



9.18 VILLAGE OF GOWANDA

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

9.18.1 Hazard Mitigation Planning Team

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

Table 9.18-1. Hazard Mitigation Planning Team

| Primary Point of Contact | Alternate Point of Contact |
|---|--|
| Name/Title: Carol Sheibley, Deputy Mayor Address: 27 East Main Street Gowanda, NY 14070 Phone Number: 716-532-3494 Email: csheib@verizon.net | Name/Title: Nicholas Crassi, Disaster Coordinator Address: 27 East Main Street Gowanda, NY 14070 Phone Number: 716-640-2707 Email: racernick07@earthlink.net |
| NFIP Floodplain Administrator | |
| Name/Title: David Smith, Mayor Address: 27 East Main Street Gowanda, NY 14070 Phone Number: 716-532-3353 Email: gowandamayor@gmail.com | |

9.18.2 Municipal Profile

The Village of Gowanda lies in the northwest part of Cattaraugus County in western New York State. The Village of Gowanda has a total area of 1.6 square miles. The Cattaraugus Creek flows through the village. The village lies in both Erie County and Cattaraugus County, with part of the village in the Town of Collins (Erie County) and part of the village in the Town of Persia (Cattaraugus County). The village is bordered to the west by the Town of Perrysburg and the Cattaraugus Nation Indian Reservation.

Data from the 2018 U.S. Census American Community Survey indicate that village has a total population of 2,820, with 6.1 percent of the village population 5 years of age or younger and 17.8 percent of the village population 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

History and Cultural Resources

The Village of Gowanda was first settled in 1810 by Turner Aldrich, then established in 1848. The name “Gowanda” means “a valley among the hills” or “under the cliffs” in the Seneca Indian language. Primary industries of the village included glue and tanning.

9.18.3 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 9.18-2 summarizes recent and expected future development trends, including major





residential/commercial development and major infrastructure development. Hazard area extent and location maps have been generated for the Village of Gowanda that illustrate the probable areas impacted within the municipality. These 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. The maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Village of Gowanda has significant exposure. The maps are illustrated below.

Figure 9.18-1 at the end of this annex illustrates the geographically-delineated hazard areas and the location of potential new development, where available.

Table 9.18-2. 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multi-Family | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other (commercial, mixed-use, etc.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | | | | | | | | | | |
| None identified | | | | | | | | | | |
| Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years | | | | | | | | | | |
| None anticipated | | | | | | | | | | |

SFHA Special Flood Hazard Area (1% flood event)

* Only location-specific hazard zones or vulnerabilities identified.

9.18.4 Capability Assessment

The Village of Gowanda 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 9.18.4). The Village of



Gowanda identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy. Appendix H provides the results of the planning/policy document review.

Planning, Legal, and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Gowanda and where hazard mitigation has been integrated.

Table 9.18-3. 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 | Chapter 26 | Local | CEO | Yes | Yes | - |
| Comment: None | | | | | | | |
| Zoning Code | Yes | Chapter 30 | Local | CEO | No | Yes | - |
| Comment: None | | | | | | | |
| Subdivisions | Yes | Chapter 31 | Local | Planning Board | No | Yes | - |
| Comment: None | | | | | | | |
| Stormwater Management | Yes | Site Plan | Local | Building Department | Yes | Yes | - |
| Comment: None | | | | | | | |
| Post-Disaster Recovery | Yes | N/A | Local | Village | No | 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 | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Site Plan Review | Yes | Chapter 31 | CEO | Building Department | No | Yes | - |
| Comment: The following site plan provisions are intended to secure compliance with the requirements and standards set forth in this chapter and with accepted professional design practice for such site improvements as grading, drainage, means of access, signs, architectural features, screens, sidewalks, curbs, parking, landscaping, fences, driveways, location and dimension of buildings. It further is to assure that the development and redevelopment of land within the village is appropriate and compatible with the development of surrounding land and consistent with the approved Master Plan. | | | | | | | |
| Environmental Protection | Yes | Chapter 31 | Local | Building Department | Yes | Yes | - |
| Comment: None | | | | | | | |
| Flood Damage Prevention | Yes | Flood Damage Protection. LL#1 of 2019 | Local and State | Village | 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: Relevant goals include to minimize expenditure of public money for costly flood control projects, minimize the need for rescue and relief efforts associated with flooding, and minimize damage to facilities and utilities located in areas of special flood hazard. | | | | | | | |
| Municipal Separate Storm Sewer System (MS4) | No | - | - | - | Yes | - | - |
| Comment: None | | | | | | | |
| Emergency Management | Yes | Emergency Management | Local/County Disaster Coordinator | OEM | 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 | Comprehensive Plan | Local | Administration | No | Yes | - |
| Comment: None | | | | | | | |
| Capital Improvement Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Disaster Debris Management Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Floodplain or Watershed Plan | Yes | Floodplain Plan | Local | Administration | No | Yes | - |
| Comment: None | | | | | | | |
| Stormwater Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Open Space Plan | No | - | - | - | Yes | - | - |
| Comment: None | | | | | | | |
| Urban Water Management Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Habitat Conservation Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Economic Development Plan | Yes | Economic Development Plan | Local | Administration | No | Yes | - |
| 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 #. | |
| Shoreline Management Plan | No | - | - | - | Yes | - | - |
| Comment: None | | | | | | | |
| Community Wildfire Protection Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Forest Management Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Transportation Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Agriculture Plan | No | - | - | - | Yes | - | - |
| Comment: None | | | | | | | |
| Other (this could include a climate action plan, tourism plan, business development plan, etc.) | No | - | - | - | - | - | - |
| Comment: None | | | | | | | |
| Response/Recovery Planning | | | | | | | |
| Comprehensive Emergency Management Plan | Yes | Comprehensive Emergency Management Plan | Local | OEM | Yes | Yes | - |
| Comment: None | | | | | | | |
| Strategic Recovery Planning Report | Yes | Strategic Recovery Planning Report | Local | Administration | - | Yes | - |
| Comment: None | | | | | | | |
| Threat & Hazard Identification & Risk Assessment (THIRA) | Yes | Threat & Hazard Identification & Risk Assessment (THIRA) | Local | OEM | Yes | Yes | - |
| Comment: None | | | | | | | |
| Post-Disaster Recovery Plan | Yes | Post-Disaster Recovery Plan | Local | OEM | No | Yes | - |
| Comment: None | | | | | | | |
| Continuity of Operations Plan | Yes | Chapter 2 Code Book | Local | OEM | No | Yes | - |
| Comment: None | | | | | | | |
| Public Health Plan | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |
| Other | No | - | - | - | No | - | - |
| Comment: None | | | | | | | |



Table 9.18-4. Development and Permitting Capability

| Indicate if your jurisdiction implements the following | Response Yes/No; Provide further detail |
|---|--|
| Development Permits. If yes, what department? | Yes – Village Code |
| Permits are tracked by hazard area. For example, floodplain development permits. | Yes – Village Code |
| Buildable land inventory If yes, please describe If no, please quantitatively describe the level of buildout in the jurisdiction. | No, 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 the Village of Gowanda.

Table 9.18-5. Administrative and Technical Capabilities

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

Fiscal Capability

The table below summarizes financial resources available to the Village of Gowanda.

Table 9.18-6. Fiscal Capabilities

| Financial Resources | Accessible or Eligible to Use (Yes/No) |
|--|---|
| Community development Block Grants (CDBG, CDBG-DR) | Yes – Village Board |
| Capital improvements project funding | Yes – Village Board |
| Authority to levy taxes for specific purposes | Yes – Village Board |





| Financial Resources | Accessible or Eligible to Use (Yes/No) |
|---|--|
| User fees for water, sewer, gas or electric service | Yes – Village Board |
| Impact fees for homebuyers or developers of new development/homes | Yes – Village Board |
| Stormwater utility fee | No |
| Incur debt through general obligation bonds | Yes – Village Board |
| Incur debt through special tax bonds | Yes |
| Incur debt through private activity bonds | No |
| Withhold public expenditures in hazard-prone areas | No |
| Other federal or state Funding Programs | Yes – Village Board |
| Open Space Acquisition funding programs | No |
| Other | Yes – Village Board |

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the Village of Gowanda.

Table 9.18-7. Education and Outreach Capabilities

| Indicate if your jurisdiction has the following resources | Yes/No; Please describe |
|---|----------------------------|
| Public information officer or communications office? | Yes – Emergency Management |
| Personnel skilled or trained in website development? | No |
| Hazard mitigation information available on your website; if yes, describe | No |
| Social media for hazard mitigation education and outreach; if yes, briefly describe. | No |
| 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. | No |
| Warning systems for hazard events; if yes, briefly describe. | Yes – Code Red/911 |
| Natural disaster/safety programs in place for schools; if yes, briefly describe. | Yes – Internal training |
| Other | No |

Community Classifications

The table below summarizes classifications for community programs available to the Village of Gowanda.

Table 9.18-8. Community Classifications

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

The village currently does not have any climate change related plans or initiatives in progress and relies on the county for information regarding climate change impacts.

Table 9.18-9. Adaptive Capacity

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

David Smith, Mayor

National Flood Insurance Program (NFIP) Summary

The Village of Gowanda identified two flood-prone areas within the community – Thatcher Brook and Grannis. The village does not maintain a list of property owners interested in flood mitigation. There are RiskMAP projects currently underway within the village. Substantial Damage Determinations are made using FEMA Codes. At present, six homes within the Village of Gowanda have been mitigated through elevation or acquisition. Flood hazard maps for the community adequately address the flood risk within the village.

The following table summarizes the NFIP statistics for the Village of Gowanda.

Table 9.18-10. NFIP Summary

| Municipality | # Policies | # Claims (Losses) | Total Loss Payments | # RL Properties |
|--------------------|------------|-------------------|---------------------|-----------------|
| Village of Gowanda | 80 | 135 | \$2,332,781 | 46 |

Source: NYS DHSES 2020
 Notes: RL Repetitive Loss



Resources

The local department responsible for floodplain management within the Village of Gowanda is Code Enforcement and there are no certified floodplain managers on staff. The village indicated that it has access to resources to determine possible future flooding conditions from climate change.

The Village of Gowanda indicated that its staff need assistance or training to support its floodplain management program. Cattaraugus County provides NFIP administration services for the village. The village uses Village Code to determine whether proposed development on an existing structure qualifies as a substantial improvement. The village did not identify any barriers to running an effective NFIP program in the community.

Compliance History

The Village of Gowanda's last Community Assistance Visit took place on April 23, 2008. The last Community Assistance Contact took place on November 2, 2009.

Regulatory

The flood damage prevention ordinance of the Village of Gowanda can be found under Chapter 34 – 2019 update. The village indicated that its floodplain management program meets or exceeds the minimum requirements. Other local ordinances, plans, or programs that support floodplain management and meeting the NFIP requirements include the 205 Study.

Additional Areas of Existing Integration

Village Website: The village website (<https://villageofgowanda.com/>) hosts community information, local laws, 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

The Village of Gowanda identified Route 62, Route 39, Aldrich Street, and Broadway Road as the routes used to evacuate residents prior to and during an event.

Sheltering

The village identified the Gowanda Central District High School, the Gowanda Elementary School, and the Fire Hall as emergency shelters. The capacity for each shelter is as needed, and each shelter can accommodate pets, is ADA compliant, has backup power, provides food service, and can provide medical services as needed.

Temporary Housing

The Village of Gowanda did not identify any areas suitable for placing temporary housing units but will work with the county to identify appropriate locations (2020-Gowanda-013).

Permanent Housing

The Village of Gowanda did not identify any areas suitable for relocating homes outside of the floodplain. A buildable land analysis is noted in Section 4 (County Profile). The village will work with the county to identify appropriate locations (2020-Gowanda-013).



9.18.5 Hazard Event History Specific to the Village of Gowanda

Cattaraugus County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities. The Village of Gowanda’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Cattaraugus County. Table 9.18-11 provides details regarding municipal-specific loss and damages the village experienced during hazard events. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.18-11. Hazard Event History

| Dates of Event | Event Type (Disaster Declaration if applicable) | County Designated? | Summary of Event | Municipal Summary of Damages and Losses |
|------------------------------|---|--------------------|---|--|
| October 27- November 8, 2012 | Hurricane Sandy (FEMA-EM-3351) | Yes | Remnants of Hurricane Sandy brought strong winds and heavy rains to western and north central New York. Rainfall amounts of two to five inches were measured across the area with some area creeks reaching bankful. The high winds downed trees and power lines throughout the region. Wind gusts were measured to 60 mph. | Although the county was impacted, the Village of Gowanda did not report any damages. |
| May 13-22, 2014 | Severe Storms and Flooding (FEMA-DR-4204) | Yes | Heavy showers and embedded thunderstorms trained across the western Southern tier. Rainfall amounts of one to three inches in just a few hours resulted in flash flooding across the region. Roads and culverts were washed out. Numerous roads were water-covered and closed. | Although the county was impacted, the Village of Gowanda did not report any damages. |
| November 17-26, 2014 | Severe Winter Storm, Snowstorm, and Flooding (FEMA-DR-4204) | Yes | Lake effect snow resulted in heavy snowfall across the region. | Although the county was impacted, the Village of Gowanda did not report any damages. |
| July 14, 2015 | Flash Flood | No | Numerous rounds of storms along a stationary cold front resulted in flash flooding. Damaging winds occurred in some areas of the county. | The Village of Gowanda did not report any damages. |
| March 8, 2017 | High Wind | No | A strong low pressure system brought strong and damaging winds to the entire region. | The Village of Gowanda did not report any damages. |

Notes:

- EM Emergency Declaration (FEMA)
- FEMA Federal Emergency Management Agency
- DR Major Disaster Declaration (FEMA)
- N/A Not applicable

9.18.6 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 Village of Gowanda’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 as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Gowanda. The Village of Gowanda 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 village agreed with the calculated hazard rankings.

Table 9.18-12. 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 2’ above the Base Flood Elevation (BFE). This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>. While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 0.2 percent annual 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 annual chance 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 9.18-13. Potential Flood Losses to Critical Facilities

| Name | Type | Exposure | Addressed by Proposed Action |
|---------------------------|-----------|----------|------------------------------|
| | | 1% Event | |
| Verizon CO (VZ-NY62848) | Hazmat | X | 2020-Gowanda-001 |
| Gowanda Free Library | Library | X | 2020-Gowanda-001 |
| Emmanuel Lutheran Church | Religious | X | 2020-Gowanda-001 |
| First Baptist Church | Religious | X | 2020-Gowanda-001 |
| Free Methodist Church | Religious | X | 2020-Gowanda-001 |
| St Marys Episcopal Church | Religious | X | 2020-Gowanda-001 |
| United Methodist Church | Religious | X | 2020-Gowanda-001 |

Source: Cattaraugus County 2020

Identified Issues

The municipality has identified the following vulnerabilities within their community

- The village has numerous critical facilities in the Special Flood Hazard Area.
- Flood prone areas require a warning system.
- The Gowanda water reservoir on Point Peter Rd is prone to landslides along its banks.
- Allen Springs and Thatcher Brook have stream bank erosion issues. These could be solved through seeding, rip rap, and stream bank stabilization
- The village requires an emergency warning system which would include the water and sewer facilities.
- The village requires an Emergency Operations Plan.
- Johnson Street, West Main Street, and Jamestown Street (near the railroad) requires stormwater drainage to be established to eliminate residential flooding
- The village requires another trash rack on Thatcher Brook to prevent debris jams
- The following culverts in Gowanda have incurred damages and require to be upsized:
 - Grannis Brook
 - Union Street
 - Buffalo Street
 - Rail Road Bridge
 - Cemetery Hill culvert
 - Thatcher Brook
 - Chaple Street Bridge
- The Gowanda Historic Hollywood Theater at 39 W. Main Street is a non-profit cultural asset that is also commonly used for outreach on hazards and emergency management education events. The corner of the building rests in the floodplain and the structure has been impacted by flooding in the past.

9.18.7 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 9.18-14. Status of Previous Mitigation Actions

| Project # | Project Name | Hazard(s) Addressed | Responsible Party | Brief Summary of the Original Problem and the Solution (Project) | Status (In Progress, Ongoing, No Progress, Complete) | Evaluation of Success (if 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. |
|-----------|---|---------------------|--------------------|--|--|--------------------------------------|---------------------|--|
| | | | | | | Cost | Level of Protection | |
| B1.4 | Evaluate areas that need a flood warning system constructed. | Flood | Village of Gowanda | Thatcher Brook Diversion Channel in design phase | In Progress | Cost | \$7 million | 1. Include in 2020 HMP 2. 3. |
| | | | | | | Level of Protection | | |
| | | | | | | Damages Avoided; Evidence of Success | | |
| B1.5 | Continue to support Flood Risk management Feasibility Study in the Village of Gowanda, and Towns of Perrysburg, Persia, and Dayton, as well as Erie County and the Town of Collins. | Flood | Village of Gowanda | Debris removal | In Progress | Cost | | 1. Include in 2020 HMP 2. 3. |
| | | | | | | 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 | Cattaraugus County | Trash rack monitoring, maintenance, and enhancement | In progress | Cost | | 1. Include in 2020 HMP 2. 3. |
| | | | | | | Level of Protection | | |
| | | | | | | Damages Avoided; Evidence of Success | | |
| C1.2 | Investigate a Tree Maintenance program to identify susceptible trees. | Severe Storm | County DPW | Tree maintenance of overgrown, large trees | In Progress | Cost | | 1. Include in 2020 HMP 2. 3. |
| | | | | | | Level of Protection | | |
| | | | | | | Damages Avoided; Evidence of Success | | |
| G1.12 | Study slide conditions in the Village of Gowanda near the Gowanda water reservoir on Point Peter Rd. | Landslide | Town of Persia | Bank stabilization | In Progress | Cost | | 1. Include in 2020 HMP 2. 3. |
| | | | | | | Level of Protection | | |
| | | | | | | Damages Avoided; Evidence of Success | | |



| | | | | | | | | |
|--|--|--|--|--|--|---|--|--|
| | | | | | | Damages Avoided; Evidence of Success | | |
|--|--|--|--|--|--|---|--|--|



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Village of Gowanda 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:

- None identified

Proposed Hazard Mitigation Initiatives for the Plan Update

The Village of Gowanda 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: 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 9.18-15 summarizes the comprehensive range of specific mitigation initiatives the Village of Gowanda 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 9.18-16 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.18-15. 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-Gowanda-001 | Critical Facilities Outreach | 1, 3 | Flood | <p>Problem: The village has numerous critical facilities in the Special Flood Hazard Area. These facilities are not municipally owned:</p> <ul style="list-style-type: none"> • Verizon CO (VZ-NY62848) • Gowanda Free Library • Emmanuel Lutheran Church • First Baptist Church • Free Methodist Church • St Marys Episcopal Church • United Methodist Church <p>Solution: The FPA will conduct outreach to facility managers to discuss flood exposure and potential mitigation actions.</p> | Yes | None | Within 6 months | FPA | Staff time | Facility managers educated on flood exposure and potential mitigation actions | Village budget | High | EAP | PI |
| 2020-Gowanda-002 | Flood Warning System | 1, 3 | Flood | <p>Problem: Flood prone areas require a warning system.</p> <p>Solution: The village will evaluate areas that need a flood warning system constructed and construct the system where necessary. The system will place specific emphasis on warnings for water and sewer facilities. The</p> | No | None | 2 years | FPA, OEM | \$7 million | Warning system established | HMGP, NWS, USGS, village budget | High | SIP | ES |



Table 9.18-15. 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 |
|------------------|---|-----------|-----------------------------|--|----------------------------|------------|--------------------|-------------|-----------------|---------------------------|----------------------------|----------|---------------------|--------------|
| | | | | Thatcher Brook Diversion Channel is currently in design phase. The System will also be able to be used to distribute warnings regarding other emergency events. | | | | | | | | | | |
| 2020-Gowanda-003 | Flood Risk Management Feasibility Study | 2 | Flood | <p>Problem: Flooding is a regional problem and natural watercourses need to be kept clear of debris to reduce flooding.</p> <p>Solution: Continue to support Flood Risk management Feasibility Study in the Village of Gowanda, and Towns of Perrysburg, Persia, and Dayton, as well as Erie County and the Town of Collins. The project includes debris removal in waterways.</p> | No | None | Within 5 years | FPA | High | Flooding risk reduced | HMGP, village budget | High | NSP | NR |
| 2020-Gowanda-004 | Landslide study | 2 | Landslide | <p>Problem: The Gowanda water reservoir on Point Peter Rd is prone to landslides along its banks.</p> <p>Solution: Study slide conditions in the Village of Gowanda near the Gowanda water reservoir on Point Peter Rd and conduct bank stabilization.</p> | No | None | Within 5 years | Engineer | Medium | Landslide risk reduced | HMGP, BRIC, village budget | High | SIP, NSP | PP, NR |
| 2020-Gowanda-005 | Establish Tree Maintenance Program | 1 | Severe Storm, Severe Winter | <p>Problem: Falling tree branches can result in property damage and utility failure.</p> | No | None | Within 1 year | DPW | Low | Reduction in tree damage, | Village budget | High | NSP | NR |





Table 9.18-15. 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 |
|------------------|--------------------------------|-----------|--------------------------------|---|----------------------------|------------------------|--------------------|---------------|-----------------|---|-----------------------------------|----------|---------------------|--------------|
| | | | Storm, Utility Failure | Solution: The village will establish a tree maintenance program to reduce the likelihood of falling tree branches. | | | | | | power outages | | | | |
| 2020-Gowanda-006 | Stream Bank Erosion Mitigation | 2 | Severe Storm, Flood, Landslide | <p>Problem: Allen Springs and Thatcher Brook have stream bank erosion issues.</p> <p>Solution: The village will work with SWCD to identify locations to mitigate stream bank erosion through seeding, rip rap, and stream bank stabilization. The village will secure necessary permits and complete the identified mitigation actions.</p> | No | May require permitting | Within 5 years | SWCD, DPW | Medium | Reduction in streambank erosion and potential collapses which could result in landslide and flooding concerns | HMGP, BRIC, village budget | High | NSP | NR |
| 2020-Gowanda-007 | Emergency Operations Plan | 1, 2, 3 | All hazards | <p>Problem: The village lacks an emergency operations plan.</p> <p>Solution: The village will write and adopt an emergency operations plan. The plan will be integrated with the proposed flood warning system.</p> | No | None | Within 1 year | OEM | Staff time | Plan established | Village budget | High | LPR | ES |
| 2020-Gowanda-008 | Stormwater Improvements | 1, 2 | Flood, Severe Storm | <p>Problem: Johnson Street, West Main Street, and Jamestown Street (near the railroad) requires stormwater drainage to be established to eliminate residential flooding.</p> <p>Solution: The Village Engineer will design the necessary stormwater</p> | No | None anticipated | Within 5 years | Engineer, DPW | High | Increased drainage, reduction in flooding | HMGP, BRIC, CHIPS, village budget | High | SIP | SP |





Table 9.18-15. 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 |
|------------------|------------------------------------|-----------|---------------------------|---|----------------------------|--|--------------------|-----------------------------------|--------------------------------|---|-----------------------------------|----------|---------------------|--------------|
| | | | | improvements and new features. The DPW will install the stormwater system components designed by the Engineer. | | | | | | | | | | |
| 2020-Gowanda-009 | Thatcher Brook Trash Rack | 2 | Flood, Severe Storm | <p>Problem: Thatcher Brook is prone debris jams which increases flood risk. The Brook has one trash rack which is effective at reducing the debris. Additional mitigation is needed.</p> <p>Solution: The village will work to gain the necessary permitting and install a second trash rack on Thatcher Brook.</p> | No | May require permitting | Within 5 years | Engineer | Medium | Reduction in debris jam and flood risk | HMGP, BRIC, village budget | High | SIP, NSP | PP, NR |
| 2020-Gowanda-010 | Culvert Upgrades | 1 | Flood, Severe Storm | <p>Problem: The following culverts in Gowanda have incurred damages and require to be upsized:</p> <ul style="list-style-type: none"> • Grannis Brook <ul style="list-style-type: none"> ○ Union Street ○ Buffalo Street ○ Rail Road Bridge ○ Cemetery Hill culvert • Thatcher Brook <ul style="list-style-type: none"> ○ Chaple Street Bridge <p>Solution: The village will make the necessary upgrades to the identified culverts.</p> | No | May require permitting over Thatcher Brook | Within 5 years | Public Works | \$5,000 per culvert on average | Reduction in culvert damages and flood risk | HMGP, BRIC, CHIPS, village budget | High | SIP | SP |
| 2020-Gowanda-011 | Gowanda Historic Hollywood Theater | 1, 3 | Flood | <p>Problem: The Gowanda Historic Hollywood Theater at 39 W. Main Street is a non-profit cultural asset that</p> | No | None | Within 2 years | Village, County, Facility manager | Medium | Facility protected from flood damages | HMGP, FMA, BRIC, county and | High | SIP | PP |





Table 9.18-15. 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 |
|------------------|----------------------------|-----------|---------------------------|---|----------------------------|------------|--------------------|--|-----------------|---|--|----------|---------------------|--------------|
| | | | | <p>is also commonly used for outreach on hazards and emergency management education events. The corner of the building rests in the floodplain and the structure has been impacted by flooding in the past.</p> <p>Solution: The village will work with Cattaraugus County to assist the Gowanda Historic Hollywood Theater as it works to identify potential mitigation actions and carry them out. The most likely actions would involve floodproofing the facility.</p> | | | | | | | village budgets | | | |
| 2020-Gowanda-012 | Repetitive Loss Properties | 1, 2 | Flood, Severe Storm | <p>Problem: Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The village has 46 repetitive loss properties.</p> <p>Solution: Conduct outreach to 60 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</p> | No | None | 3 years | NFIP Floodplain Administrator, supported by homeowners | \$6 Million | Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage. | FEMA HMGP and FMA, local cost share by residents | High | SIP | PP |



Table 9.18-15. 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 |
|------------------|---------------------------------|-----------|---------------------------|--|----------------------------|------------|--------------------|--------------------------------|-----------------|--|----------------------------|----------|---------------------|--------------|
| | | | | 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). | | | | | | | | | | |
| 2020-Gowanda-013 | Temporary and Permanent Housing | 1 | All hazards | <p>Problem: The village has not identified appropriate locations for the placement of temporary and permanent housing.</p> <p>Solution: The village will work with the county to identify appropriate locations for temporary and permanent housing.</p> | No | None | Within 6 months | Village administration, county | Staff time | Temporary and permanent housing locations identified | County and village budgets | High | LPR | ES |

Notes:

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

Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

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

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.


Benefits:

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





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 9.18-16. Summary of Prioritization of Actions

| Project Number | Project Name | Life Safety | Property Protection | Cost-Effectiveness | Technical | Political | Legal | Fiscal | Environmental | Social | Administrative | Multi-Hazard | Timeline | Agency Champion | Other Community | Total | High / Medium / Low |
|------------------|---|-------------|---------------------|--------------------|-----------|-----------|-------|--------|---------------|--------|----------------|--------------|----------|-----------------|-----------------|-------|---------------------|
| 2020-Gowanda-001 | Critical Facilities Outreach | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 12 | High |
| 2020-Gowanda-002 | Flood Warning System | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 11 | High |
| 2020-Gowanda-003 | Flood Risk Management Feasibility Study | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 11 | High |
| 2020-Gowanda-004 | Landslide study | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 10 | High |
| 2020-Gowanda-005 | Establish Tree Maintenance Program | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 10 | High |
| 2020-Gowanda-006 | Stream Bank Erosion Mitigation | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 10 | High |
| 2020-Gowanda-007 | Emergency Operations Plan | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 14 | High |
| 2020-Gowanda-008 | Stormwater Improvements | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 11 | High |
| 2020-Gowanda-009 | Thatcher Brook Trash Rack | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 9 | High |
| 2020-Gowanda-010 | Culvert Upgrades | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 11 | High |
| 2020-Gowanda-011 | Gowanda Historic Hollywood Theater | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 10 | High |
| 2020-Gowanda-012 | Repetitive Loss Properties | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 10 | High |
| 2020-Gowanda-013 | Temporary and Permanent Housing | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 13 | High |

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



9.18.8 Proposed Mitigation Action Types

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

Table 9.18-17. Analysis of Mitigation Actions by Hazard and Category

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

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

9.18.9 Staff and Local Stakeholder Involvement in Annex Development

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

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

9.18.10 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Village of Gowanda that illustrate the probable areas impacted within the municipality. These 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. The maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Village of Gowanda has significant exposure. The maps are illustrated below.



Figure 9.18-1. Village of Gowanda Hazard Area Extent and Location Map 1

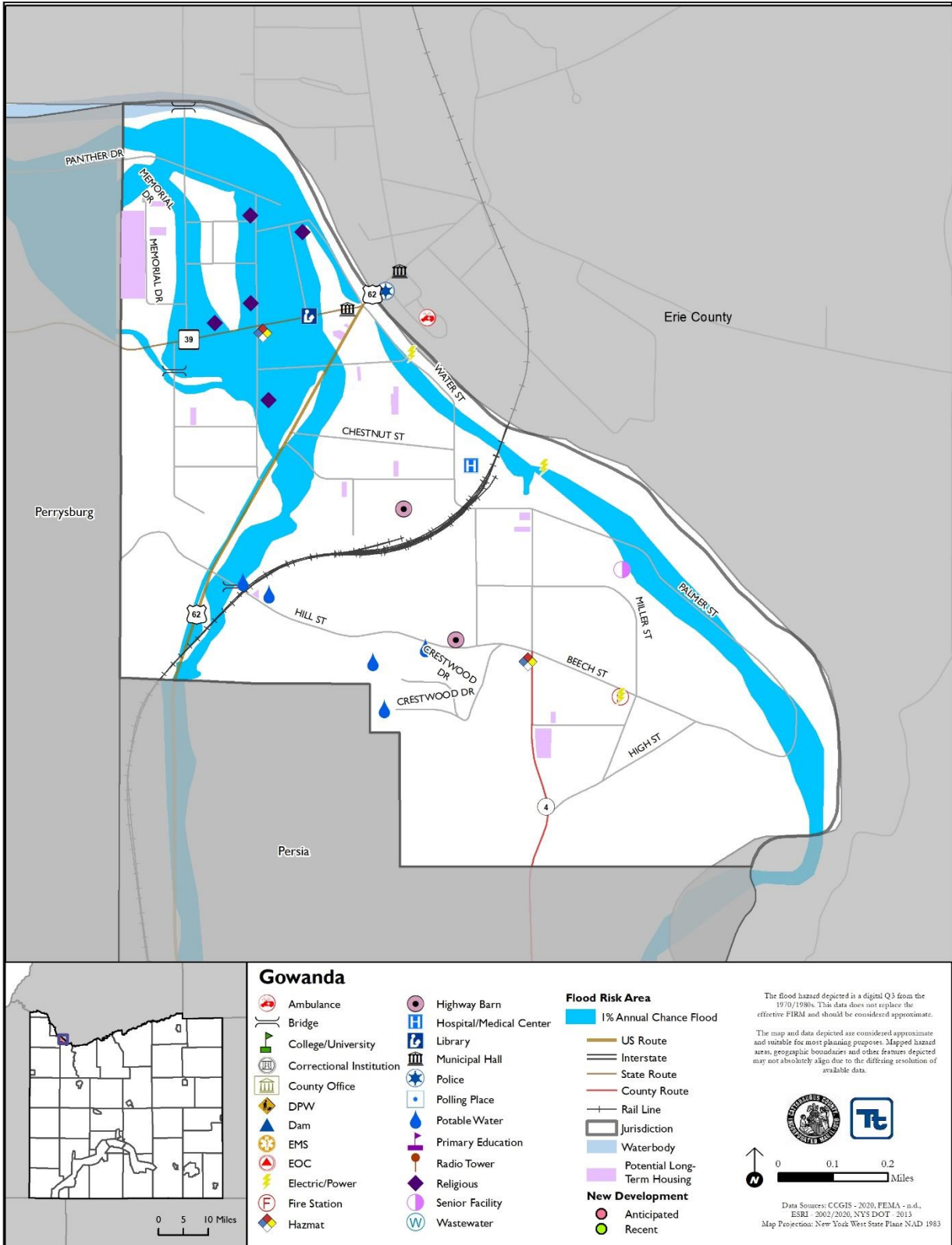
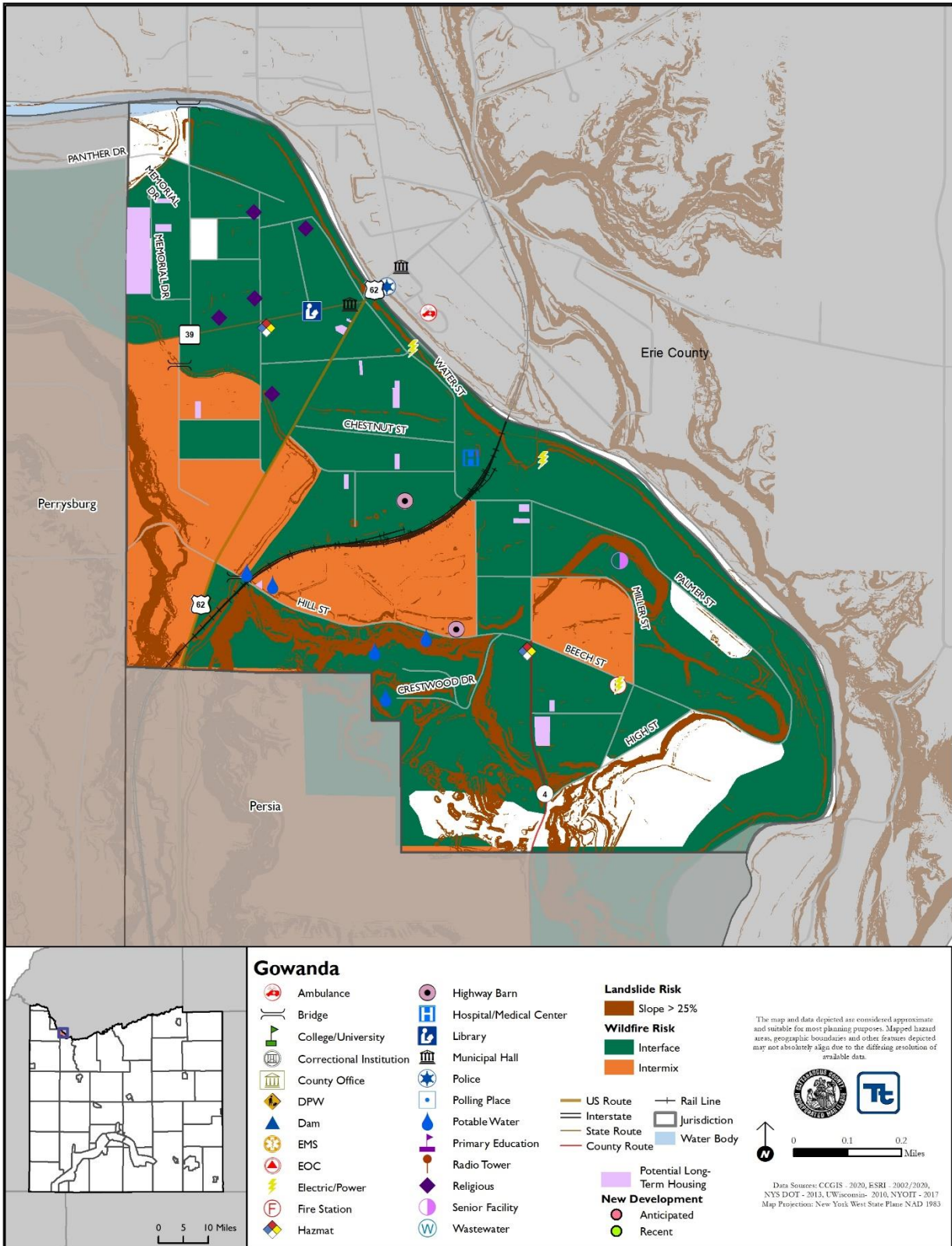




Figure 9.18-2. Village of Gowanda Hazard Area Extent and Location Map 2





| Action Worksheet | | | |
|---|--|---|--|
| Project Name: | Flood Warning System | | |
| Project Number: | 2020-Gowanda-002 | | |
| Risk / Vulnerability | | | |
| Hazard(s) of Concern: | Flood, Severe Storm | | |
| Description of the Problem: | Currently, the Village of Gowanda does not have a method to identify flood levels and distribute warnings to prepare the population for flooding events. | | |
| Action or Project Intended for Implementation | | | |
| Description of the Solution: | The village will evaluate areas that need a flood warning system constructed and construct the system where necessary. The system will place specific emphasis on warnings for water and sewer facilities. The Thatcher Brook Diversion Channel is currently in design phase. The System will also be able to be used to distribute warnings regarding other emergency events. | | |
| Is this project related to a Critical Facility or Lifeline? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Is this project related to a Critical Facility located within the Special Flood Hazard Area? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Level of Protection: | Flood warning system | Estimated Benefits (losses avoided): | Increased flood warning with better quality data |
| Useful Life: | 15 years | Goals Met: | 1, 3 |
| Estimated Cost: | \$7 Million | 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: | Three years | Potential Funding Sources: | HMGP, NWS, USGS, Municipal budget |
| Responsible Organization: | NFIP Floodplain Administrator, OEM | 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 | Current problem continues |
| | Rely on the NWS updates | \$0 | Do not provide real-time information, delay in information could impact the village on responding properly |
| | Conduct manual readings by emergency personnel | Staff time | Inaccurate and time consuming |
| Progress Report (for plan maintenance) | | | |
| Date of Status Report: | | | |
| Report of Progress: | | | |
| Update Evaluation of the Problem and/or Solution: | | | |



| Action Worksheet | | |
|--------------------------------|----------------------------|--|
| Project Name: | Flood Warning System | |
| Project Number: | 2020-Gowanda-002 | |
| Criteria | Numeric Rank (-1, 0, 1) | Provide brief rationale for numeric rank when appropriate |
| Life Safety | 1 | Provides improved flood warning |
| Property Protection | 1 | Provides the opportunity to move movable property prior to a flood |
| Cost-Effectiveness | 1 | |
| Technical | 0 | Requires technical support from USGS or NWS |
| Political | 1 | |
| Legal | 1 | The village has the legal authority to complete the project |
| Fiscal | 0 | Project requires funding support |
| Environmental | 1 | |
| Social | 1 | |
| Administrative | 1 | |
| Multi-Hazard | 1 | Flood |
| Timeline | 0 | 2 years |
| Agency Champion | 1 | NFIP Floodplain Administrator, OEM |
| Other Community Objectives | 1 | |
| Total | 11 | |
| Priority (High/Med/Low) | High | |



| Action Worksheet | | | |
|---|--|---|---|
| Project Name: | Stormwater Improvements | | |
| Project Number: | 2020-Gowanda-008 | | |
| Risk / Vulnerability | | | |
| Hazard(s) of Concern: | Flood, Severe Storm | | |
| Description of the Problem: | Johnson Street, West Main Street, and Jamestown Street (near the railroad) requires stormwater drainage to be established to eliminate residential flooding. | | |
| Action or Project Intended for Implementation | | | |
| Description of the Solution: | The Village Engineer will design the necessary stormwater improvements and new features. The DPW will install the stormwater system components designed by the Engineer. | | |
| Is this project related to a Critical Facility? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Is this project related to a Critical Facility located within the 100-year floodplain? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| (If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater) | | | |
| Level of Protection: | TBD by engineering study | Estimated Benefits (losses avoided): | Increased drainage, reduction in flooding |
| Useful Life: | 20 years | Goals Met: | 1, 2 |
| Estimated Cost: | High | Mitigation Action Type: | Structure and Infrastructure Project |
| Plan for Implementation | | | |
| Prioritization: | High | Desired Timeframe for Implementation: | Within 5 years |
| Estimated Time Required for Project Implementation: | Within 5 years | Potential Funding Sources: | HMGP, BRIC, CHIPS, village budget |
| Responsible Organization: | Engineer, DPW | Local Planning Mechanisms to be Used in Implementation if any: | Hazard mitigation, Stormwater management |
| Three Alternatives Considered (including No Action) | | | |
| Alternatives: | Action | Estimated Cost | Evaluation |
| | No Action | \$0 | Problem continues. |
| | Buyout homes exposed to flooding | High | Costly |
| | Close roadways that experience flooding | Low | Loss of access |
| Progress Report (for plan maintenance) | | | |
| Date of Status Report: | | | |
| Report of Progress: | | | |
| Update Evaluation of the Problem and/or Solution: | | | |



| Action Worksheet | | |
|--------------------------------|----------------------------|---|
| Project Name: | Stormwater Improvements | |
| Project Number: | 2020-Gowanda-008 | |
| Criteria | Numeric Rank (-1, 0, 1) | Provide brief rationale for numeric rank when appropriate |
| Life Safety | 0 | |
| Property Protection | 1 | Properties protected from flooding |
| Cost-Effectiveness | 1 | |
| Technical | 1 | The project is technically feasible |
| Political | 1 | |
| Legal | 1 | The village has the legal authority to complete the project |
| Fiscal | 0 | Project requires funding support |
| Environmental | 1 | |
| Social | 1 | |
| Administrative | 1 | |
| Multi-Hazard | 1 | Flood, Severe Storm |
| Timeline | 0 | Within 5 years |
| Agency Champion | 1 | Engineer, DPW |
| Other Community Objectives | 1 | |
| Total | 11 | |
| Priority (High/Med/Low) | High | |



| Action Worksheet | | | |
|---|--|---|--|
| Project Name: | Thatcher Brook Trash Rack | | |
| Project Number: | 2020-Gowanda-009 | | |
| Risk / Vulnerability | | | |
| Hazard(s) of Concern: | Flood, Severe Storm | | |
| Description of the Problem: | Thatcher Brook is prone debris jams which increases flood risk. The Brook has one trash rack which is effective at reducing the debris. Additional mitigation is needed. | | |
| Action or Project Intended for Implementation | | | |
| Description of the Solution: | The village will work to gain the necessary permitting and install a second trash rack on Thatcher Brook. | | |
| Is this project related to a Critical Facility? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Is this project related to a Critical Facility located within the 100-year floodplain? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| (If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater) | | | |
| Level of Protection: | TBD by engineering study | Estimated Benefits (losses avoided): | Reduction in debris jam and flood risk |
| Useful Life: | 20 years | Goals Met: | 2 |
| Estimated Cost: | High | Mitigation Action Type: | Structure and Infrastructure Project, Natural Systems Protection |
| Plan for Implementation | | | |
| Prioritization: | High | Desired Timeframe for Implementation: | Within 5 years |
| Estimated Time Required for Project Implementation: | Within 5 years | Potential Funding Sources: | HMGP, BRIC, village budget |
| Responsible Organization: | Engineer | Local Planning Mechanisms to be Used in Implementation if any: | Hazard mitigation, Stormwater management |
| Three Alternatives Considered (including No Action) | | | |
| Alternatives: | Action | Estimated Cost | Evaluation |
| | No Action | \$0 | Problem continues. |
| | Buyout homes exposed to flooding | High | Costly |
| | Conduct debris clearing after every rainfall event | Medium | Limited staffing ability |
| Progress Report (for plan maintenance) | | | |
| Date of Status Report: | | | |
| Report of Progress: | | | |
| Update Evaluation of the Problem and/or Solution: | | | |



| Action Worksheet | | |
|--------------------------------|---------------------------|--|
| Project Name: | Thatcher Brook Trash Rack | |
| Project Number: | 2020-Gowanda-009 | |
| Criteria | Numeric Rank (-1, 0, 1) | Provide brief rationale for numeric rank when appropriate |
| Life Safety | 0 | |
| Property Protection | 1 | Properties protected from flooding |
| Cost-Effectiveness | 1 | |
| Technical | 1 | The project is technically feasible |
| Political | 1 | |
| Legal | 0 | The village may require permitting to complete the project |
| Fiscal | 0 | Project requires funding support |
| Environmental | 1 | |
| Social | 1 | |
| Administrative | 1 | |
| Multi-Hazard | 1 | Flood, Severe Storm |
| Timeline | 0 | Within 5 years |
| Agency Champion | 1 | Engineer |
| Other Community Objectives | 1 | |
| Total | 10 | |
| Priority (High/Med/Low) | High | |



| Action Worksheet | | | |
|---|--|---|--|
| Project Name: | Culvert Upgrades | | |
| Project Number: | 2020-Gowanda-010 | | |
| Risk / Vulnerability | | | |
| Hazard(s) of Concern: | Flood, Severe Storm | | |
| Description of the Problem: | The following culverts in Gowanda have incurred damages and require to be upsized: <ul style="list-style-type: none"> • Grannis Brook <ul style="list-style-type: none"> ○ Union Street ○ Buffalo Street ○ Rail Road Bridge ○ Cemetery Hill culvert • Thatcher Brook <ul style="list-style-type: none"> ○ Chapple Street Bridge | | |
| Action or Project Intended for Implementation | | | |
| Description of the Solution: | The village will replace and upsize the repetitively damaged/undersized culverts in the village. The Thatcher Brook bridge/culvert may require permitting over Thatcher Brook. All permits will be secured prior to construction. | | |
| Is this project related to a Critical Facility? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Is this project related to a Critical Facility located within the Special Flood Hazard Area? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| (If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater) | | | |
| Level of Protection: | 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: | \$5,000 per culvert on average | Mitigation Action Type: | Structure and Infrastructure Project |
| Plan for Implementation | | | |
| Prioritization: | High | Desired Timeframe for Implementation: | Within 5 years |
| Estimated Time Required for Project Implementation: | 1 year | Potential Funding Sources: | HMGP, BRIC, CHIPS, village budget |
| Responsible Organization: | 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 | Current problem continues |
| | Remove roads | \$20,000 per roadway | Roadways cannot be removed |
| | Relocate roads to another location | \$50,000 per roadway | Roadways will still need to cross stream, 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: | Culvert Upgrades | |
| Project Number: | 2020-Gowanda-010 | |
| 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 | The village 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 | Within 5 years |
| Agency Champion | 1 | Public Works |
| Other Community Objectives | 1 | |
| Total | 11 | |
| Priority (High/Med/Low) | High | |



| Action Worksheet | | | |
|---|--|---|--|
| Project Name: | Repetitive Loss Properties | | |
| Project Number: | 2020-Gowanda-012 | | |
| 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 Village of Gowanda has 46 repetitive loss properties. | | |
| Action or Project Intended for Implementation | | | |
| Description of the Solution: | Conduct outreach to 60 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 <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Is this project related to a Critical Facility located within the Special Flood Hazard Area? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| Level of Protection: | 1% annual chance flood event + freeboard (<i>in accordance with flood ordinance</i>) | 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, 2 |
| Estimated Cost: | \$6 Million | 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: | Three years | Potential Funding Sources: | FEMA HMGP and FMA, local cost share by residents |
| Responsible Organization: | NFIP Floodplain Administrator, 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 per home | 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: | Repetitive Loss Properties | |
| Project Number: | 2020-Gowanda-012 | |
| 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 village 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 village. |
| Administrative | 0 | |
| Multi-Hazard | 1 | Flood, Severe Storm |
| Timeline | 0 | |
| Agency Champion | 1 | NFIP Floodplain Administrator, supported by homeowners |
| Other Community Objectives | 1 | |
| Total | 10 | |
| Priority (High/Med/Low) | High | |