2025 Hazard Mitigation Plan

DRAFT

Onondaga County, New York

Village of Solvay Annex

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This Annex details the hazard mitigation elements specific to the Village of Solvay, a participating jurisdiction to the 2025 Onondaga County Hazard Mitigation Plan update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Countywide Planning Elements)**. Therefore, all sections of **Volume 1** including the planning process, hazard identification and risk assessment, mitigation strategy (includes mitigation goals and objectives), and plan maintenance apply to and were met by the Village of Solvay. This Annex provides additional information specific to the Village, with a focus on providing additional details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

1. HAZARD MITIGATION LOCAL PLANNING TEAM

The following individuals have been identified as the Village of Solvay Local Planning Team for the 2025 Onondaga County Hazard Mitigation Plan. These individuals participated in all aspects of the planning process and developed a risk and vulnerability assessment, capability assessment, and mitigation strategy (including mitigation actions) specific to the jurisdiction.

Name	Title	Department
Derek Baichi	Mayor	Board of Trustees
Derek Osbeck	Chief of Police	Police Department
Harry DeCarlo	Village Clerk-Treasurer	Board of Trustees
Mark Malley	Village Engineer	Code Enforcement Office

2. MUNICIPAL PROFILE

The Village of Solvay is located in the Town of Geddes at the center of Onondaga County and has a total area of 1.6 square miles. *The Town of Geddes has developed its own dedicated annex as part of this Plan.* The Village is located in the southern portion of the east end of Onondaga Lake, and it is south of Interstate 690. The Erie Canal passes through the Village. The Village of Solvay is bordered to the north and the south by the Town of Geddes, to the east by the City of Syracuse, and to the west by the Town of Camillus.

2.1. Population

In 2023, the Village of Solvay had a population of 6,484, a 5.1% increase from the estimated 2018 population of 2,411. **Table 1** summarizes population distribution between 2010 and 2023, and the percentage of the 2023 population that is under five (5) years old, over 65 years old, and living below poverty level.

Table 1. Population Trends

Population				Underserved Population		
2010[1]	**2018[2]**	**2023[3]**	**Population Change** *(2018 – 2023)*	**Youth[3]** *(Under 5 years old)*	**Elderly[3]** *(Over 65 years old)*	**Below Poverty Level[3]**
6,584	6,364	6,484		8.4%	18.5%	10.3%

[1] United States Census Bureau. (2010). QuickFacts: Village of Solvay. Retrieved from https://www.census.gov/quickfacts/fact/table/solvayvillagenewyork/.
[2] United States Census Bureau. (2018). DP05: ACS Demographic and Housing Estimates (2018: 5-Year Estimates Data Profiles). Retrieved from https://data.census.gov/table/ACSDP5Y2018.DP05?g=160XX00US3668286.
[3] United States Census Bureau. (2023). QuickFacts: Village of Solvay. Retrieved from https://www.census.gov/quickfacts/fact/table/solvayvillagenewyork/.

2.2. History and Cultural Resources

The Solvay area was within the former Central New York Military Tract, but Solvay was in a location reserved for members of the Onondaga Nation Tribe. The Village was initially founded in 1794 by James Geddes and was initially called "Geddesville." The first residents were mostly Irish, subsequently joined by South Tyrolians and Poles. Eventually the community became known for its population largely Italian in extraction. It still retains a large segment of the population of Italian descent. More recently many families of Ukrainian descent have settled in the Village.

The Village of Solvay was renamed after 1884, when the Solvay Process Company built a Solvay process plant to produce soda ash. The Village of Solvay was incorporated in 1895. Other major businesses of Solvay included Frazier & Jones, a foundry; Crucible Steel, producer of specialty steels; Iroquois Pottery (Solvay China); and Pass & Seymour, producing electrical wiring devices. The Solvay Process plant, owned by Allied Chemical and Dye Corporation, closed in 1985. The community has remained stable despite this loss.

Solvay has its own municipal electric company which provides service to the Village as one of the least expensive rates in the country. The Solvay Public Library was listed on the National Register of Historic Places in 2007.

3. GROWTH/DEVELOPMENT TRENDS

Understanding development trends can help evaluate whether the jurisdiction's vulnerability has increased, decreased, or remained the same. **Table 2** summarizes the total housing units built in the Village of Solvay between 2019 and 2023.[4]

Table 2. Housing Units Built (2019 – 2023)

Type	2019	2020	2021	2022	2023
Single-Family Units	0	0	0	0	0
Multi-Family Units	0	0	0	2	0
2-Family Units	*0*	*0*	*0*	*2*	*0*
3-Family Units	*0*	*0*	*0*	*0*	*0*
Apartment Units	*0*	*0*	*0*	*0*	*0*
Total Units	**0**	**0**	**0**	**2**	**0**

The Onondaga County Housing Needs Assessment, a component of the County's Comprehensive Plan, explores the County's housing market and its challenges in greater depth and argues that one of the County's greatest housing needs is an improved approach to land use planning. In the Assessment, it is stated that there are similarities and affinities between certain groups of municipalities. Therefore, the County was sub-divided into seven (7) sub-regions, each of which covers multiple municipalities. The municipalities within each sub-region, share sufficient geographic and market characteristics to be treated as a single place for purposes of further understanding the county housing market.

The Village of Solvay is in the Onondaga Shores sub-region. Among the suburban sub-regions, it is the nearest in household characteristics to Syracuse, overrepresented as it is in single parent families, people living alone, and households with incomes under $100,000. Total household growth between 2000 and 2020 was 2.7% (the average of all the County towns/villages was 12.0%), the slowest growth outside of the Syracuse sub-region. If demand continues to grow in the County, Onondaga Shores will be dependent on the decisions made elsewhere. If sprawling

[4] Data provided by the Onondaga County Department of Planning based on Real Property Data (2024).

residential development typical of the County continues, and demand is either fully supplied or outpaced by new construction, negative trends for Onondaga Shores will continue. If typical sprawling development is aimed at for sale units, Onondaga Shores may be sustained to some extent by meeting unmet rental demand in its formerly owner-occupied houses, though this has effects. Furthermore, if other towns shift into higher gear for rental units, Onondaga Shores may remain subject to a slowing trajectory. Under a low-growth scenario, the inner ring suburbs of Onondaga Shores may undergo a slowdown process similar to Syracuse decades earlier, as the oldest suburban housing stocks in the County fall out of favor with the ownership market. Conversion of formerly owner-occupied houses to rental use would become more common. This would be accelerated to the degree that other suburban jurisdictions permit new for sale units beyond total owner household growth.

Table 3 summarizes major recent residential/commercial development (in the past five (5) years), and any known or anticipated major residential/commercial development and major infrastructure development, as of December 2024, that is likely to occur within hazard prone areas in the next five (5) years.

Table 3. Growth and Development

Property or Development Name	Location	Type *(e.g., residential, commercial)*	# of Units/ Structures	Known Hazard Zone(s)	Status of Development
Recent Development in the Past Five (5) Years (2019 – 2024)					
New Village Hall	Milton Avenue and Caroline Avenue	Government	2	Flood (Sewer Flooding)	On Hold
Known or Anticipated Development in the Next Five (5) Years (2024 – 2029)					
The Village does not anticipate significant development in hazard prone areas over the next five (5) years.					

3.1. Changes in Priority

In the last five (5) years, the Village has prioritized addressing flooding problems on Montrose Avenue, in particular the intersection of Montrose Avenue, Charles Avenue, and W. Genesee Street which floods constantly. Additional drainage will be installed along Milton Avenue, Cogswell Avenue, and Wynthrop Avenue. Furthermore, mitigation actions from the previous Plan were updated, and a more concerted effort on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations, has been implemented.

4. CAPABILITY ASSESSMENT

Federal regulations require hazard mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)). A critical step in the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for the Village of Solvay's authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment. Information regarding the Village's implementation of and continued participation in the National Flood Insurance Program (NFIP) can be found in Section 5 of this Annex.

The Local Planning Team assessed the Village's capabilities that can contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include the following categories:

- Planning and Regulatory Capabilities

- Administrative and Technical Capabilities
- Fiscal Capabilities
- Education and Outreach Capabilities

Additionally, ways to expand on and improve these existing policies and programs to integrate hazard mitigation into the day-to-day activities and programs of the Village were considered.

4.1. Planning and Regulatory Capabilities

Table 4 includes local ordinances, policies, and laws to manage growth and development (e.g., land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes, and zoning ordinances).

Table 4. Planning and Regulatory Tools

Capability Category	Yes/No	Authority *(local, county, state, federal)*	Responsible Department/ Agency	Code Citation and Comments *(e.g., Code Chapter, name of plan, explanation of authority, etc.)*
Planning Capability				
Comprehensive Plan	Yes	Local	Planning Board	Town of Geddes and Village of Solvay Comprehensive Plan (June 2019)
Capital Improvements Plan	Yes	Local	Board of Trustees	
Floodplain Management / Basin Plan	No	N/A	N/A	N/A
Stormwater Management Plan	Yes	Local	Highway Department	Member of the Central New York (CNY) Stormwater Coalition
Open Space Plan	Yes	Local	Planning Board	Town of Geddes and Village of Solvay Comprehensive Plan (June 2019)
Stream Corridor Management Plan	No	N/A	N/A	N/A
Watershed Management or Protection Plan	No	N/A	N/A	N/A
Economic Development Plan	No	N/A	N/A	N/A
Comprehensive Emergency Management Plan	No	N/A	N/A	N/A
Emergency Operation Plan	No	N/A	N/A	N/A
Evacuation Plan	No	N/A	N/A	N/A
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A

Capability Category	Yes/No	Authority *(local, county, state, federal)*	Responsible Department/ Agency	Code Citation and Comments *(e.g., Code Chapter, name of plan, explanation of authority, etc.)*
Strategic Recovery Planning Report	No	N/A	N/A	N/A
Climate Adaptation Plan	No	N/A	N/A	N/A
Resilience Plan	No	N/A	N/A	N/A
Regulatory Capability				
Building Code	Yes	State, Local	Code Enforcement Office	Chapter 16 of the New York State Building Code Chapter 89 of the Village Code
Zoning Ordinance	Yes	Local	Code Enforcement Office	Chapter 165 of the Village Code
Subdivision Ordinance	Yes	Local	Code Enforcement Office	Chapter 159 of the Village Code
NFIP Flood Damage Prevention Ordinance	Yes	Local	Code Enforcement Office	Chapter 91 of the Village Code
NFIP: Cumulative Substantial Damages	No	N/A	N/A	N/A
NFIP: Freeboard	Yes	State, Local	Code Enforcement Office	Chapter 16 of the New York State Building Code State mandated two (2) feet above the BFE for all construction, both residential and non-residential.
Growth Management Ordinances	No	N/A	N/A	N/A
Site Plan Review Requirements	Yes	Local	Planning Board	Chapter165-31 of the Village Code
Stormwater Management Ordinance	Yes	Local	Highway Department	Chapter 134 of the Village Code
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Highway Department	Permits are required for stormwater discharges from MS4s in urbanized areas and for construction activities disturbing one (1) or more acres. The Town has been automatically designated as a regulated MS4 and required to develop a comprehensive stormwater management program. Chapter 134 of the Village Code
Natural Hazard Ordinance	No	N/A	N/A	N/A

Capability Category	Yes/No	Authority *(local, county, state, federal)*	Responsible Department/ Agency	Code Citation and Comments *(e.g., Code Chapter, name of plan, explanation of authority, etc.)*
Post-Disaster Recovery Ordinance	No	N/A	N/A	N/A
Real Estate Disclosure Requirement	Yes	State	New York State Department of State, Real Estate Agent	New York Code – Article 14 §460-467 (Property Condition Disclosure Act)
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	No	N/A	N/A	N/A

4.2. Administrative and Technical Capabilities

The administrative and technical capabilities, listed in **Table 5**, include community (i.e., public and private) staff and their skills and tools, which can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, Geographic Information System (GIS) analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities, such as counties or special districts, for resources.

Table 5. Administrative and Technical Capabilities

Capability	Yes/No	Position/Department/Agency
Administrative Capability		
Planning Board	Yes	Joint Planning and Zoning Board
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Maintenance programs to reduce risk	No	N/A
Mutual aid agreements	Yes	Town of Geddes
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer, Code Enforcement Office
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Village Engineer, Code Enforcement Office
Planners or engineers with an understanding of natural hazards	Yes	Village Engineer, Code Enforcement Office
NFIP Floodplain Administrator	Yes	Code Enforcement Officer, Code Enforcement Office
Surveyor(s)	Yes	Village Engineer, Code Enforcement Office
Personnel skilled or trained in GIS applications	Yes	Village Engineer, Code Enforcement Office

Capability	Yes/No	Position/Department/Agency
Scientist familiar with natural hazards	Yes	Village Engineer, Code Enforcement Office
Warning systems/services	Yes	Onondaga County Emergency Communications (911) Village Text Alerts (TextMyGov)
Emergency Manager	Yes	Code Enforcement Officer, Code Enforcement Office
Grant writer(s)	Yes	Village Engineer, Code Enforcement Office
Staff with expertise or training in benefit/cost analysis	Yes	Village Engineer, Code Enforcement Office
Professionals trained in conducting damage assessments	Yes	Village Engineer, Code Enforcement Office

4.3. Fiscal Capabilities

Table 6 contains a list of fiscal capabilities available to the Village that may be used to implement mitigation activities to reduce risk and enhance resiliency. This capability includes available funding sources from local budgets, state and federal grants, potential cost-sharing arrangements with private entities, existing insurance policies, and the ability to generate additional revenue through fees and bonds related to mitigation.

Table 6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Federal Hazard Mitigation Assistance Program *(i.e., Hazard Mitigation Grant Program (HMGP), HMGP Post Fire, Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA) Program)*	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	No
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No

4.4. Education and Outreach Capabilities

Table 7 lists the Village's education and public outreach capabilities that can be used to inform residents about potential hazards, educate on mitigation strategies, and encourage proactive actions to reduce the community's

impacts to disasters. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices.

Table 7. Education and Outreach Resources

Resource	Yes/No	Position/Department/Agency
Public Information Officer	Yes	Village Clerk/Treasurer
Personnel skilled or trained in website development	Yes	
Hazard mitigation information available on the jurisdiction's website	No	*The Village relies on the Onondaga County Hazard Mitigation website.*
Utilize social media for hazard mitigation education	No	*The Village relies on the Onondaga County social media.*
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Other programs already in place that could be used to communicate hazard-related information	No	*The Village relies on the Onondaga County services.*
An established warning system for hazard events	Yes	Onondaga County Emergency Communications (911) Village Text Alerts (TextMyGov)

4.5. Community Classifications

The community classification relates to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (i.e., preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. **Table 8** summarizes classifications for community programs available to the Village of Solvay.

Table 8. Community Classifications

Program	Yes/No	Classification *(if applicable)*	Date Classified *(if applicable)*
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 2	-
New York State Department of Environmental Conservation Climate Smart Community	No	N/A	N/A
Storm Ready Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Natural disaster/safety programs in/for schools	Yes	-	-
Organizations with mitigation focus (advocacy group, non-government)	Yes	-	-
Public private partnership initiatives addressing disaster-related issues	No	N/A	N/A

4.6. Self-Assessment of Capability

The community classification relates to the community's ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as an indicator of the community's capabilities in all phases of emergency management (i.e., preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. **Table 9** summarizes classifications for community programs available to the Village of Solvay.

Table 9. Self-Assessment Capability for the Municipality

Capability Area	Degree of Hazard Mitigation Capability		
	Limited *(If limited, what are your obstacles?)*	***Moderate***	***High***
Planning and Regulatory Capabilities			**X**
Administrative and Technical Capabilities			**X**
Fiscal Capabilities			**X**
Education and Outreach Capabilities		**X**	
Community Political Capabilities		**X**	
Community Resiliency Capabilities			**X**
Capability to integrate mitigation into municipal processes and activities			**X**

4.7. Needs to Expand/Improve Capabilities

Based on the capability self-assessment in Section 4.6, the Village of Solvay identified existing authorities, policies, programs, funding, and/or resources that need to be expanded and/or improved in order to support the implementation of the hazard mitigation initiatives identified in this Plan (e.g., mitigation actions).

- In order to increase the Village's capability to implement hazard mitigation, apply for hazard mitigation grants, and fund the local match for hazard mitigation grants, the Village needs to expand its grant writing capabilities by potentially hiring more grant writers.
- Village codes and ordinances (e.g., building, zoning, protecting steep slopes, wetlands) should be reviewed based on developing trends in identified hazards and mitigation measures that can make them more effective at preventing losses.

5. NATIONAL FLOOD INSURANCE PROGRAM

The Village of Solvay is a member of the National Flood Insurance Program (NFIP) but has chosen to not participate in the NFIP Community Rating System (CRS) Program. The Village is in good standing with the NFIP through adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. The Village's NFIP participation information is listed in **Table 10**.

Table 10. NFIP Participation Information

CID	NFIP Participation Date	Current Effective FIRM Date	CRS Entry Date	CRS Current Effective Date	CRS Rating
361564	--	11/4/2016	N/A	N/A	N/A

5.1. NFIP Floodplain Administrator

All NFIP participating jurisdictions have a designated Floodplain Administrator that is charged with enforcing floodplain regulations, routinely monitoring the floodplains, and providing community assistance such as encouraging owners to maintain flood insurance. The Village of Solvay Floodplain Administrator information is listed in **Table 11**.

Table 11. Floodplain Administrator

Name	Title	Department	Phone Number
John Camp	Code Enforcement Officer	Code Enforcement Office	(315) 455-2000

5.2. Repetitive Loss and Severe Repetitive Loss Property

FEMA defines a Repetitive Loss property as an NFIP-insured property meeting at least one (1) of the following paid loss criteria since 1978, regardless of any changes in ownership:

- Four (4) or more separate claims payments greater than $5,000 each (including building and contents payment).
- Two (2) or more separate flood insurance claims payments (building payments only), where the total of the payments is greater than the property's current value.

Additionally, to receive a designation, at least two (2) of the claim payments must occur within 10 years of one another.[5]

A Severe Repetitive Loss property is defined by FEMA as any NFIP-insured single-family or multi-family residential building meeting at least one (1) of the following paid loss criteria since 1978 or from building constructed after 1978, regardless of any changes in ownership:[6]

- That has incurred flood-related damage for which four (4) or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000.
- For which at least two (2) separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

Table 12 summarizes FEMA Repetitive Loss and Severe Repetitive Loss properties within the Village of Solvay.

[5] Federal Emergency Management Agency, National Flood Insurance Program. (2023). A Policyholder's Guide to Severe Repetitive Loss. Retrieved from https://agents.floodsmart.gov/sites/default/files/fema_nfip-policyholders-guide-severe-repetitive-loss_brochure_07-2023.pdf.

[6] Federal Emergency Management Agency, National Flood Insurance Program. (2021). National Flood Insurance Program: Flood Insurance Manual. Retrieved from https://www.fema.gov/sites/default/files/documents/fema_nfip-all-flood-insurance-manual-apr-2021.pdf.

Table 12. Repetitive Loss and Severe Repetitive Loss Properties

Repetitive Loss Properties		Severe Repetitive Loss Properties	
Total	*Occupancy*	*Total*	*Occupancy*
0	--	0	--

Occupancy Type: *Single Family = Single family residence • Two (2)-Four (4) Unit Residential Building = Two (2)-four (4) unit residential building • More Than Four (4) Units Residential Building = Residential building with more than four (4) units • Non-Residential Building = Non-residential building • Non-Residential Business = Non-residential business • Single Family Residential Building = Single-family residential building with the exception of a mobile home or a single residential unit within a multi-unit building • Residential (2, 3, or 4 units) Non-Condo Building = Residential non-condo building with two (2), three (3), or four (4) units seeking insurance on all units • Residential (5 or more units) Non-Condo Building = Residential non-condo building with 5 or more units seeking insurance on all units • Residential Mobile/Manufactured Home = Residential mobile/manufactured home • Residential Condo Association = Residential condo association seeking coverage on a building with one (1) or more units • Single Residential Unit = Single residential unit within a multi-unit building • Non-Residential Mobile/manufactured Home = Non-residential mobile/manufactured home • Non-Residential Building = Non-residential building • Non-Residential Unit = Non-residential unit within a multi-unit building*

Table 13 summarizes the NFIP active policies and coverage in force data for the Village of Solvay.

Table 13. NFIP Policies

NFIP Policies	Insurance in Force	Total Claims Paid	Sum of Claims Paid
3	$1,100	6	$10,957

5.3. Participation Activities

The Village of Solvay NFIP participation over the last five (5) years includes the following:

- Provides the following services – permit review, GIS, inspections, and engineering capability.
- Enforces local floodplain regulations and monitors compliance.
- Floodplain management regulations meet or exceed FEMA or State minimum requirements.
- Reviewed the FEMA Flood Maps along the Erie Canal Lock on Belle Isle Road.

5.3.1. Regulatory

Flood Damage Prevention Ordinance

The Village of Solvay's Flood Damage Prevention Chapter *(Chapter 91 of the Village Code)* was adopted to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- Regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters.
- Control filling, grading, dredging and other development which may increase erosion or flood damages.
- Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

- Qualify for and maintain participation in the NFIP.

The objectives of this Chapter are to:

- Protect human life and health.
- Minimize expenditure of public money for costly flood control projects.
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- Minimize prolonged business interruptions.
- Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets and bridges located in areas of special flood hazard.
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas.
- Provide that developers are notified that property is in an area of special flood hazard.
- Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Substantial Damage

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. *(Chapter 91 of the Village Code)*

Substantial Improvement

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the "start of construction" of the improvement. The term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

B. Any alteration of an "historic structure," provided that the alteration will not preclude the structure's continued designation as an "historic structure." *(Chapter 91 of the Village Code)*

There are other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements.

6. HAZARD MITIGATION PLAN INTEGRATION

In order for a community to successfully reduce long term risk, hazard mitigation must be integrated into day-to-day planning mechanisms and initiatives. Plan integration is the process by which communities critically assess the existing planning framework and align efforts with the goal of reducing long term risks and building a more resilient community. It involves a two (2) way exchange of information and incorporation of ideas and concepts between hazard mitigation plans and other community plans. In particular, plan integration involves the incorporation of hazard mitigation principles and actions into other plans, and planning mechanisms into hazard mitigation plans.

Plan integration involves community plans, policies, codes, and programs that guide development, roles, and responsibilities in implementing these capabilities. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative hazard mitigation planning.

6.1. Existing Plan Integration

A hazard mitigation plan must explain how the jurisdiction incorporated the previous Plan update over the last five (5) years to demonstrate progress in local mitigation efforts. In the performance period since the adoption of the previous Hazard Mitigation Plan, the Village of Solvay made progress on integrating components of the hazard mitigation strategy (e.g., goals, objectives, and actions) into planning initiatives and mechanisms. **Table 14** highlights the planning mechanisms/initiatives where the previous Plan was integrated and what information was integrated.

Table 14. Current Plan Integration

Planning Initiative	Current Integration Description
Stormwater Management Program	The Village of Solvay is a Municipal Separate Storm Sewer System (MS4) regulation community with a formal Stormwater Management Program. The Stormwater Management Program specifies the requirements to reduce the volume of stormwater and mitigate stormwater flooding.
Ordinances	The Village has multiple local ordinances pertaining to the mitigation of hazards. These ordinances include the establishment of the combined Planning and Zoning Board, Fire Prevention and Building Construction Ordinance (Chapter 89 of the Village Code), Flood Damage Prevention Ordinance (Chapter 91 of the Village Code), Stormwater Management Ordinance (Chapter 134 of the Village Code), Zoning Ordinance (Chapter 165 of the Village Code), and the Subdivision Regulations (Chapter 159 of the Village Code).
Public Outreach	The Village's website provides information related to safety and hazard mitigation including local emergency response contact information, current project information, and links to related ordinances and plans. *Refer to mitigation action VSO-2.*

6.2. Potential Future Integration

A hazard mitigation plan must explain how the jurisdiction intends to incorporate this Plan update into planning mechanisms over the next five (5) years. The capability assessment presented in Section 4 of this Annex identifies codes, plans, and programs that provide opportunities for integration. **Table 15** outlines planning mechanisms/initiatives that do not currently integrate goals and recommendations of this Plan but provide opportunities to do so in the future.

Table 15. Potential Future Integration

Planning Initiative	Potential Integration Description
Comprehensive Plan	The Hazard Mitigation Plan should be incorporated in the next update of the Village's Comprehensive Plan to protect and preserve local environmental assets, support a vibrant economy, and to ensure public health, safety, and welfare. Hazard mitigation goals could be aligned with the vision of the Comprehensive Plan and hazard risk assessment information could be used to address vulnerabilities.
Capital Improvement Plan	The Village should ensure consistency between this Hazard Mitigation Plan and future updates of the Capital Improvement Plan. The Hazard Mitigation Plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.

Planning Initiative	Potential Integration Description
Ordinances	Hazard mitigation could be integrated into future updates of the zoning, building, and subdivision ordinances to inform appropriate use of property within the Village. Portions of this Hazard Mitigation Plan should be reviewed to consider any future improvements to the codes, if appropriate.
Local Budget	The Village could include a line item for mitigation projects/activities into the municipal budget and/or capital improvement budget.
Public Outreach	The Village could expand information available on the Village's website to include material on the hazards outlined in this Hazard Mitigation Plan and information on climate change impacts to the potential hazards. Furthermore, the Village could develop community outreach programs for residents and businesses promoting natural hazard risk reduction.

The Village's Local Planning Team will identify all relevant planning initiatives that are scheduled to be updated in the next year and during the annual update process of the Hazard Mitigation Plan. Additionally, opportunities to integrate key elements of the Hazard Mitigation Plan, specifically any relevant strategies, into the planning initiatives will be identified by the Local Planning Team. Mitigation actions were identified to promote plan integration in future revisions of this Plan.

7. SIGNIFICANT HAZARD PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern can be found in **Volume 1** of this Plan. A summary of past events is provided under each hazard profiles and includes a chronology of events that have affected the County and its municipalities. **Table 16** provides information on significant hazard events that uniquely impacted the Village of Solvay.

Table 16. Hazard Event History

Date	Event Type *(Disaster Declaration, if applicable)*	Description
July 1, 2017	Flood	A tropical moisture laden air mass produced numerous showers and thunderstorms which traveled repeatedly over the same areas of the Finger Lakes Region and Upper Mohawk Valley. Widespread flash and urban flooding developed in portions of Cayuga, Onondaga, Madison and Oneida counties. The hardest hit areas were the villages and towns of Moravia, Chittenango, Oneida, and Utica. Total rainfall amounts along a narrow corridor from Moravia to Utica generally ranged from 2.5 to five (5) inches, most of which fell in less than two (2) hours. Total damages from this event range between $10 and $15 Million countywide. Flooding was reported on Montrose Avenue.
June 30 – July 1, 2015	Flood	An unseasonably strong storm system tapping into above normal moisture sources across the Great Lakes and northeast, triggered multiple thunderstorms that produced heavy rainfall across the region. Localized torrential rainfall in central New York caused serious urban flash flooding in the Syracuse metropolitan area. Total damage from this event ranged between $3 and $5 Million in the region. Flooding was reported on Montrose Avenue.

Date	Event Type *(Disaster Declaration, if applicable)*	Description
April 25, 2011	Severe Weather, Flood (DR-1193)	A slow moving warm front moved northward across central New York late in the afternoon on April 25th producing severe weather in the region. There were reports of severe thunderstorms with strong winds/damaging winds, hail, and tornadoes. Additionally, these storms produced heavy rainfall which caused flash flooding in several locations throughout central New York. Flooding was reported on Montrose Avenue.
May 26, 2011	Severe Weather	On May 26th, a deep upper level low pressure system shifted east from the mid-Mississippi Valley region through the afternoon and evening, allowing numerous showers and thunderstorms to develop. Many reports of large hail and damaging winds occurred in central New York. The Flooding was reported on Montrose Avenue.

8. HAZARD VULNERABILITY AND IMPACT ASSESSMENT

Exposure and vulnerability to certain hazards affect the entire County and others are geographically defined. Although the entire County may be vulnerable to these hazards, their impacts may vary based on existing community conditions (e.g., underserved, or functional access needs populations may be more susceptible based on certain conditions, vulnerabilities, or needs).

Table 17 outlines the ***unique vulnerabilities and impacts*** for the Village of Solvay and only addresses the hazards that are relevant and unique to the jurisdiction. A complete risk assessment for each identified hazard of concern is in **Volume 1** of this Plan. Hazard mapping can be found in **Appendix A** of this Annex.

Table 17. Hazard Vulnerability and Impact Assessment

Hazard	Vulnerabilities and Impacts
Drought	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to drought; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.
Earthquake	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to earthquake events; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.
Heat Wave/Extreme Heat	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to heat wave/extreme heat events; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Areas within the Village that are consistently impacted by flooding include the following: • Intersection of Milton Avenue, Chales Avenue, and W. Genesee Street • Milton Avenue (from Cogswell Avenue to the Town of Camillus) Drainage improvements are scheduled for 2025.

Hazard	Vulnerabilities and Impacts
Geological Hazards *(landslides, land subsidence, mudboils)*	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to geological hazards; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.
Harmful Algal Bloom	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to harmful algal blooms; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	The Village is vulnerable to deer tick borne diseases and is currently working with the County and the U.S. Fish and Wildlife Service on implementing measures to reduce tick populations, promote public awareness, and mitigate the risks associated with tick-borne illnesses.
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Severe weather is usually accompanied by heavy rainfall which causes flooding and consistently impacts the following areas within the Village: • Intersection of Milton Avenue, Chales Avenue, and W. Genesee Street • Milton Avenue (from Cogswell Avenue to the Town of Camillus)
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Milton Avenue is a major transportation route when Interstate 690 shuts down.
Wildfire *(wildfire smoke)*	The Local Planning Team determined that the Village does not have unique vulnerabilities and impacts to wildfire; rather, the jurisdiction's vulnerability and impacts are consistent with those experienced throughout the County.

The Village evaluated whether vulnerability in hazard prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, changes in population, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard areas or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics (e.g., underserved population) were taken into consideration.

Table 18 outlines if climate change has increased or decreased the Village's vulnerability (i.e., exposure) and impact to each natural hazard over the past five (5) years, and the effect of climate change in the future probability of occurrence and impacts from each natural hazard.

Table 18. Climate Change Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Drought	Remained the Same
Earthquake	Remained the Same
Heat Wave/Extreme Heat	Increased
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Increased
Geological Hazards *(landslides, land subsidence, mudboils)*	Remained the Same
Harmful Algal Bloom	Remained the Same

Hazard	Vulnerability and Impact
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	Increased
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Increased
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Increased
Wildfire *(wildfire smoke)*	Remained the Same
Future Vulnerability and Impact	
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Heat Wave/Extreme Heat	Increase
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Increase
Geological Hazards *(landslides, land subsidence, mudboils)*	Decrease
Harmful Algal Bloom	No Change Anticipated
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	Increase
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Increase
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Increase
Wildfire *(wildfire smoke)*	No Change Anticipated

Table 19 outlines if changes in population within the Village over the past five (5) years have increased or decreased the vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in population may have on the future probability of occurrence and impacts from these natural hazards.

Table 19. Changes in Population Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Drought	Remained the Same
Earthquake	Remained the Same
Heat Wave/Extreme Heat	Remained the Same
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Remained the Same
Geological Hazards *(landslides, land subsidence, mudboils)*	Remained the Same
Harmful Algal Bloom	Remained the Same
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	Remained the Same
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Remained the Same
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Remained the Same
Wildfire *(wildfire smoke)*	Remained the Same

Hazard	Vulnerability and Impact
Future Vulnerability and Impact	
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Heat Wave/Extreme Heat	No Change Anticipated
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	No Change Anticipated
Geological Hazards *(landslides, land subsidence, mudboils)*	No Change Anticipated
Harmful Algal Bloom	No Change Anticipated
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	No Change Anticipated
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	No Change Anticipated
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	No Change Anticipated
Wildfire *(wildfire smoke)*	No Change Anticipated

Table 20 outlines if development over the past five (5) years has increased or decreased the Village's vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts from these natural hazards.

Table 20. Changes in Development Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Drought	Remained the Same
Earthquake	Remained the Same
Heat Wave/Extreme Heat	Remained the Same
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Increased
Geological Hazards *(landslides, land subsidence, mudboils)*	Remained the same
Harmful Algal Bloom	Remained the Same
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	Remained the Same
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Increased
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Increased
Wildfire *(wildfire smoke)*	Remained the Same
Future Vulnerability and Impact	
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Heat Wave/Extreme Heat	No Change Anticipated
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	Decrease
Geological Hazards *(landslides, land subsidence, mudboils)*	No Change Anticipated
Harmful Algal Bloom	No Change Anticipated

Hazard	Vulnerability and Impact
Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	No Change Anticipated
Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm)*	Decrease
Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold, nor'easter)*	Decrease
Wildfire *(wildfire smoke)*	No Change Anticipated

8.1. Future Major Assets

Community assets should include anything that is important to the character and function of a community. Assets include people (i.e., underserved population); structures (i.e., new and existing buildings); community lifelines and other critical facilities; natural, historic, and cultural resources; and the economy and other activities that have value to the community. Although all assets may be affected by the hazards identified in this Hazard Mitigation Plan, the jurisdiction identified future major assets that may be more vulnerable and impacted by these hazards.

- Montrose Avenue, a major transportation route for the Village especially when Interstate 690 shuts down, will be vulnerable to flooding until drainage improvements are accomplished. Once these improvements are completed, the vulnerability to flooding in the area is expected to decrease.
- Any new assets (e.g., new construction in hazard prone areas) will be constructed to adhere to the latest building codes and standards, and mitigation to protect them from identified and anticipated hazards, especially those that are expected to increase due to climate change.

9. CRITICAL FACILITIES FLOOD RISK

New York State Department of Environmental Conservation (NYSDEC) Title 6, Chapter V, Subchapter A, Part 502 sets forth local floodplain management criteria for State projects located within 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 built according to certain mitigation specifications, including being raised two (2) feet above the Base Flood Elevation (BFE).[7] While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding.

Jurisdictions must identify all critical facilities, assess their vulnerabilities, and evaluate and ensure they are protected to a 0.2% chance (500-year) flood event. Critical facilities that are located in an SFHA and/or have been previously flooded, must be protected against a repeat of that flood or to the 0.2% chance flood event, which ever provides the greater protection. The Plan must document those critical facilities are protected to a 0.2% flood event, or previous worst case flood event. For those that do not meet this level of protection, the Plan must include a mitigation action to meet or go beyond this criterion or explain why it is not feasible to do so.[8]

Table 21 identifies critical facilities in the community located in the 100-year and 500-year floodplain.

[7] New York State Department of Environmental Conservation. (n.d.). Chapter V – Resource Management Services. Retrieved from https://dec.ny.gov/regulatory/regulations/chapter-v.
[8] New York State Division of Homeland Security and Emergency Services. (2022). 2022 New York State Hazard Mitigation Planning Standards. Retrieved from https://www.dhses.ny.gov/system/files/documents/2023/11/2022-nys-mitigation-planning-standards-final.pdf

Table 21. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 100-Year Flood Event		Addressed by Proposed Action
		100-Year	*500-Year*	*% Structure Damage*	*% Content Damage*	
None identified.						

10. HAZARD RISK RANKING

Table 22 presents the local hazard ranking for the Village of Solvay of all hazards of concern listed in **Volume 1** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As thoroughly described in **Volume 1** of this 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. For further details on how the probability, extent, vulnerability, and impact factors in **Table 22** were calculated, please refer to Section 4.3 in **Volume 1** of this Plan.

It is important to note that the sub hazards for severe weather (i.e., strong winds/damaging winds, severe thunderstorms, tropical storm/hurricane, hail, and tornado), geological hazards (i.e., landslide, land subsidence, and mudboils), flood (i.e., riverine/creek flooding and ice jam, and urban/flash flooding), and winter weather (i.e., blizzards, lake effect snow, nor'easter, and ice storm, and cold wave/extreme cold) were individually ranked in the hazard risk ranking; however, severe weather, geological hazards, flood, and winter weather are each considered as the main hazard throughout this Annex and **Volume 1**.

Table 22. Village of Solvay Hazard Risk Ranking

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score *(Probability x Consequence)*
Flood (Urban/Flash Flood)	3	12	11	29	52	73
Winter Weather (Blizzards, Lake Effect Snow, Nor'easter, Ice Storm)	3	12	14	21	47	67
Severe Thunderstorm *(Severe Weather)*	3	12	16	14	42	61
Strong Winds/ Damaging Winds *(Severe Weather)*	3	12	11	16	39	57
Cold Wave/Extreme Cold *(Winter Weather)*	2	12	14	21	47	48
Flood (Riverine/Creek, Ice Jam)	2	6	11	29	46	47
Heat Wave/Extreme Heat	2	9	11	19	39	41
Drought	2	12	12	13	37	39

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score *(Probability x Consequence)*
Invasive Species and Infestation	2	9	6	18	33	35
Tropical Storm/Hurricane *(Severe Weather)*	1	9	16	24	49	27
Dam and Levee Failure *(Flood)*	1	12	6	27	45	25
Harmful Algal Bloom	1	6	10	20	36	21
Hail *(Severe Weather)*	1	6	16	14	36	21
Earthquake	1	6	16	12	34	20
Tornado *(Severe Weather)*	1	6	6	22	34	20
Wildfire (Wildfire Smoke)	1	9	6	11	26	16
Mudboils *(Geological Hazards)*	1	6	6	12	24	15
Landslide *(Geological Hazards)*	1	3	6	12	21	13
Land Subsidence *(Geological Hazards)*	1	3	6	12	21	13

Consequence: *Sum of all weighted factors.*
Extent: *Sum of the weighted Extent factors.*
Vulnerability: *Sum of the weighted Vulnerability factors.*
Impact: *Sum of the weighted Impact factors.*
Total Risk Score* *= Probability x Consequence*
** Normalized to 100*

Total Risk Score Legend

Classification	Probability Factor	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 6	0 – 12	0 – 24	0 – 24
Medium (M)	2	7 – 12	7 – 12	13 – 26	25 – 50	25 – 54
High (H)	3	13 – 18	13 – 18	27 – 39	51 – 75	55 and above

*The **legend**—specifically the assignment of low, medium, and high—provides an additional means to qualitatively assess the probability factor, sum of weighted factors, and the total risk scores for each hazard. The **Consequence Score** represents the sum of the Extent, Vulnerability, and Impact Factors. The **Total Risk Score** is a measure of Probability and Consequence.*

11. MITIGATION ACTIONS

This section includes the mitigation actions that were developed to address identified risks and vulnerabilities to hazards identified in this Plan. This Plan serves only to recommend mitigation measures based on the potential for risk reduction and available funding. Implementation of mitigation actions is dependent on risk reduction priorities, feasibility, and available funding. It is also dependent on the cooperation and support of the jurisdiction and/or department responsible for each action item. Additionally, all mitigation actions identified in the 2019 update or before were updated accordingly. Any new mitigation actions are listed as *New* (under Project Status).

The Village of Solvay agreed upon **eight (8)** mitigation actions that apply to the jurisdiction's properties where they have jurisdictional responsibility and authority. A summary of the Village's mitigation actions status is listed in **Table 23**.

Table 23. Village of Solvay Mitigation Action Summary

Status	Mitigation Action Total
Continuous	6
In Progress/Not Yet Completed	2
No Progress/Not Yet Started	0
New	0
TOTAL	**8**
Complete	0
Discontinued	0

Mitigation Actions per Hazard			
Drought	5	Harmful Algal Bloom	5
Earthquake	5	Invasive Species and Infestation *(Emerald Ash Borer, Hemlock Woolly Adelgid, True Armyworm, Common Reed (Phragmites), Eurasian Watermilfoil, Water Chestnut, Tick-Borne Diseases, Mosquito-Borne Diseases)*	5
Heat Wave/Extreme Heat	5	Severe Weather *(severe thunderstorms – hail, strong winds/damaging winds, tornadoes, hurricane/tropical storm, nor'easter)*	8
Flood *(riverine, flash/urban, ice jam, dam and levee failure)*	8	Winter Weather *(blizzards, heavy snow, ice storms, cold wave/extreme cold)*	5
Geological Hazards *(landslides, land subsidence, mudboils)*	5	Wildfire *(wildfire smoke)*	5

A detailed explanation of the Mitigation Strategy can be found in Section 5 of **Volume 1**.

Mitigation Action	Where appropriate, support retrofitting or relocation of structures in high hazard areas, prioritizing structures that have experienced repetitive losses.				
Action Number	VSO-1	**Goal(s) Addressed**	2, 3, 6	**Prioritization Score**	13/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Drought, Earthquake, Heat Wave/Extreme Heat, Flood, Geological Hazards, Harmful Algal Bloom, Invasive Species and Infestation, Severe Weather, Winter Weather, Wildfire				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Code Enforcement Office	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	High	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*	Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.		

Mitigation Action	Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction: • Provide and maintain links to the Onondaga County Hazard Mitigation Plan website, and regularly post notices on the municipal homepage referencing the Onondaga County Hazard Mitigation Plan webpages. • Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. • Use the Village's e-mail notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. • Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.				
Action Number	VSO-2	**Goal(s) Addressed**	1, 2, 3, 4, 5, 6	**Prioritization Score**	15/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Drought, Earthquake, Heat Wave/Extreme Heat, Flood, Geological Hazards, Harmful Algal Bloom, Invasive Species and Infestation, Severe Weather, Winter Weather, Wildfire				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	Low				
Lead Agency / Organization	Village of Solvay Board of Trustees, Village of Solvay Code Enforcement Office	**Supporting Agency / Organization** *(If applicable)*	Onondaga County Department of Planning		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	Low	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

Mitigation Action	Actively support and participate in the implementation, monitoring, maintenance, and updating of this Hazard Mitigation Plan, as outlined, and defined in Volume 1.				
Action Number	VSO-3	**Goal(s) Addressed**	1, 2, 3, 4, 5, 6	**Prioritization Score**	15/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Drought, Earthquake, Heat Wave/Extreme Heat, Flood, Geological Hazards, Harmful Algal Bloom, Invasive Species and Infestation, Severe Weather, Winter Weather, Wildfire				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Board of Trustees, Village of Solvay Code Enforcement Office	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	Low	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

Mitigation Action	Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP) through implementation and enforcement of floodplain management requirements that, at a minimum, meet the NFIP requirements. These include: • Enforce the flood damage prevention ordinance (e.g., regulating all new and substantially improved construction in Special Hazard Flood Areas). • Participate in floodplain identification and mapping updates. • Provide public assistance/outreach on floodplain requirements and impacts.				
Action Number	VSO-4	**Goal(s) Addressed**	1, 2, 3, 4, 5, 6	**Prioritization Score**	15/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Flood, Severe Weather				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	Medium				
Lead Agency / Organization	Village of Solvay Code Enforcement Office (Floodplain Administrator)	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	Low	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

Mitigation Action	Develop, enhance, and implement existing Village emergency plans.				
Action Number	VSO-5	**Goal(s) Addressed**	1, 6	**Prioritization Score**	15/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Drought, Earthquake, Heat Wave/Extreme Heat, Flood, Geological Hazards, Harmful Algal Bloom, Invasive Species and Infestation, Severe Weather, Winter Weather, Wildfire				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Police Department	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	Low	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

Mitigation Action	Develop, enhance, and maintain mutual aid agreements with surrounding municipalities and counties.				
Action Number	VSO-6	**Goal(s) Addressed**	1, 5, 6	**Prioritization Score**	15/15
Year Added to Plan	2013	**Timeline** *(estimated)*	Ongoing	**Implementation Priority**	High
Hazard(s) Mitigated	Drought, Earthquake, Heat Wave/Extreme Heat, Flood, Geological Hazards, Harmful Algal Bloom, Invasive Species and Infestation, Severe Weather, Winter Weather, Wildfire				
Project Status	Continuous	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Board of Trustees	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	Low	**Potential Funding Source**	General Fund (Staff Time)		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

Mitigation Action	Conduct drainage improvements on Milton Avenue to reduce the vulnerability to flooding. This should include mapping existing underground piping and culverts which will be used to design and implement improved flow at points of constriction; and examine possibilities for green infrastructure and innovative grey infrastructure (e.g., corrugated piping).				
Action Number	VSO-7	**Goal(s) Addressed**	1, 3, 4, 5, 6	**Prioritization Score**	14/15
Year Added to Plan	2019	**Timeline** *(estimated)*	4 to 5 Years	**Implementation Priority**	High
Hazard(s) Mitigated	Flood, Severe Weather				
Project Status	In Progress/Not Yet Completed	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Highway Department	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	High	**Potential Funding Source**	General Fund (Staff Time), HMGP, BRIC, FMA		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*	Even though flooding has not resulted in road closures, severe pooling occurs due to heavy rainfall events. The pooling gradually drains out; however, it drains through marsh, dug out trenches, and parking lots. It generally occurs in the area between the New York State Fairgrounds, Milton Avenue, east of Bridge Street, and west of Horan Road.		

Mitigation Action	Improve stormwater drainage by increasing the underground storage capacity on Montrose Avenue at W Genesee Street and Charles Park. These locations have the capability of being connected to the existing storm drainage system.				
Action Number	VSO-8	**Goal(s) Addressed**	1, 3, 4, 5, 6	**Prioritization Score**	14/15
Year Added to Plan	2019	**Timeline** *(estimated)*	4 to 5 Years	**Implementation Priority**	High
Hazard(s) Mitigated	Flood, Severe Weather				
Project Status	In Progress/Not Yet Completed	If *Discontinued*, provide reason.	N/A		
Benefits *(Loss Avoided)*	High				
Lead Agency / Organization	Village of Solvay Highway Department	**Supporting Agency / Organization** *(If applicable)*	N/A		
Additional Participating Jurisdictions *(If applicable)*	N/A				
Estimated Cost	High	**Potential Funding Source**	General Fund (Staff Time), HMGP, BRIC, FMA		
Critical Facility *(Critical Facility located in 1% floodplain?)*	No	**Additional Details** *(optional)*			

APPENDIX A. HAZARD MAPS

The following hazard maps have been generated for the Village of Solvay – [enter hazards here]. 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. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Village of Solvay has significant vulnerability.

Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]
Figure #	[Enter map name and description, if applicable]

APPENDIX B. LETTER OF INTENT

Statement of Intent to Participate in the
2024 Onondaga County Multi-Jurisdictional Hazard Mitigation Plan

The purpose of this letter is to establish commitment from, and a cooperative working relationship between, all participating jurisdictions in the development and implementation of the 2024 Onondaga County Multi-Jurisdictional Hazard Mitigation Plan (HMP). In addition, the intent of this form is to ensure that the Plan update is developed in accordance with Title 44 of the Federal Code of Regulations Part 201.6; that the planning process is conducted in an open manner involving community stakeholders; that it is consistent with each participating jurisdiction's policies, programs, and authorities; and that it is an accurate reflection of the community's values.

To meet this requirement and to help reduce the loss of life and damage to property in the event of a natural disaster, our municipality intends to participate in a federally funded grant initiative to update the 2024 Onondaga County Multi-Jurisdictional Hazard Mitigation Plan.

We understand that the planning process will include a limited number of meetings and/or calls between Planning Team representatives and representatives from participating municipalities and agencies. The subject of the meeting(s) will be to:

- Inform participants on the needs and methods for identifying and prioritizing hazards;
- Share information on hazards affecting local jurisdictions;
- Provide information related to local assets, plans/ordinances, hazard events and damages, new development, etc. within the jurisdiction; and
- Determine possible projects to reduce the impact of future incidents involving hazards which are prerequisites to municipalities later applying for hazard mitigation grant funds.

We recognize the importance of having an updated multi-jurisdictional hazard mitigation plan to help safeguard the lives and property of our citizens and commit to participating in this process with Onondaga County.

Name of Jurisdiction:

Name of Authorized Representative:
Derek Baichi

Signature of Authorized Representative:

Primary Point-of-Contact (POC):

Name: Derek Baichi
Title: Mayor
Department: Admininstrative
Phone Number: 3154682651
Email: dbaichi@villageofsolvay.com

Secondary Point-of-Contact (POC):

Name: Derek Osbeck
Title: Chief of Police
Department: Police Department
Phone Number: 3154682510
Email: dosbeck@solvaydo.com

Please return this form to jefferyharrop@ongov.net, or mail to the Onondaga County Dept. of Planning, 335 Montgomery St, Syracuse, NY 13202. Questions, call Jeff at (315)435-2673.

APPENDIX C. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA Approval]