	-
Comment: None							
Subdivisions	No	-	-	EDPT	Yes	-	-
Comment: None							
Stormwater Management	No	-	State	-	-	-	-
Comment: None							
Post-Disaster Recovery	Yes	Included in CEMP	County	Cattaraugus County		Yes	-
Comment: None							
Real Estate Disclosure	Yes	Property Condition Disclosure Act, NY Code - Article 14 §460-467	State	NYS Department of State, Real Estate Agent	Yes	Yes	-
Comment: None							
Growth Management	Yes	Covered under Cattaraugus County Comprehensive Plan	County	EDPT	No	Yes	-
Comment: None							
Site Plan Review	Yes	Site Plan Review	County	EDPT	Yes	Yes	-
Comment: None							
Environmental Protection	Yes	Covered under Cattaraugus County Comprehensive Plan	County	EDPT	Yes	Yes	-
Comment: None							
Flood Damage Prevention	Yes	Identified at municipal levels	Local	Local FPAs	Yes - BFE+2 feet for all construction in the SFHA (residential and non-residential)	Yes	-

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment: Part of all building regulations and enforced locally.							
Municipal Separate Storm Sewer System (MS4)	No	-	State	-	Yes	-	-
Comment: None							
Emergency Management	Yes	Emergency Management	County	OES	Yes	Yes	-
Comment: None							
Climate Change	No	-	-	-	Yes	-	-
Comment: None							
Disaster Recovery Ordinance	No	-	-	-	No	-	-
Comment: None							
Disaster Reconstruction Ordinance	No	-	-	-	No	-	-
Comment: None							
Other	No	-	-	-	-	-	-
Comment: None							
Planning Documents							
Comprehensive Plan	Yes	Vision 2025 Comprehensive Plan, Moving Cattaraugus County Forward	County	EDPT	No	Yes	-
Comment: The plan includes the following goals: • Goal 1: Support protecting the farmland, forests, and communities of the County • Goal 2: Promote economic development opportunities • Goal 3: Promote agricultural heritage and economy • Goal 4: Promote tourism and foster local arts and cultural organizations • Goal 5:Support stewardship of the County's wetlands, forests, mineral resources, rivers, and other environmental assets • Goal 6: Revitalize and restore cities, villages, and hamlets • Goal 7: Promote transportation • Goal 8: Promote healthy and safe communities							
Capital Improvement Plan	Yes	Capital Improvement Plan	County	DPW	No	Yes	-
Comment: None							
Disaster Debris Management Plan	Yes	Disaster Debris Management Plan	County	OES	No	Yes	-
Comment: None							
Floodplain or Watershed Plan	No	-	-	-	No	-	-
Comment: None							
Stormwater Plan	No	-	-	-	No	-	-
Comment: None							

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
Open Space Plan	Yes	Covered under Cattaraugus County Comprehensive Plan	County	EDPT	Yes	Yes	-
Comment: None							
Urban Water Management Plan	No	-	-	-	No	-	-
Comment: None							
Habitat Conservation Plan	Yes	Covered under Cattaraugus County Comprehensive Plan	County	EDPT	No	Yes	-
Comment: None							
Economic Development Plan	Yes	Economic Development Plan	County	EDPT	No	Yes	-
Comment: None							
Shoreline Management Plan	No	-	-	-	Yes	-	-
Comment: None							
Community Wildfire Protection Plan	No	-	-	-	No	-	-
Comment: None							
Forest Management Plan	Yes	Forest Management Plan	County	DPW	No	Yes	-
Comment: None							
Transportation Plan	Yes	Coordinated Public Transit-Human Services Transportation Plan	County	County Administrator's Office	No	Yes	-
Comment: The plan seeks to provide a framework for the coordination of transportation services for aging adults, persons with disabilities, and individuals with economic disadvantages within the planning area.							
Agriculture Plan	Yes	Agricultural and Farmland Protection Plan	County	EDPT	Yes	Yes	-
Comment: The plan includes recommendations to address critical structural and industry-wide concerns that impact the long-term viability of agriculture in Cattaraugus County; for improving conditions specific to health and well-being of local agricultural enterprises through training, business planning, network development, mentoring, finance, research and development support, and similar services; and to offer programs and processes that address the land use issues facing both towns and farmers.							
Other (this could include a climate action plan, tourism plan, business development plan, etc.)	No	-	-	-	-	-	-
Comment: None							

	Do you have this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Department / Agency Responsible	State Mandated	Has this been integrated?	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Response/Recovery Planning							
Comprehensive Emergency Management Plan	Yes	Comprehensive Emergency Management Plan (CEMP)	County	OES	Yes	Yes	-
Comment: None							
Strategic Recovery Planning Report	No	-	-	-	-	-	-
Comment: None							
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Threat & Hazard Identification & Risk Assessment (THIRA)	County	OES	Yes	Yes	-
Comment: None							
Post-Disaster Recovery Plan	Yes	CEMP	County	OES	No	Yes	-
Comment: None							
Continuity of Operations Plan	No	-	-	-	No	-	-
Comment: None							
Public Health Plan	Yes	Public Health Plan	County	Health Department	No	Yes	-
Comment: None							
Other	No	-	-	-	-	-	-
Comment: None							

Table 9.1-4. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Response Yes/No; Provide further detail
Development Permits. If yes, what department?	No
Permits are tracked by hazard area. For example, floodplain development permits.	No
Buildable land inventory If yes, please describe If no, please quantitatively describe the level of buildout in the jurisdiction.	No – 20%. A buildable land analysis is noted in Section 4 (County Profile)

Administrative and Technical Capability

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

Table 9.1-5. Administrative and Technical Capabilities

Resources	Available? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	EDPT/Director
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	EDPT/Director
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	OES/Director
Maintenance programs to reduce risk	Yes	OES/Director
Mutual aid agreements	Yes	DPW/Commissioner
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	EDPT/Director
Engineers or professionals trained in building or infrastructure construction practices	Yes	DPW/Director of Engineering
Planners or engineers with an understanding of natural hazards	Yes	DPW/Director of Engineering
Staff with expertise or training in benefit/cost analysis	Yes	DPW/Commissioner
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	DPW/Director of Engineering Real Property/GIS Coordinator
Scientist familiar with natural hazards	No	-
NFIP Floodplain Administrator (FPA)	No	Local Municipality Responsibility
Surveyor(s)	Yes	DPW/Surveyor
Emergency Manager	Yes	OES/Director
Grant writer(s)	Yes	EDPT/Director
Resilience Officer	No	-
Other	No	-

Fiscal Capability

The table below summarizes financial resources available to Cattaraugus County.

Table 9.1-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state Funding Programs	Yes

Financial Resources	Accessible or Eligible to Use (Yes/No)
Open Space Acquisition funding programs	Yes
Other	Yes

Education and Outreach Capability

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

Table 9.1-7. Education and Outreach Capabilities

Indicate if your jurisdiction has the following resources	Yes/No; Please describe
Public information officer or communications office?	No
Personnel skilled or trained in website development?	Yes/Information Services Yes/EDPT
Hazard mitigation information available on your website; if yes, describe	Yes/Website link (old plan)
Social media for hazard mitigation education and outreach; if yes, briefly describe.	Yes
Citizen boards or commissions that address issues related to hazard mitigation; if yes, briefly describe.	No
Other programs already in place that could be used to communicate hazard-related information; if yes, briefly describe.	Facebook pages, Everbridge, NY Alert, IPAWS
Warning systems for hazard events; if yes, briefly describe.	Yes/OES
Natural disaster/safety programs in place for schools; if yes, briefly describe.	Yes/ Unknown
Other	No

Community Classifications

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

Table 9.1-8. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	-	-
NYSDEC Climate Smart Community	NP	-	-
Storm Ready Certification	Yes	County	August 2019
Firewise Communities classification	NP	-	-
Other	No	-	-

Note:
N/A *Not applicable*
NP *Not participating*
- *Unavailable*

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). In other words, it describes a jurisdiction's current ability to adjust to, protect from, or withstand a hazard event. This term is

often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction's rating.

Table 9.1-9. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low*
Flood	Medium
Landslide	Medium
Severe Storm	High
Severe Winter Storm	High
Utility Interruption	Medium
Wildfire	Medium
Flood	Medium

**High* *Capacity exists and is in use*
Medium *Capacity may exist; but is not used or could use some improvement*
Low *Capacity does not exist or could use substantial improvement*
Unsure *Not enough information is known to assign a rating*

National Flood Insurance Program

This section provides specific information on the management and regulation of the regulatory floodplain.

NFIP Floodplain Administrator (FPA)

There is no designated Floodplain Administrator for Cattaraugus County. These services are administered locally through municipal code enforcement.

National Flood Insurance Program (NFIP) Summary

Cattaraugus County maintains a partial list of property owners interested in flood mitigation. There are homeowners or businesses that are interested in mitigation. There are no current RiskMAP projects currently underway within the county. The county has made no Substantial Damage Determinations for recent flood events. Three properties have been mitigated within the county; two in the Town of New Albion and one in the Town of Yorkshire. Flood hazard maps for the county generally address the flood risk within the county but they need to be updated.

The following table summarizes the NFIP statistics for Cattaraugus County.

Table 9.1-10. NFIP Summary

Jurisdiction	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties
Cattaraugus County	479	382	$2,870,780	60

Source: *NYS DHSES 2020*
Notes: *RL* *Repetitive Loss*

Resources

Each municipality's designated code enforcement officer is responsible for floodplain management. As a result, the county does not have a designated NFIP Floodplain Administrator on staff, nor does it maintain any jurisdiction over floodplain management on the local level. The county does not have access to resources to determine possible future flooding conditions from climate change. Floodplain management staff within the county (local representatives) would benefit from assistance and/or training to support municipality floodplain

management programs. The county does not require NFIP administration services and did not identify any barriers within the community to running an effective NFIP program as it utilizes its local municipalities' floodplain administrators to run their respective floodplain management programs.

Compliance History

Municipal NFIP programs are run by local officials. The county does not have any outstanding NFIP compliance violations that need to be addressed, as it does not maintain any jurisdiction over code enforcement or NFIP programs on the local/municipality level.

Regulatory

Cattaraugus County does not have local ordinances, plans, or programs that support floodplain management, as it utilizes its local municipalities' floodplain administrators to run their respective floodplain management programs.

Additional Areas of Existing Integration

County Website: Cattaraugus County maintains a county website (https://www.cattco.org/) which contains information about county departments, current events, and news and announcements.

Evacuation, Sheltering, Temporary Housing, and Permanent Housing

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

Evacuation Routes

Cattaraugus County has identified I-86, U.S. 219, Route 62 and Route 16 as major evacuation routes.

Sheltering

Cattaraugus County has emergency shelters via the Red Cross and Department of Social Services along with other departments, but none of the shelters are officially designated as such. For a list of designated shelters, refer to the County Profile (Section 4). Fire departments with extra hall space can also be used as unofficial shelters.

Temporary Housing

Cattaraugus County will assist municipalities with identifying appropriate regional temporary housing locations (2020-Cattaraugus County-019).

Permanent Housing

Cattaraugus County will assist municipalities with identifying appropriate regional permanent housing locations (2020-Cattaraugus County-019). A buildable land analysis is noted in Section 4 (County Profile).

9.1.5 Hazard Event History Specific to Cattaraugus County

Cattaraugus County has a history of hazard events, as detailed in Volume I, Section 5 (Risk Assessment) of this plan.

9.1.6 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the County's risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.

Hazard Ranking

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

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

During the review of the hazard/vulnerability risk ranking, the county agreed with the calculated hazard rankings.

Table 9.1-11. Hazard Ranking Input

Flood	Landslide	Severe Storm	Severe Winter Storm	Utility Failure	Wildfire
High	Low	High	High	High	Low

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

Critical Facilities

New York Department of Environmental Conservation (DEC) Statute 6 CRR-NY 502.4 sets forth floodplain management criteria for State projects located in flood hazard areas. The law states that no such projects related to critical facilities shall be undertaken in a Special Flood Hazard Area (SFHA) unless constructed according to specific mitigation specifications, including being raised two feet above the Base Flood Elevation (BFE). This statute is outlined at http://tinyurl.com/6-CRR-NY-502-4. While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood event, or worst damage

scenario. For those that do not meet this criterion, the jurisdiction must identify an action to achieve this level of protection (NYS DHSES 2017).

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

Table 9.1-12. Potential Flood Losses to Critical Facilities

Name	Type	Exposure 1% Event	Addressed by Proposed Action
Ischua Creek Watershed Dam #1	Dam	x	2020-Cattaraugus County-015
Ischua Creek Watershed Dam #4	Dam	x	2020-Cattaraugus County-015
Ischua Creek Watershed Dam #6a	Dam	x	2020-Cattaraugus County-015
Cabic Pond Dam	Dam	x	2020-Cattaraugus County-015
Conewango Creek Site 19 Dam	Dam	x	2020-Cattaraugus County-015

Source: Cattaraugus County 2020

Identified Issues

The County has identified the following vulnerabilities:

- The following critical facilities are located in the special flood hazard area:
  - Ischua Creek Watershed Dam #1
  - Ischua Creek Watershed Dam #4
  - Ischua Creek Watershed Dam #6a
  - Cabic Pond Dam
  - Conewango Creek Site 19 Dam
- Randolph Highway Barn, Allegany Transfer Station, and Portville Transfer Station are exposed to flooding.
- The following Highway Barns require backup power: Markhams (100 kW); Randolph (100 kW); West Valley (100 kW)
- The Board of Elections facility requires backup power.
- Numerous county-owned culverts are undersized.
- The county has identified numerous homes that would benefit from elevation or buyout to protect from flooding:
  - East Otto: Hammond Hill, 13 homes/cottages
  - Ashford Triangle: two (2) locations, five (5) houses total
  - Little Valley: one (1) home
  - Coldspring: one (1) home – County Road No. 9 at Coldspring Bridge No. 13
- The county has identified numerous homes that would benefit from buyout due to landslide risk.
  - Cattaraugus: 20 homes
  - Yorkshire: two (2) homes
- The county has identified numerous locations that experience landslide:
  - County Road No. 12: slides, five (5) locations
  - County Road No. 35: slide at Kellogg Hill
  - County Road No. 32: slide at Fox Valley
  - County Road No. 86-2: two (2) slides near nuclear site (Demonstration Project)
- The county has identified the following actions as being necessary to increase the public's safety and preparedness:
  - Public information folder/central location on website

- Flood plain management training throughout County for local floodplain administrators
- Tree trimming/maintenance program
- Update scour critical bridges
- Update potential emergency sheltering options
- Develop post-maintenance plan
- FIRM maps require update (County-wide)

9.1.7 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

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

Table 9.1-13. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
A1.1	Continuous Public Education - This will be done via pamphlets and website resources and include such information as: the dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers.	Winter Storms	County EDPT	Lack of public information	In Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. This is an ongoing project that has seen significant progress since the inclusion in the 2013 plan. The County has developed this and would like to review available information and continue to provide public outreach. This item should be consolidated with all Public Education/Outreach projects to include all hazards Note: Remove "American Red Cross" from future project description.
						Damages Avoided; Evidence of Success		3. This item should also be combined with items D2.5 and E1.2.
A1.2	Develop safety strategies for winter storm events in local driver education classes.	Winter Storms	County OES	Lack of public information and training	No Progress	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
A1.3	Develop public service awareness announcements before and during and emergency.	Winter Storms	County OES	Lack of public information	Ongoing Capability	Cost		1. Discontinue
						Level of Protection		2. Have developed and implements announcements before during and after an incident that reaches the public.
						Damages Avoided; Evidence of Success		3.
A2.1	Continue to work with critical facilities to develop emergency communications plans and emergency power backup plans.	Winter Storms	County OES	Power and communications outages	Ongoing	Cost		1. Include in 2020 HMP
						Level of Protection		2. Identify emergency backup needs, develop funding to implement projects
						Damages Avoided; Evidence of Success		3.
B1.1		Flood	County EDPT		In Progress	Cost		1. Combine with item A1.1

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Continuous Public Education – This will be done via pamphlets and website resources and include such information as: the dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers, storm drain maintenance procedures.			Need to enhance public education and outreach		Level of Protection Damages Avoided; Evidence of Success		2. 3.
B1.2	Educate municipalities on "Smart Growth" practices in the floodplains.	Flood	County EDPT	Public education and outreach	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify training needs and opportunities available through "Smart Growth." 3.
B1.3	Evaluate areas that need a flood warning system constructed.	Flood	County OES	Flash flooding, limited time	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify flash flood warning needs. Develop implementation projects. 3.
B2.1	Develop a plan to identify repetitively damaged/undersized infrastructure.	Flood	County DPW	Repetitive flooding	Ongoing	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify and mitigate undersized infrastructure 3.
B2.15	Implement/Encourage training for Code Enforcement Officers.	Flood	County DPW	Lack of training with regard to flood plain regulations	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify flood plain management training opportunities. 3.
B2.23	Replace/improve culverts/drainage CR5, CR6,	Flood	County DPW	Flash flooding/ undersized	In Progress	Cost Level of Protection		1. Include in 2020 HMP 2. Identify undersized and repetitive damage areas

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	CR60, CR19, CR24, CR12, CR14, CR75.			culverts/drainage structures		Damages Avoided; Evidence of Success		3.
B3.1	Identify Stream Stabilization projects throughout county.	Flood	County DPW	Stream erosion and stability	Ongoing Capability	Cost		1. Include in 2020 HMP 2. Annual program developed to identify and address streambank erosion areas 3. Continue and expand program
						Level of Protection		
						Damages Avoided; Evidence of Success		
B3.16	Stream Stabilization in Ashford Triangle on CR32.	Flood	County DPW	Flash flooding Stream erosion Repetitive residential flooding	In Progress	Cost		1. Include in 2020 HMP 2. Potential acquisition of properties in flood plain 3. HMGP application awaiting approval
						Level of Protection		
						Damages Avoided; Evidence of Success		
B4.1	Project committee will investigate a plan for county, town, village, and city employees to perform routine inspections and maintenance – including the removal of debris - from road ditches, culverts, streams, and other drainage features.	Flood	County/All municipalities	Lack of planning; development of maintenance plan	No Progress	Cost		1. Discontinue 2. Each jurisdiction is responsible for their own maintenance 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		
B5.1	Identify properties that have been repetitively damaged during flooding events.	Flood	County DPW	Repetitive flooding	In Progress	Cost		1. Include in 2020 HMP 2. Continue to identify repetitive flood areas and impacts to residential properties. Consider acquisition through hazard mitigation grant programs. 3. Combine with item B5.2
						Level of Protection		
						Damages Avoided; Evidence of Success		
B5.2	Seek a funding source to acquire these properties and turn them into green space – County Road 32, Ashford Triangle properties.	Flood	County DPW	Flash flooding Stream erosion	In Progress	Cost		1. Include in 2020 HMP 2. HMGP application awaiting approval. Combine with item B5.1 3.
						Level of Protection		
						Damages Avoided; Evidence of Success		

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
C1.1	Continuous Public Education – This will be done via pamphlets and website resources and include such information as: the dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers, storm survival procedures.	Severe Storm	County EDPT	Lack of information	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Combine with item A1.1 2. 3.
C1.2	Investigate a Tree Maintenance program to identify susceptible trees.	Severe Storm	County DPW	Minimize emergency callouts	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Coordinate with utility companies to identify problem areas. Remove vulnerable trees. 3. Combine with items D2.1 and D2.2
C1.3	Investigate measures to protect bridges and culverts from severe scour during storm events.	Severe Storm	County DPW	Part of DOT review of bridge inspections	Ongoing	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Update scour-vulnerable bridges and culverts. 3.
C1.6	Develop educational training for Municipal Code Enforcement Officers to confirm compliance with applicable building codes.	Severe Storm	County EDPT	Lack of training	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify code enforcement training opportunities and make local code enforcement officials aware of opportunities. 3.
D1.1	Continuous Public Education – This will be done via pamphlets and website resources. Include such information as: the dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers, ice storm survival procedures, driving in icy conditions tips.	Ice Storm	County EDPT	Lack of information	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Combine with item A1.1 2. 3.

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
D2.1	Identify list of at-risk utility lines.	Ice Storm	County OES	Ability to identify repetitive loss areas	In Progress	Cost		1. Combine with C1.2
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
D2.2	Initiate a tree maintenance program.	Ice Storm	County DPW	Lack of tree maintenance	No Progress	Cost		1. Combine with C.1.2
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
D2.3	Identify historically problematic icy pavement areas on local roads.	Ice Storm	County DPW	Identify high risk areas	No Progress	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
D2.5	Provide guide as to where to obtain travel and emergency aid.	Ice Storm	County OES	Lack of information	Ongoing	Cost		1. Combine with item A1.1
						Level of Protection		2. There is interstate signage available regarding travel advisories. This is an ongoing project that has seen significant progress since the inclusion in the 2013 plan. The County has developed this and would like to review available information and continue to provide public outreach. This item should be consolidated with all Public Education/Outreach projects to include all hazards.
						Damages Avoided; Evidence of Success		3.
E1.1	Continuous Public Education – This will be done via pamphlets and website resources and include such information as: the	Tornado	County EDPT	Lack of information	In Progress	Cost		1. Include in 2020 HMP/Combine with item A1.1
						Level of Protection		2.

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers, tornado spotting and preparation and survival procedures.					Damages Avoided; Evidence of Success		3.
E1.2	Develop, maintain, and spread list of Emergency Shelters and preparedness resources and needs.	Tornado	County OES	Provide local dependable shelters	In Progress	Cost		1. Include in 2020 HMP/Combine with item A1.1
						Level of Protection		2. This is an ongoing project that has seen significant progress since the inclusion in the 2013 plan. The County has developed this and would like to review available information and continue to provide public outreach. This item should be consolidated with all Public Education/Outreach projects to include all hazards.
						Damages Avoided; Evidence of Success		3.
E1.3	Develop reverse 911 call directory for early warning.	Tornado	County Sheriff	Early warning	Ongoing	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Have added “Everbridge” and “IPaws” in addition to Reverse 911. Other systems are available through various sources.
E1.4	Develop requirements for building codes.	Tornado	County DPW		No Progress	Cost		1. Discontinue
						Level of Protection		2. Building codes are locally administered
						Damages Avoided; Evidence of Success		3.
E2.1	Clean Tornado debris promptly from local waterways to prevent future flooding.	Tornado	County DPW Municipality Private	No maintenance of creeks/debris accumulations	No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. Identify problematic areas; acquire regulatory permits and property rights to clean debris.
						Damages Avoided;		3.

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Evidence of Success		
E2.2	Support the enforcement of Building codes to ensure trailers are properly tied down.	Tornado	County DPW	Poor installation	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Identify and retrofit deficient trailers to current code. 3.
F1.1	Continuous Public Education – This will be done via pamphlets and website resources and include such information as: the dissemination of American Red Cross evacuation centers, supplies to have on hand, listing of emergency telephone numbers	Wildfire	County EDPT	Lack of information	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Combine with item A1.1 2. 3.
F1.2	Increase media coverage of threat and evacuation procedures during peak wildfire times of the year.	Wildfire	County OES	Poor disbursement of information	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3.
F1.3	Increase enforcement of existing open burning laws.	Wildfire	County OES	Initiation of wildfires	Ongoing	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. Increased local and state standards. 3.
F2.1	Identify water resources and dry hydrants.	Wildfire	County OES	Provide map of ponds and dry hydrants	Ongoing Capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2020 HMP 2. Mostly done by local fire departments 3.
F2.2	Identify proposed future dry hydrant sites.	Wildfire	County OES	Locate sites	Ongoing Capability	Cost Level of Protection		1. Include in 2020 HMP 2. Mostly done by local fire departments

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Damages Avoided; Evidence of Success		3.
F2.3	Coordinate with all jurisdictions to develop list of resources available and needed.	Wildfire	County OES	Resources to fight wildfires	Ongoing Capability	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
G1.1	Continuous Public Education – This will be done via pamphlets and website resources and include such information as the dangers posed by a slow land slide, what to look for, and what to do when a slide occurs.	Landslide	County EDPT	Identify risks – residential	No Progress	Cost		1. Combine with item A1.1
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
G1.2	Identify structures and areas that are vulnerable to landslides.	Landslide	County DPW and/or local municipalities	Identify potential acquisitions	In Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. Combine with item G1.3
						Damages Avoided; Evidence of Success		3.
G1.3	Acquire vulnerable structures.	Landslide	County DPW and/or local municipalities	Remove at-risk structures	In Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2. Combine with item G1.2
						Damages Avoided; Evidence of Success		3.
G1.4	Enforce “Smart Growth” Practices.	Landslide	County EDPT	Identify risks	No Progress	Cost		1. Include in 2020 HMP
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
G1.14	Stabilize slides on county roads 21 and 76.	Landslide	County DPW	Road damage	Ongoing	Cost		1. Include in 2020 HMP

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection		2. CR #21 – complete project – monitoring wells 3. CR #76 – work pending
						Damages Avoided; Evidence of Success		
H1.1	Continuous Public Education – This will be done via pamphlets and website resources and include such information as the signs of a dam starting to fail and what to do if it before, during and after a failure.	Dam Failure	County EDPT	Emergency Action Plans	In Progress	Cost		1. Combine with item A1.1
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3.
H1.2	Update Emergency Action Plans.	Dam Failure	County OES County DPW CCSWCD	Update annually	Ongoing	Cost		1. Include in 2020 HMP
						Level of Protection		2. Annual updates
						Damages Avoided; Evidence of Success		3.
H1.3	Update maintenance and repair program.	Dam Failure	County DPW CCSWCD	Update annually	Ongoing	Cost		1. Include in 2020 HMP
						Level of Protection		2. Part of dam assessment
						Damages Avoided; Evidence of Success		3.
H1.4	Seek funding source for inundation mapping and plan updates – Lime Lake Outlet Dam.	Dam Failure	County DPW Lime Lake Cottage Association CCSWCD	Class B Dam	Complete	Cost		1. Include in 2020 HMP
						Level of Protection		2. Would like to consider additional evaluation as a Class A Dam as well as updates to the engineering assessment and inundation maps
						Damages Avoided; Evidence of Success		3.
H1.5	Conduct emergency drills.		County OES	Update		Cost		1. Include in 2020 HMP

Project #	Project	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2020 HMP or Discontinue 2. If including action in the 2020 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
		Dam Failure			Ongoing Capability	Level of Protection		2.
						Damages Avoided; Evidence of Success		3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

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

- Stream stabilization: Gooseneck Creek, Town of Ashford (erosion/unstable soils).

The following mitigation projects/activities have not been completed and were not identified in the previous mitigation strategy in the 2014 Plan:

- Universal backup power: provide emergency power connections at each major County highway facility:
  - Allegany - complete
  - Franklinville - complete
  - Markhams
  - Randolph
  - West Valley

Proposed Hazard Mitigation Initiatives for the Plan Update

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

Table 9.1-14 summarizes the comprehensive range of specific mitigation initiatives Cattaraugus County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

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

Table 9.1-15 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.

Table 9.1-14. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
2020-Cattaraugus County-001	Develop emergency communications plans and emergency power backup plans.	2	All Hazards	**Problem:** Power and communications outages put the public and critical facilities at risk. **Solution:** Continue to work with critical facilities to develop emergency communications plans and emergency power backup plans. The County will also work to update potential emergency sheltering options.	Yes	No	Within 1 year	County OES	Staff time	Ability to maintain communication during all hazard events	County Budget	High	LPR/ ES
2020-Cattaraugus County-002	Continuous Public Education	3	All Hazards	**Problem:** Need to enhance public education and outreach **Solution:** Continuous Public Education – This will be done via pamphlets and website resources and include such information as: evacuation centers, supplies to have on hand, listing of emergency telephone numbers, storm drain maintenance procedures.	No	No	Within 5 years	County EDPT	$10,000	Public educated	County Budget	High	EAP/ PI
2020-Cattaraugus County-003	Smart Growth	3	Flood	**Problem:** Development in the floodplain can increase risk to property and life. **Solution:** Educate municipalities on "Smart Growth" practices in the floodplains.	No	No	Within 5 years	County EDPT	$2,000	Public educated	County Budget	High	EAP/ PI
2020-Cattaraugus County-004	Evaluate areas that need a flood warning system constructed.	3	Flood	**Problem:** Flash flooding, limited time; flood gauging is necessary for adequate warning. **Solution:** Evaluate areas that need a flood warning system constructed. Pursue development of a flood warning system.	No	No	Within 5 years	County OES	$20,000	Adequate flood warning system established	County budget, HMGP, USGS	High	EAP, LPR/ PI
2020-Cattaraugus County-005	Replace and Upsize Undersized Culverts	1	Flood, Severe Storm	**Problem:** The county has identified numerous culverts that require upsizing. Undersized culverts are prone to damages and contribute to flooding **Solution:** The county will work to upsize the identified culverts during replacement.	No	No	Within 5 years	County DPW	$5,000 per culvert	Reduction in culvert damages and flood risk	HMGP, BRIC, CHIPS, County Budget	High	SIP/ SP
2020-Cattaraugus County-006	Implement/ Encourage training for Code	3	Flood	**Problem:** Officials responsible for floodplain management would benefit greatly from training opportunities. Very little zoning precludes homeowners from building in floodplains, leading to problems later.	No	No	Within 5 years	County DPW	$3,000	Certified floodplain managers trained. Floodplain	County Budget Local Munis.	High	EAP/ PI

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/ No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
	Enforcement Officers.			**Solution:** Obtain/host specialist training and certification for floodplain managers.						management improved			
2020-Cattaraugus County-007	Residential Property Flood Mitigation.	1, 3	Flood	**Problem:** Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The county has identified the following locations that would be good candidates for targeting mitigation.: •East Otto: Hammond Hill, 13 homes/cottages – flood •Ashford Triangle: two (2) locations, five (5) houses total – flood •Little Valley: one (1) home – flood •Coldspring: one (1) home – County Road No. 9 at Coldspring Bridge No. 13 **Solution:** The county will work with towns to conduct outreach to flood-prone property owners, including RL/SRL property owners and provide information regarding mitigation alternatives. After preferred mitigation measures are identified, the county will collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/ purchase/ moving/ elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).	No	No	3 years	County DPW Mun. NFIP Flood-plain Administrator, supported by home-owners	$3 million	Flood damage to homes and residents eliminated; open space for municipality created; flood storage increased	FEMA HMGP and FMA, local cost share by residents	High	SIP/ PP
2020-Cattaraugus County-008	Landslide Mitigation	1	Landslide	**Problem:** The county has identified numerous homes that would benefit from buyout due to landslide risk. ○ Village of Cattaraugus: 20 homes – landslide ○ Yorkshire: two (2) homes – landslide **Solution:** The county will work with local towns and villages to identify property owners that may be interested in buyout due to landslide risk and assist with grant applications.	No	No	2 years	County DPW	$5 million	Families moved away from landslide risk	HMGP, BRIC, County Budget	High	SIP/ PP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/ No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
2020-Cattaraugus County-009	Critical Facility Flood Protection	1	Flood	**Problem:** Randolph Highway Barn, Allegany Transfer Station, and Portville Transfer Station are exposed to flooding. **Solution:** The County will facilitate a feasibility assessment to determine the most appropriate mitigation action to protect critical facilities to the 500-year flood level. Options include: •Elevation of facility •Flood-proofing of facility •Mobile flood barriers Once the most cost-effective option is identified, the county will carry out that option.	Yes	No	Within 5 years	County DPW	TBD by feasibility assess-ment	Continuity of operations of critical facilities ensured	FEMA HMGP and BRIC, USDA Comm. Facilities Grant Program, EMPG, county budget	High	SIP/ PP
2020-Cattaraugus County-010	Highway Barns Backup Power	1	Utility Failure	**Problem:** Backup power sources are necessary to maintain critical services for critical facilities. The following Highway Barns require backup power: Markhams (100 kw); Randolph (100 kw); West Valley (100 kw). **Solution:** The County will purchase and install the backup power generators and necessary electrical components at the identified facilities.	Yes	No	Within 5 years	County DPW	$75,000 per generator	Continuity of operations of critical highway facilities ensured	FEMA HMGP and BRIC, USDA Comm. Facilities Grant Program, EMPG, County Budget	High	SIP/ ES
2020-Cattaraugus County-011	Investigate a Tree Maintenance program to identify susceptible trees.	1, 2	Severe Storm, Severe Winter Storm, Ice Storm, Utility Interruption	**Problem:** The County does not have a tree trimming program in place. It is unknown the safety of trees throughout the county. During wind events or heavy snow, falling tree branches can damage utilities and private property. **Solution:** The County will develop a tree trimming maintenance program. The program will include conducting tree inventories and working with utility companies to determine which trees may pose a threat in the event of a storm. Once identified, the County will perform or hire a	No	No	12 months	County DPW	$15,000	Reduction in power loss, property damage	HMGP, BRIC, County Budget	High	NSP/ NR

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/ No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
				contractor to perform needed work to remove or maintain high-risk trees.									
2020-Cattaraugus County-012	Develop educational training for Municipal Code Enforcement Officers.	3	All Hazards	**Problem:** There is a lack of training regarding incorporation of hazard mitigation concepts. **Solution:** The County will conduct training for Municipal Code Enforcement Officers and identify trainings available from state and private organizations.	No	No	Within 5 years	County DPW	$3,000	Municipal Code Enforcement Officers trained. Code Enforcement improved	County Budget, Local Munis.	High	EAP/ PI
2020-Cattaraugus County-013	Stream Clearing	2	Flood, Severe Storm	**Problem:** Streams that clog with debris can contribute to flooding. **Solution:** The county will conduct stream clearing and provide assistance to local municipalities to maintain local waterways.	No	No	Within 6 months	County DPW Municipality/Private	$100,000	Waterways cleared of debris and flooding prevented	County/ Mun. Budget	High	NSP, NR
2020-Cattaraugus County-014	Conduct emergency drills.	2	All Hazards	**Problem:** Emergency drills need to be conducted, specifically for low frequency events such as dam failure. **Solution:** The County will conduct emergency drills.	Yes	No	Within 6 months	County OES	Staff time	Staff better prepared for disaster events	County Budget	High	LPR/ ES
2020-Cattaraugus County-015	Protect County Dams to the 500-year Flood Level	1	Flood	**Problem:** Numerous dams are located in Cattaraugus County. Ischua Creek Watershed Dam #1, Ischua Creek Watershed Dam #4, Ischua Creek Watershed Dam #6a, Point Peter Dam, Cabic Pond Dam, and Conewango Creek Site 19 Dam are identified as being located in the Special Flood Hazard Area. **Solution:** The county will contact the facility managers of privately owned dams and discuss options for protecting the dams to the 500-year flood level. For county owned dams, the County DPW will survey the dams to determine what protections are necessary and carry out the necessary upgrades.	Yes	No	Within 6 months for outreach, within 5 years for county owned dams.	County DPW	<$100 for outreach, TBD by engineering for county owned dams	Facility managers aware of options to protect dams to 500-year flood level	County Budget	High	SIP, EAP/ SP, PI
2020-Cattaraugus County-016	Countywide FIRM Update	2	Flood	**Problem:** Best available flood mapping is needed. **Solution:** The county will work with FEMA to update flood hazard mapping	No	No	Within 5 years	County DPW, Flood-plain	$50,000	Best available flood	County Budget	High	LPR/ PR, PI

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/ No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
								Administrators, FEMA		mapping established			
2020-Cattaraugus County-017	Incorporate disaster mitigation into comprehensive plans	2	All Hazards	**Problem:** Comprehensive plans need to incorporate disaster mitigation **Solution:** Ensure that local comprehensive plans incorporate disaster mitigation techniques through a courtesy review of all draft plans by EDPT (County).	No	No	Within 5 years	County EDPT and local municipal agencies	$500	Disaster mitigation incorporated into comp. planning	County Budget	High	LPR/ PR
2020-Cattaraugus County-018	Identify and monitor bridges for scouring	2	Flood	**Problem:** Scouring of bridges can result in bridge failure. **Solution:** The County will identify and monitor bridges for scouring and work to identify funding sources to support mitigation to control scouring.	No	No	Within 5 years	County DPW	$25,000	Bridges protected from failure	HMGP, BRIC, County Budget	High	LPR, SIP/ PP
2020-Cattaraugus County-019	Identification of Temporary and Permanent Housing Locations	1	All Hazards	**Problem**: Municipalities in the county need to identify locations for the placement of temporary housing and permanent housing. **Solution**: The county will work with local municipalities to identify regional locations for temporary and permanent housing.	No	No	Within 6 months	Administration	Staff time	Temporary and permanent housing locations identified	Town budget	High	LPR/ ES
2020-Cattaraugus County-020	NFIP Technical Assistance	2, 3	Flood	**Problem:** Administration of municipal flood damage prevention/floodplain management programs across the county may not sufficiently address flood risk and NFIP compliance requirements. **Solution:** County staff will be made available to review each municipality's floodplain administration regulations, permitting practices, compliance history, etc. and work with municipal FPAs to identify enhancements that can be made to ensure continued municipal compliance with the NFIP.	No	No	Within 1 year	County DPW	Staff time	Enhanced floodplain management programs; reduced flood vulnerability for new development	County Budget	High	LPR/ PR
2020-Cattaraugus County-021	Board of Elections Backup Power	1	Utility Failure	**Problem:** Backup power sources are necessary to maintain critical services for critical facilities. The Board of Elections facility at 207 Rock City Street in Little Valley requires backup power.	Yes	No	Within 5 years	County DPW	$75,000	Continuity of operations of the Board of	FEMA HMGP and BRIC, USDA	High	SIP/ ES

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem and Solution	Critical Facility (Yes/ No)	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category/ CRS Category
				Solution: The County will purchase and install a backup power generator and necessary electrical components at the Board of Elections facility.						Elections ensured	Comm. Facilities Grant Program, EMPG, County Budget		
2020-Cattaraugus County-022	Ashford Triangle Acquisition Project	2	Flooding; Severe Storm; Utility Interruption	**Problem:** Properties located within a triangular parcel of land bordered by White Street, County Road No. 53, and County Road No. 32 in the Town of Ashford, NY, Cattaraugus County have experienced repetitive damage due to flood events (Tax parcel nos. 29.011-2-28.2, 29.011-2-28.1, and 29.011-2-30). **Solution:** Acquire the three (3) residences, demolish the existing structures and turn into green space.	No	No	Within 1 year	DPW	$215,650	Eliminated risk to life and property from flooding. Additional open space.	HMGP, BRIC, FMA	High	SIP /PP
2020-Cattaraugus County-023	Ashford Property Acquisition Project	2	Flooding; Severe Storm; Utility Interruption	**Problem:** Properties located off of County Road No. 32 in the Town of Ashford, NY, Cattaraugus County have experienced repetitive damage due to flood events (Tax parcel nos. 29.002-1-26.2 & 29.011-2-21). **Solution:** Acquire the two (2) residences, demolish the existing structures and turn into green space.	No	No	Within 1 year	DPW	$87,540	Eliminated risk to life and property from flooding. Additional open space.	HMGP, BRIC, FMA	High	SIP/ PP

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

Acronyms and Abbreviations:
CAV Community Assistance Visit
CRS Community Rating System
CCSWCD Cattaraugus County Soil & Water Conservation District

Potential FEMA HMA Funding Sources:
FMA Flood Mitigation Assistance Grant Program
HMGP Hazard Mitigation Grant Program

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

Cost:

DPW	*Department of Public Works*
EDPT	*Economic Development, Planning, & Tourism*
EHP	*Environmental Planning and Historic Preservation*
FEMA	*Federal Emergency Management Agency*
FPA	*Floodplain Administrator*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*
OES	*Office of Emergency Services*
BRIC	*Building Resilient Infrastructure and Communities*

The estimated cost for implementation.

Benefits:

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

Critical Facility:

Yes *Critical Facility located in 1% floodplain*

Mitigation Category:

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

CRS Category:

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

Table 9.1-15. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Cattaraugus County-001	Develop emergency communications plans and emergency power backup plans.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Cattaraugus County-002	Continuous Public Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Cattaraugus County-003	Smart Growth	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Cattaraugus County-004	Evaluate areas that need a flood warning system constructed.	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High
2020-Cattaraugus County-005	Replace and Upsize Undersized Culverts	0	1	1	1	1	1	0	1	1	1	1	0	1	1	11	High
2020-Cattaraugus County-006	Implement/Encourage training for Code Enforcement Officers.	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Cattaraugus County-007	Residential Property Flood Mitigation.	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2020-Cattaraugus County-008	Landslide Mitigation	1	1	1	1	1	1	0	1	0	1	0	1	1	1	11	High
2020-Cattaraugus County-009	Critical Facility Flood Protection	1	1	1	1	1	1	0	1	1	1	0	0	1	1	11	High
2020-Cattaraugus County-010	Highway Barns Backup Power	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High
2020-Cattaraugus County-011	Investigate a Tree Maintenance program to identify susceptible trees.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Cattaraugus County-012	Develop educational training for Municipal Code Enforcement Officers to confirm compliance with applicable building codes.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High
2020-Cattaraugus County-013	Stream Clearing	0	1	1	1	1	1	1	1	1	1	1	0	1	1	12	High

Table 9.1-15. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Cattaraugus County-014	Conduct emergency drills.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Cattaraugus County-015	Protect County Dams to the 500-year Flood Level	1	1	1	1	1	0	0	1	1	1	0	0	1	1	10	High
2020-Cattaraugus County-016	Countywide FIRM Update	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2020-Cattaraugus County-017	Incorporate disaster mitigation into comprehensive plans	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High
2020-Cattaraugus County-018	Identify and Monitor Bridges for Scouring	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Cattaraugus County-019	Identification of Temporary and Permanent Housing Locations	1	0	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2020-Cattaraugus County-020	NFIP Technical Assistance	1	1	1	1	1	1	0	0	1	0	0	1	1	1	10	High
2020-Cattaraugus County-021	Board of Elections Backup Power	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High
2020-Cattaraugus County-022	Ashford Triangle Acquisition Project	1	1	1	1	1	1	0	1	1	1	0	1	1	0	11	High
2020-Cattaraugus County-023	Ashford Property Acquisition Project	1	1	1	1	1	1	0	1	1	1	0	1	1	0	11	High

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

9.1.8 Proposed Mitigation Action Types

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

Table 9.1-16. Analysis of Mitigation Actions by Hazard and Category

	FEMA				CRS					
Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Winter Storms	X				X		X			
Flood	X	X		X	X	X	X		X	
Severe Storm	X			X	X		X			
Wildfire	X				X		X			
Landslide	X				X		X			
Utility Interruption	X	X			X	X	X			

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

9.1.9 Staff and Local Stakeholder Involvement in Annex Development

Cattaraugus County followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from various County departments, including the Department of Public Works, Office of Emergency Services, and the Department of Economic Development, Planning, and Tourism. Representatives from each department participated in the Cattaraugus County Hazard Mitigation Plan Planning Partnership and Steering Committee, and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

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

9.1.10 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for Cattaraugus County. These maps illustrate the probable areas impacted within the county. Maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which Cattaraugus County has significant exposure. Maps can be found in the hazard profiles located in Section 5.

Action Worksheet	
Project Name:	Replace and Upsize Undersized Culverts
Project Number:	2020-Cattaraugus County-005
Risk / Vulnerability	
Hazard(s) of Concern:	Flood, Severe Storm
Description of the Problem:	The county has identified numerous culverts that require upsizing. Undersized culverts are prone to damages and contribute to flooding. The following culverts require upsizing: County Road No. 4: • Culvert: Persia No. 17 – Broadway Road, tributary of South Branch, Cattaraugus Creek County Road No. 5: • Six (6) cross culverts – New Albion Lake – tributary of Conewango Creek • Kendall Corners – Conewango Creek: roadway overtopping – tributary of Conewango Creek • Between Leon Bridge Nos. 14 and 15: roadway overtopping – tributary of Conewango Creek • Dayton Bridge No. 8 – roadway overtopping/shoulder erosion – tributary of Conewango Creek County Road No. 6: • New Albion Bridge No. 27: tributary to south branch Cattaraugus Creek County Road No. 7: • Elm Creek Conewango No. 28 • Tributary of Elm Creek: Napoli No. 5 County Road No. 9: • Coldspring No. 9 – Little Conewango Creek County Road No. 10: • Conewango Creek – Farm to Market Road: Shoulder and ditch erosion County Road No. 11: • Swamp to Forty Road: six (6) to eight (8) undersized culverts • Tributary to South branch Cattaraugus Creek County Road No. 12: • Otto No. 24: shoulder erosion/narrow – South Branch, Cattaraugus Creek • Skinner Hollow: 2x2' undersized – South Branch, Cattaraugus Creek County Road No. 14 • Mansfield No. 2, Mansfield No. 44, Mansfield No. 45 – undersized culverts – tributary of Little Valley Creek • Eddy Road: erosion/drop inlet, undersized pipe – Mansfield Creek • Drainage: fire hall to Spring Street, poor drainage, repetitive flooding – Mansfield Creek County Road No. 15 • Mansfield Bridge No. 15: erosion, undersized – Tributary of Little Valley Creek County Road No. 17 • Many small undersized culverts throughout – Tributary of Little Valley Creek County Road No. 19 • From Franklinville Bridge No. 22 to power station: small undersized culverts – Tributary to Ischua Creek County Road No. 26 • From Pennsylvania Avenue to County Road No. 19: multiple undersized culverts, landslide, erosion – Tributary to Five Mile Creek/Tributary to Olean Creek County Road No. 29 • Olean No. 3: undersized culvert – Tributary of Mix Creek County Road No. 32 • Depot Street – Tributary of Buttermilk Creek County Road No. 36 • Hamlet area: poor drainage and shoulder plate wall and erosion; drop – Lime Lake • Tingue to County Road No. 21: poor drainage, no ditches – Tributary of Lime Lake outlet County Road No. 38 • Tracks to Route 219; residential area, poor drainage – Tributary to Great Valley Creek

	County Road No. 42 • Versailles fire hall: poor drainage, needs improvement – Cattaraugus Creek County Road No. 47 • Roadway overtops; shoulder erosion in area woods; no fields – Tributary of Gates Creek County Road No. 55 • At Keller Road: undersized culvert, shoulder erosion – Tributary of McKinstry Creek County Road No. 56 • Ditch, shoulder erosion – Tributary of South Branch Cattaraugus Creek County Road No. 60 • Kliess Cross Roads – drainage – Allegheny River County Road No. 67 • Existing enclosed drainage – poor – Wrights Creek County Road No. 68 • Undersized culverts – South Branch Cattaraugus Creek County Road No. 69 • Riverine backups; gravel bars; multiple sites – Ischua Creek County Road No. 74 • Multiple deep undersized culverts; Olean Creek drainage at County Road No. 19 – Five Mile Creek County Road No. 75 • East Otto: sewer – South Branch Cattaraugus Creek County Road No. 76 • Slides/drainage – South Branch Cattaraugus Creek County Road No. 80 • Many small undersized culverts – Johnson Creek County Road No. 85 • Deep culverts need to be slip lined -- Tributary to Buttermilk Creek County Road No. 92 • Close old basins and CMP rotten at two (2) located City/417 – Tributary to Allegany River

Action or Project Intended for Implementation				
Description of the Solution:	The county will complete engineering studies to identify the proper specifications to replace and upsize the identified undersized culverts. The county will then complete the necessary replacements and upgrades.			
Is this project related to a Critical Facility?	Yes ☐	No ☒		
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒		
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)				
Level of Protection:	At least a 5-year event; will be determined once project is complete	**Estimated Benefits (losses avoided):**	Reduction in culvert damages and flood risk	
Useful Life:	30 years	**Goals Met:**	1	
Estimated Cost:	$20,000 per culvert	**Mitigation Action Type:**	Structure and Infrastructure Project	
Plan for Implementation				
Prioritization:	High	**Desired Timeframe for Implementation:**	Ongoing	
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	HMGP, BRIC, CHIPS, county budget	
Responsible Organization:	DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation	
Three Alternatives Considered (including No Action)				
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**	
	No Action	$0	Current problem continues	

	Remove roads	$20,000	Roadways cannot be removed
	Relocate roads to other location	$50,000	Costly
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet		
Project Name:	Replace and Upsize Undersized Culverts	
Project Number:	2020-Cattaraugus County-005	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	
Property Protection	1	Project will protect roadways from flooding, culvert damages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	County has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Severe Storm, Flood
Timeline	0	Ongoing
Agency Champion	1	DPW
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Residential Property Flood Mitigation		
Project Number:	2020-Cattaraugus County-007		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The county has identified the following locations that would be good candidates for targeting mitigation.: • East Otto: Hammond Hill, 13 homes/cottages – flood • Ashford Triangle: two (2) locations, five (5) houses total – flood • Little Valley: one (1) home – flood • Coldspring: one (1) home – County Road No. 9 at Coldspring Bridge No. 13		
Action or Project Intended for Implementation			
Description of the Solution:	The county will work with towns to conduct outreach to flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event + freeboard *(in accordance with flood ordinance)*	**Estimated Benefits (losses avoided):**	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage
Useful Life:	Acquisition: Lifetime Elevation: 30 years (residential)	**Goals Met:**	1, 3
Estimated Cost:	$3 Million	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	3-5 Years
Estimated Time Required for Project Implementation:	Three years	**Potential Funding Sources:**	FEMA HMGP and FMA, local cost share by residents
Responsible Organization:	DPW, Municipality NFIP Floodplain Administrators, supported by homeowners	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Elevate homes	$500,000	When this area floods, the entire area is impacted; elevating homes would not eliminate the problem and still lead to road closures and impassable roads
	Elevate roads	$500,000	Elevated roadways would not protect the homes from flood damages

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

Action Worksheet		
Project Name:	Residential Property Flood Mitigation.	
Project Number:	2020-Cattaraugus County-007	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Families moved out of high-risk flood areas
Property Protection	1	Properties removed from high-risk flood areas
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The county has the legal authority to conduct the project
Fiscal	0	Project will require grant funding
Environmental	1	
Social	0	Project would remove families from the flood prone areas of the county
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	DPW, Municipality NFIP Floodplain Administrators, supported by homeowners
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Landslide Mitigation		
Project Number:	2020-Sheldon-008		
Risk / Vulnerability			
Hazard(s) of Concern:	Landslide		
Description of the Problem:	The county has identified numerous homes that would benefit from buyout due to landslide risk. o Village of Cattaraugus: 20 homes – landslide o Yorkshire: two (2) homes – landslide		
Action or Project Intended for Implementation			
Description of the Solution:	The county will work with local towns and villages to identify property owners that may be interested in buyout due to landslide risk and assist with grant applications.		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☐	No ☒	
Level of Protection:	Relocation	**Estimated Benefits (losses avoided):**	Families moved away from landslide risk
Useful Life:	Acquisition: Lifetime	**Goals Met:**	1
Estimated Cost:	$5Million	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6-12 months
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	HMGP, BRIC, County Budget
Responsible Organization:	County DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Current problem continues
	Elevate homes	$500,000	Raised homes may still be damaged
	Plantings on slopes	$5,000	Unlikely to be as effective

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

Action Worksheet		
Project Name:	Landslide Mitigation	
Project Number:	2020-Sheldon-008	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Families moved out of high-risk landslide areas.
Property Protection	1	Properties removed from high-risk landslide areas.
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The county has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from the landslide prone areas.
Administrative	1	
Multi-Hazard	0	Landslide
Timeline	1	
Agency Champion	1	County DPW
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Critical Facility Flood Protection		
Project Number:	2020-Cattaraugus County-009		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Randolph Highway Barn, Allegany Transfer Station, and Portville Transfer Station are exposed to flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will conduct a feasibility assessment to determine what additional floodproofing measures are needed to protect the critical facilities to the 500-year flood level. Options include: • Elevation of facility • Floodproofing of facility • Mobile flood barriers Once the most cost-effective option is identified, the town will carry out the option.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-year flood level	**Estimated Benefits (losses avoided):**	Ensures continuity of operations
Useful Life:	TBD by feasibility assessment	**Goals Met:**	1
Estimated Cost:	TBD by feasibility assessment	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 5 years
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	FEMA HMGP and PDM, BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, county budget
Responsible Organization:	County DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Emergency Management

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Relocate facilities	N/A	Not possible
	Build levee around facilities	N/A	No space for full levee system

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

Action Worksheet		
Project Name:	Critical Facility Flood Protection	
Project Number:	2020-Cattaraugus County-009	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Project will protect critical services
Property Protection	1	Project will protect critical facilities from flood damage.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The county has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	Within 5 years
Agency Champion	1	County DPW
Other Community Objectives	1	Protection of critical services
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Highway Barns Backup Power		
Project Number:	2020-Cattaraugus County-010		
Risk / Vulnerability			
Hazard(s) of Concern:	Utility Failure		
Description of the Problem:	Backup power sources are necessary to maintain critical services for critical facilities. The following highway facilities require backup power: Markhams (100 kw); Randolph (100 kw); West Valley (100 kw).		
Action or Project Intended for Implementation			
Description of the Solution:	The County will purchase and install the backup power generators and necessary electrical components at the identified facilities.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Ensures continuity of operations of Highway Barns
Useful Life:	20 years	**Goals Met:**	1
Estimated Cost:	$75,000 per generator	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 5 years
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, County budget
Responsible Organization:	DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Emergency Management

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed

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

Action Worksheet		
Project Name:	Highway Barns Backup Power	
Project Number:	2020-Cattaraugus County-010	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Project will protect critical services of facilities
Property Protection	1	Project will protect facilities from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The county has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Utility Failure
Timeline	1	1 year
Agency Champion	1	DPW
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Protect County Dams to the 500-year Flood Level		
Project Number:	2020-Cattaraugus County-015		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Numerous dams are located in Cattaraugus County. Ischua Creek Watershed Dam #1, Ischua Creek Watershed Dam #4, Ischua Creek Watershed Dam #6a, Point Peter Dam, Cabic Pond Dam, and Conewango Creek Site 19 Dam are identified as being located in the Special Flood Hazard Area.		
Action or Project Intended for Implementation			
Description of the Solution:	The county will contact the facility managers of privately owned dams and discuss options for protecting the dams to the 500-year flood level. For county owned dams, the County DPW will survey the dams to determine what protections are necessary and carry out the necessary upgrades.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☒	No ☐	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-year flood level	**Estimated Benefits (losses avoided):**	Facility managers aware of options to protect dams to 500-year flood level. County dams protected
Useful Life:	TBD by feasibility assessment	**Goals Met:**	1
Estimated Cost:	<$100 for outreach, TBD by engineering for county owned dams	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP), Education and Awareness Program
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 5 years
Estimated Time Required for Project Implementation:	Within 6 months for outreach, within 5 years for county owned dams.	**Potential Funding Sources:**	County budget, BRIC
Responsible Organization:	County DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Emergency Management

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Remove dams	N/A	Not possible
	Elevate all dams	High	Costly and may not be necessary

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

Action Worksheet		
Project Name:	Protect County Dams to the 500-year Flood Level	
Project Number:	2020-Cattaraugus County-015	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Project will protect from dam failure
Property Protection	1	Project will protect dams from flood damage.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	The county only has the legal authority to complete actions on county owned dams
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	Within 5 years
Agency Champion	1	County DPW
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Board of Elections Backup Power		
Project Number:	2020-Cattaraugus County-021		
Risk / Vulnerability			
Hazard(s) of Concern:	Utility Failure		
Description of the Problem:	Backup power sources are necessary to maintain critical services for critical facilities. The Board of Elections facility at 207 Rock City Street in Little Valley requires backup power.		
Action or Project Intended for Implementation			
Description of the Solution:	The County will purchase and install a backup power generator and necessary electrical components at the Board of Elections facility.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Continuity of operations of the Board of Elections ensured
Useful Life:	20 years	**Goals Met:**	1
Estimated Cost:	$75,000	**Mitigation Action Type:**	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 5 years
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, County budget
Responsible Organization:	DPW	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation, Emergency Management

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Install solar panels	$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed

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

Action Worksheet		
Project Name:	Board of Elections Backup Power	
Project Number:	2020-Cattaraugus County-021	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Project will protect critical services of facilities
Property Protection	1	Project will protect facilities from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The county has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Utility Failure
Timeline	1	1 year
Agency Champion	1	DPW
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Ashford Triangle Acquisition Project		
Project Number:	2020-Cattaraugus County-022		
Risk / Vulnerability			
Hazard(s) of Concern:	Flooding; Severe Storm; Utility Interruption		
Description of the Problem:	Properties located within a triangular parcel of land bordered by White Street, County Road No. 53, and County Road No. 32 in the Town of Ashford, NY, Cattaraugus County have experienced repetitive damage due to flood events (Tax parcel nos. 29.011-2-28.2, 29.011-2-28.1, and 29.011-2-30).		
Action or Project Intended for Implementation			
Description of the Solution:	Acquire the three (3) residences, demolish the existing structures and turn into green space.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Eliminated risk to life and property from landslides. Additional open space.
Useful Life:	100 years	**Goals Met:**	2
Estimated Cost:	$215,650	**Mitigation Action Type:**	Structural Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	Approximately 50 weeks	**Potential Funding Sources:**	HMGP, BRIC, FMA
Responsible Organization:	Cattaraugus County Department of Public Works	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Relocation	$260,000	Residents are removed from hazard area.
	Acquisition and demolition	$215,650	Selected action
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Evaluation and Prioritization		
Project Name:	Ashford Triangle Acquisition Project	
Project Number:	2020-Cattaraugus County-022	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet			
Project Name:	Ashford Property Acquisition Project		
Project Number:	2020-Cattaraugus County-023		
Risk / Vulnerability			
Hazard(s) of Concern:	Flooding; Severe Storm; Utility Interruption		
Description of the Problem:	Properties located off of County Road No. 32 in the Town of Ashford, NY, Cattaraugus County have experienced repetitive damage due to flood events (Tax parcel nos. 29.002-1-26.2 & 29.011-2-21).		
Action or Project Intended for Implementation			
Description of the Solution:	Acquire the two (2) residences, demolish the existing structures and turn into green space.		
Is this project related to a Critical Facility?	Yes ☐	No ☒	
Is this project related to a Critical Facility located within the Special Flood Hazard Area?	Yes ☐	No ☒	
(If yes, this project must intend to protect to the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	N/A	**Estimated Benefits (losses avoided):**	Eliminated risk to life and property from landslides. Additional open space.
Useful Life:	100 years	**Goals Met:**	2
Estimated Cost:	$87,540	**Mitigation Action Type:**	Structural Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	Approximately 50 weeks	**Potential Funding Sources:**	HMGP, BRIC, FMA
Responsible Organization:	Cattaraugus County Department of Public Works	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Relocation	$105,000	Residents are removed from hazard area.
	Acquisition and demolition	$87,540	Selected action

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

Evaluation and Prioritization		
Project Name:	Ashford Property Acquisition Project	
Project Number:	2020-Cattaraugus County-023	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	11	
Priority (High/Med/Low)	High	