



9.21 Town of Pembroke

This section presents the jurisdictional annex for the Town of Pembroke. 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 town participated in the planning process, an assessment of the Town of Pembroke’s risk and vulnerability, the different capabilities used in the town, and an action plan that will be implemented to achieve a more resilient community.

9.21.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Name: Tom Dix Title: Councilman Address: 1145 Main Road, Corfu, New York, 14036 Phone number: 585-599-4892 Email: board3@townofpembroke.org	Name: John Worth Title: Supervisor Address: 1145 Main Road, Corfu, New York, 14036 Phone number: 585-599-4892 Email: Supervisor@townofpembroke.org
Floodplain Administrator	
Name: Charles Reid Title: Zoning Enforcement Officer Address: 1145 Main Road, Corfu, New York, 14036 Phone number: 585-813-7928 Email: zoning@townofpembroke.org	

9.21.2 Municipal Profile

Pembroke or O-a-geh (On the Road) as the Indians referred to it, is located in Township 12, Ranges 3 & 4 of the Holland Purchase, and was named for Pembroke in Wales. It was set off from the Town of Batavia, June 8, 1812 and originally contained the whole of Darien and a small part of Alabama. The northern section was part of the Tonawanda Indian Reservation.

The Town of Pembroke is located on the western border of Genesee County. The Village of Corfu lies on the southern border of the town, as provided in Section 9.12 (Village of Corfu). The Town of Pembroke is bordered to the north by Alabama, to the west by Erie County, to the south by Darien, to the southeast by Alexander, to the east by Batavia, and to the northeast by Oakfield. The Tonawanda Creek flows through the town, as well as its tributary, Murder Creek. The town has a total area of 41.7 square miles, almost all of which is land.

The population centers of Corfu (Long’s Corners), Pembroke (Richville), East Pembroke (Ellicott Mills), Indian Falls (Tonawanda Falls), and North Pembroke (Mogadore) are located along the Tonawanda and Murder Creeks. Airville, Prospect Hill/Papermill, and Pembroke Center were small early settlements. The town includes the hamlets of Brick House Corners, East Pembroke, Indian Falls, North Pembroke, and Pembroke. The town is governed by the Town Supervisor and four Town Council members.

Pembroke today is a heavily traveled area with four major highways, Routes 5, 33, 77, and the New York State Thruway passing through its borders. Exit 48A opens the town to Interstate 90. The advantages of its location are its accessibility to Rochester and Buffalo. Once mostly a farming area, it is fast becoming a bedroom community for people who work in neighboring cities.





The 2017 estimated population was 4,241, a 1.2 percent decrease from the 2010 Census (4,292). Data from the 2017 U.S. Census American Community Survey estimates that 3.0 percent of the town population is five years of age or younger, and 18.5 percent is 65 years of age or older.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2008 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in 9.21.8 of this annex that illustrates the hazard areas along with the location of potential new development.

Table 9.21-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2008 to present					
Yancey’s Fancy Factory	Commercial	1	19.-1-73.12	N/A	Complete
Dollar General	Commercial	1	23.-1-11.12	N/A	Complete
Tim Hortons	Commercial	1	19.-1-14.1	N/A	Complete
Known or Anticipated Development in the Next Five (5) Years					
Flying J Truck Care	Commercial	1	15.-1-24.2	N/A	Pending 2019
Speedway Gas Station	Commercial	1	15.-1-22.2	N/A	Pending 2019

** Only location-specific hazard zones or vulnerabilities identified.*

9.21.3 Hazard Event History Specific to the Town of Pembroke

Genesee County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 (Risk Assessment). 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 Town of Pembroke’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Genesee County. Table 9.21-2 provides details regarding municipal-specific loss and damages the town experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.21-2. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Genesee County Designated?	County Summary of Damages/Losses	Municipal Summary of Damages and Losses
November 17-19, 2014	Lake Effect Snow (DR-4204)	Yes	This event was one of the most significant winter events in Buffalo history. Over 5 feet of snow fell in areas just east of Buffalo. There were 13 fatalities, hundreds of major roof collapses and structural failures, thousands of stranded motorists, and scattered food and gas shortages. The weight of the snow downed trees, causing isolated power outages. The event resulted in a FEMA major disaster declaration in New York	The town reported road closures as a result of this storm. NYS-90 closed due to larger than usual demand for tractor trailer parking. Some commercial buildings in the town suffered damages due to roof collapses. Plow drivers spent significant overtime clearing the roads.



Dates of Event	Event Type (Disaster Declaration if applicable)	Genesee County Designated?	County Summary of Damages/Losses	Municipal Summary of Damages and Losses
			<p>State for nine counties, including Genesee County.</p> <p>In Genesee County, snowfall totals included 40 inches in Corfu (V), 36 inches in Darien (T), and 28 inches in Attica (V). The County had approximately \$285,000 in property damage from this event.</p>	

Notes:

DR Major Disaster Declaration (FEMA)

N/A Not applicable

9.21.4 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Town of Pembroke.

Hazard Risk Ranking

This section 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). 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 town or village may have differing degrees of risk exposure and vulnerability compared to Genesee County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Town of Pembroke. The Town of Pembroke 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.

Table 9.21-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Civil Unrest	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	33	High
Earthquake	RCV Exposed to D and E Soils: \$171,767	Occasional	32	High
Epidemic	Damage estimate not available	Frequent	39	High
Extreme Temperature	Damage estimate not available	Frequent	39	High
Flood	RCV Exposed to 1% Annual Chance Flood Event \$46,317,000	Frequent	18	Medium
Hazardous Materials	Damage estimate not available	Frequent	42	High





Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Severe Storm ^c	100-year MRP: \$0 500-year MRP: \$0	Frequent	48	High
Severe Winter Weather ^c	100-year MRP: \$3,238,210 500-year MRP: \$16,191,050	Frequent	51	High
Terrorism	Damage estimate not available	Rare	14	Medium
Transportation Accident	Damage estimate not available	Frequent	42	High
Utility Failure	Damage estimate not available	Frequent	45	High
Wildfire	Estimated RCV in WUI Hazard Area \$226,620,000	Occasional	36	High

Notes:

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 20-30+
Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.

During the review of the hazard/vulnerability risk ranking at the risk assessment review meeting, the town indicated that it agreed with the calculated risk ranking

Critical Facilities at Risk

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 SFHA unless constructed according to specific mitigation specifications, including being raised 2 feet above the BFE. This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>. While all vulnerabilities should be assessed and documented, the state places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood even, or worst damage scenario. For those that do not meet these criteria, 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 and 0.2-percent floodplain and presents HAZUS-MH estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.21-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure	
		1% Event	0.2% Event
31037021970000-Falker	Gas Well	X	X
31037029310000-Peterson	Gas Well	X	X
31037029350000-Hunt 1876-I	Gas Well	X	X
31037161780000-Bartholf 1	Gas Well	X	X
31037161810000-Java 2	Gas Well	X	X
31037161840000-Babcock 1	Gas Well	X	X
31037174680000-Fiorica 1	Gas Well	X	X
31037175490000-Bartholf 1	Gas Well	X	X





Name	Type	Exposure	
		1% Event	0.2% Event
31037175520000-Pannella 2	Gas Well	X	X
31037204380000-Horton 1	Gas Well	X	X
31037213560000-Kokot, W & J 1	Gas Well	X	X
31037229930000-Kuhn 1	Gas Well	X	X
31037260300000-Perry 1	Gas Well	X	X
Indian Falls Dam	Dam	X	X
Smith Dam	Dam	X	X
True Mill Dam	Dam	X	X

Source: Genesee County; FEMA 1979,1981,1982,1983,1984,1985,1986,1987,1988

Identified Issues

The Town of Pembroke has identified the following issues within their community:

- Several homes along the Tonawanda Creek are at high risk for damage.
- The Town Highway Garage needs repair, which can impact the town’s response to weather related events.

9.21.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability.
- Administrative and technical capability.
- Fiscal capability.
- Community classification.
- National Flood Insurance Program.
- Integration of mitigation planning into existing and future planning mechanisms.

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Town of Pembroke.

Table 9.21-5. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Comprehensive Plan	Yes/2007	Local	Town Board	Town of Pembroke Comprehensive Plan
Capital Improvements Plan	No	-	-	-
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	No	-	-	-
Open Space Plan	No	-	-	-
Stream Corridor Management Plan	No	-	-	-





Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	No	-	-	-
Emergency Operation Plan	Yes	County	Emergency Management Services	County Coordinated
Post-Disaster Recovery Plan	Yes	County	Emergency Management Services	County Coordinated
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes	State & Local	Zoning & Codes	Building Code of State of NY
Zoning Ordinance	Yes/2017	Local	Zoning & Codes	Town of Pembroke Zoning Law
Subdivision Ordinance	Yes/2017	Local	Planning Board	Town of Pembroke Zoning Law
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Zoning & Codes	Town of Pembroke Flood Damage Prevention Law
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	No	State, Local	Zoning & Codes	State mandated BFE+2 for all residential and commercial properties
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes/2017	Local	Planning Board	Town of Pembroke Zoning Law
Stormwater Management Ordinance	No	-	-	-
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Town Board	Sewer Ordinance
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	Yes	State	NY State, Real Estate Agents	NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	No	-	-	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Pembroke.





Table 9.21-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Chairman
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Maintenance programs to reduce risk	No	-
Mutual aid agreements	Yes	Highway Superintendent
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Chairman
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	No	-
Planners or engineers with an understanding of natural hazards	No	-
NFIP Floodplain Administrator (FPA)	Yes	Zoning Officer
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	Yes	Highway Superintendent
Emergency Manager	Yes	Chairman
Grant writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-

Fiscal Capability

The table below summarizes financial resources available to the Town of Pembroke.

Table 9.21-7. Fiscal Capabilities

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





Financial Resources	Accessible or Eligible to Use (Yes/No)
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	No
Other	No

Community Classifications

The table below summarizes classifications for community program available to the Town of Pembroke.

Table 9.21-8. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Not available at the time of the plan update	Not available at the time of the plan update
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Not available at the time of the plan update	Not available at the time of the plan update
NYSDEC Climate Smart Community	No	-	-
Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
Natural disaster/safety programs in/for schools	No	-	-
Organizations with mitigation focus (advocacy group, non-government)	No	-	-
Public education program/outreach (through website, social media)	Yes	-	-
Public-private partnership initiatives addressing disaster-related issues	No	-	-

Note:

- Unavailable

The classifications listed above relate 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 (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance, while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual.
- The Building Code Effectiveness Grading Schedule website at <https://www.isomitigation.com/bcegs/>.
- The ISO Mitigation online ISO’s Public Protection website at <https://www.isomitigation.com/ppc/>.
- The National Weather Service Storm Ready website at <https://www.weather.gov/stormready/>.





- The National Firewise Communities website at <https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA>.

Self-Assessment of Capability

The table below provides an approximate measure of the Town of Pembroke’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.21-9. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and regulatory capability	-	X	-
Administrative and technical capability	X – limited staff	-	-
Fiscal capability	X – limited staff	-	-
Community political capability	-	X	-
Community resiliency capability	-	X	-
Capability to integrate mitigation into municipal processes and activities	-	X	-

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

The Flood Damage Prevention Ordinance is administered by the Zoning Administration Officer or other designee of the Town Board. For this plan update, the Town Supervisor provided information about floodplain administration in the town.

Flood Vulnerability Summary

The Town of Pembroke does not maintain lists or inventories of properties that been damaged by flooding. Additionally, the town does not make substantial damage estimates after flood events. The town noted that flood damage in the town is typically limited to occasional water in the basements.

During recent events, the town did not identify any flood damaged properties. At the time of this plan update, there is no interest in property mitigation by residents or business owners.

Table 9.21-10. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Town of Pembroke	9	0	\$0	0	0	0

Source: FEMA 2018

Notes: Policies, claims, repetitive loss, and severe repetitive loss statistics provided by FEMA Region 2, and current as of February 28, 2018. The total number of repetitive loss properties does not include severe repetitive loss properties

RL Repetitive Loss; SRL Severe Repetitive Loss





Resources

The Town of Pembroke's Zoning and Codes Department provides NFIP administration services and functions to the town. This includes insuring property flood resistant design techniques are followed for new construction and assisting residents with reviewing the flood overlay map to identify areas prone to flooding. Additionally, the department makes efforts to inform persons purchasing property in the town about floodplains and wetlands located on parcels of land. The town indicated that additional staff would be needed to run an effective floodplain management program.

Compliance History

The Town of Pembroke is currently in good-standing with the NFIP. According to NYS DEC, the most recent compliance audit was conducted on April 23, 1991.

Regulatory

The Flood Plain Overlay Zone is shown on the Zoning Map of the Town of Pembroke for information purposes only to identify potential areas of special flood hazard, to insure coordinated review of zoning and flood damage prevention regulations, and to minimize the threat of flood damages. Exact boundaries of the special flood hazard areas can be found on FEMA's most current FIRM or equivalent map for the Town of Pembroke (Community Number 360283).

In addition to the Zoning Law, areas within special flood hazard areas are regulated by the Town of Pembroke's Flood Damage Prevention Local Law, which is administered by the Zoning Administration Officer or other designee of the Town Board. These requirements are in addition to those contained in the underlying zoning district.

The town's flood damage prevention ordinance meets the minimum set by FEMA. The town's zoning law helps support floodplain management. However, it should be noted that the FIRM for the town is from 1984 and it is likely that the town's flood damage prevention ordinance does not include the state-mandated freeboard requirement.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

Planning

Existing Integration

Comprehensive Plan (2007): The town's current comprehensive plan (2007) discusses hazards areas in the town, including floodplains, soils, and wind speed maps. The town indicated they are currently working on updating the plan.

National Flood Insurance Program: The town currently participates in the NFIP and is in good-standing with the program. The town will continue to participate in the NFIP.

The Town of Pembroke stated they have a Continuity of Operations/Continuity of Government plan that serves to protect the town's government and operations from natural hazard disruption.



Opportunities for Future Integration

Comprehensive Plan: The Town of Pembroke maintains a comprehensive plan; however, it does not refer to the Genesee County HMP. During the next update of the Comprehensive Plan, the town will refer to the Genesee County HMP.

Regulatory and Enforcement (Ordinances)

Existing Integration

Code and Zoning Enforcement: The Code Enforcement and Zoning Administration Officers are responsible for issuing permits, conducting inspections, and issuing certificates of occupancy. When conducting these tasks, the officers refer to the flood damage prevention ordinance to ensure everything is in compliance with the ordinance. According to Section 301 of the town's zoning law, lots under water or subject to flooding are regulated in the town. This includes the following requirements:

- No more than 25 percent of the minimum area requirements of a lot may be met by land that is always underwater or land that falls within the federally-designated, 100-year flood boundary.
- Land that is under water and is open to use by persons other than the owner shall be excluded from the computation of the minimum area of a lot.
- Land in the bed of a stream not exceeding five feet in width at mean water level and land in a pond not exceeding one hundred 150 square feet in area shall not be considered as under water for the purpose of computing lot area.
- Where any part of a lot is separated by a main body of water, such separate land shall not be included in computing lot area.
- No fence shall be erected in a special flood hazard area, except for fences connected with an agricultural use when it can be demonstrated that such fence would not restrict the flow of flood waters nor have an adverse impact on any buildings.

Site Plan Review: The town requires developers to take additional actions to mitigation natural hazard risk, including burying utility lines, constructing stormwater detention basins, and creating easements in areas of hazard risk.

Building Codes: The Town of Pembroke enforces the 2015 Building Code that requires the use of hazard resistant construction for wind storms and snow storms and that all materials meet the minimum wind and snow load design factors.

Zoning Law: The Town of Pembroke Zoning Law was adopted in 2017 for the protection and promotion of the public health, safety, morals, and general welfare of the community, as follows:

- To guide the future growth and development of the town in accordance with a comprehensive land use plan and population density that represents the most beneficial and convenient relationships among the residential, nonresidential and public areas within the town, considering the suitability of each area for such uses, as indicated by existing conditions, trends in population and mode of living, and having regard for the use of land, building development, and economic activity, considering such conditions and trends both within the town and with respect to the relation of the town to areas outside thereof.
- To provide adequate light, air, and privacy; to promote safety from fire, flood, and other danger; and to prevent overcrowding of the land and undue congestion of the population.
- To protect and conserve the value of the land throughout the town and the value of buildings appropriate to the various districts established by this Zoning Law.
- To protect the rural character and the social and economic stability of all parts of the town, and to encourage the orderly and beneficial development of all parts of the town.



- To bring about the gradual conformity of the uses of land and buildings through the comprehensive zoning plan set forth in this Zoning Law, and to minimize the conflicts among the uses of land and buildings.
- To promote the most beneficial relation between the uses of land and buildings and the circulation of traffic throughout the town, having regard to the avoidance of congestion in the streets and the provision of safe and convenient vehicular and pedestrian traffic movement appropriate to the various uses of land and buildings throughout the town.
- To provide a guide for public policy and action in the efficient provision of public facilities and services, and for private enterprise in building development, investment, and other economic activity relating to uses of land and buildings throughout the town.
- To limit concentrated development to an amount equal to the availability and capacity of public facilities and services.
- To prevent the pollution of streams and ponds, to safeguard the water table, and to encourage the wise use and sound management of the natural resources throughout the town to preserve the integrity, stability, and beauty of the community and the value of the land.

Opportunities for Future Integration

Flood Damage Prevention Ordinance: The Town of Pembroke needs to update the ordinance to include the state minimum requirement for freeboard (two feet above the base flood elevation). They will continue to raise awareness of and enforce existing floodplain regulations.

Operational and Administration

Existing Integration

Planning Board: The Planning Board uses pictometry and floodplain maps to guide their decisions with respect to natural hazard risk management. New York State Environmental Quality Review Act (SEQR) is performed on all applications submitted to the town, as required.

The Town of Pembroke's Planning Board meets on the last Wednesday of each month at 7:00 PM at the Town Hall. The board is made up of a Chairman and Vice Chairman (one-year appointments) and seven other board members (six-year appointments).

Zoning Board of Appeals: The Town of Pembroke's Zoning Board of Appeals meets on the third Wednesday of each month at 7:00 PM at the Town Hall. The board is made up of a Chairman, Vice Chairman, and four other board members.

Opportunities for Future Integration

Disclosure of Flood Areas: The town will develop a program to disclose risks of flood zones to property owners, both existing and prospective property owners. Using the current HMP, or best available data, each property owner will be notified if their property is located within a one-percent annual chance flood area. The town will encourage home inspectors to provide this information to potential property owners as part of the pre-purchase home inspection. For existing property owners, the town will develop an informational brochure informing the property owners of different mitigation strategies they can use to reduce flood impacts on their property. Lastly, the town will display a map in the town hall showing the flood areas throughout the municipality. This will allow current and future residents to see where flooding has and could occur.



Funding

Existing Integration

The municipal budget contains line items for typical services provided to the town. This includes snow removal, tree trimming, and maintenance municipal structures.

Opportunities for Future Integration

The municipal budget does not contain line items for hazard mitigation projects. In the future, the town will consider adding line items for specific mitigation projects to help make the town more resilient to natural hazards.

Education and Outreach

Existing Integration

The Town of Pembroke operates a municipal website (<http://townofpembroke.org/>) that provides information about the town, a calendar of events, copies of the zoning law, meeting minutes, and history of the town.

Opportunities for Future Integration

Public Education and Outreach: The Town will develop a public education and outreach program to inform residents on natural hazards and hazard risk reduction. This will include, but not limited to, safe use of generators, emergency preparedness, and flood hazard information.

Sheltering, Evacuation, and Temporary and Permanent Housing

Temporary housing, evacuation routes, and sheltering measures must 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.

Temporary and Permanent Housing

The Town of Pembroke identified the following locations for the placement of temporary housing for residents displaced by a disaster.

- Econolodge – 8493 Alleghany Road – capacity of 100 people

The town did not identify any potential sites within the municipality suitable for relocating homes out of the floodplain or build new homes once flood-prone properties are acquired. Development of new houses will follow the county's growth strategy.

Evacuation and Sheltering Needs

The Town of Pembroke identified the following locations as potential sheltering sites for the community. The town did not identify any specific routes or procedures to evacuate residents before and during an event; however, the town uses the state highways to get people out of the town in the event of an evacuation. The town follows evacuation directions issued by Genesee County, in accordance with the Genesee County CEMP.



Table 9.21-11. Potential Shelter Locations in the Municipality

Shelter Name	Address	Capacity	Accommodates Pets?	ADA Compliant?	Backup Power?	Types of Medical Services Provided	Other Services Provided
Community Center	116 E. Main Street	50	N	Yes	Yes	None	N/A
Pembroke Central School District – Jr/Sr High School, Intermediate School and Primary School	Routes 5 and 77	200	N	Yes	Yes	None	N/A

9.21.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2008 Plan. It should be noted that during the 2008 planning process, only general, countywide actions were identified for each municipality. The Town of Pembroke reviewed the previous actions and selected actions they chose to carry forward as part of this plan update. 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 9.21-12. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing Capability, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
25	Raise awareness of and enforce existing floodplain regulations. All municipalities in Genesee County currently participate in the NFIP and should therefore have flood regulations.	Flooding	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
26	Raise minimum residential elevations required in flood prone areas. New FIRMs should indicate the base flood elevation. If new maps are not available, the BFE should be designated by an engineer prior to development.	Flooding	The minimum elevations in the town ordinance do not reflect recent changes to state requirements.	Municipalities	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
28	Assist flood prone homeowners/businesses to relocate out of flood zones. Based on the updated FIRMs, each municipality should identify flood-prone properties and offer to work with the land owners to accomplish the relocation.	Flooding	Floodprone property owners might not understand their options of relocating outside of the floodplain.	Municipalities	No Progress	Cost	-	1. Discontinue 2. - 3. This action does not pertain to the Town of Pembroke; therefore, it will not be included in the 2019 HMP update.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
29	Assist flood prone homeowners/businesses who do not want to relocate out of a designated flood zone with upgrading their properties to make them more flood-resistant.	Flooding	Floodprone property owners might not understand their options of retrofitting their structures.	Municipalities	No Progress	Cost	-	1. Discontinue 2. - 3. This action does not pertain to the Town of Pembroke; therefore, it will not be included in the 2019 HMP update.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing Capability, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
30	Continue participation in the NFIP.	Flooding	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	-	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.
31	Disclose risks of flood zones to property owners. Both existing and prospective property owners should be informed if a piece of property is located within the 100-year flood zone. A strategy should be implemented to inform potential property owners, possibly by encouraging home inspectors to provide this information to potential property owners in a pre-purchase home inspection. Also, a large map of flood zones and/or flood overlay zones could be prominently posted in a public area of the municipal offices. Existing property owners should also be informed of mitigation strategies that can be used to lessen the impact of flooding.	Flooding	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	-	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.
37	Encourage the construction of underground utilities and the retrofitting of above ground utilities to underground. Develop a strategy to incrementally bury utilities in existing development on a schedule. Legislate that utilities be buried in new development, and develop model ordinances and policies to be used in achieving this goal. Develop creative financing strategies or income-eligible programs to assist with the implementation of this concept.	Ice Storm, Winter Storm, Severe Storm, Tornado, Utility Failure	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	-	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.
42	Require the use of hazard resistant construction. For wind storms, minimize the creation of windborne debris by appropriately designing, manufacturing and installing architectural features using wind resistant design and construction. For winter storms, use construction practices that can handle heavy snow loads.	Ice Storm, Winter Storm, Severe Storm, Tornado, Utility Failure	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	-	-	1. Discontinue 2. - 3. This is an ongoing capability for the town and part of their day-to-day operations.



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing Capability, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps
						Cost	Level of Protection	
43	Establish a strategy to encourage structural retrofits to assure roofs, walls and windows meet minimum wind-load and snow-load design factors. This has proven to greatly reduce damage even with a total lack of code enforcement.	Ice Storm, Winter Storm, Severe Storm, Tornado, Utility Failure	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	Cost	-	<ol style="list-style-type: none"> Discontinue - This is an ongoing capability for the town and part of their day-to-day operations.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
44	Adopt and enforce building codes that will enable newly built/remodeled structures to withstand earthquakes up to magnitude 6.5, which are possible in Western New York.	Ice Storm, Winter Storm, Severe Storm, Tornado, Utility Failure	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	Ongoing Capability	Cost	-	<ol style="list-style-type: none"> Discontinue - This is an ongoing capability for the town and part of their day-to-day operations.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
51	Develop overlay zoning districts to protect aquifers and surface water supply sources in local development review procedures. Identifying and locating such physical characteristics will provide a framework for determining the suitability of a site for a proposed land use. Municipalities might find a template to be helpful in developing such districts.	Water Supply Contamination	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	No Progress	Cost	-	<ol style="list-style-type: none"> Discontinue - This action does not pertain to the Town of Pembroke; therefore, it will not be included in the 2019 HMP update.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
52	Enforce separation of water wells from manure storage. In a county with significant agricultural areas, manure storage locations could significantly affect local water supplies. All livestock farms should participate in an Agricultural Environmental Management program, and utilize best practices, including good nutrient management.	Water Supply Contamination	Not applicable – there is no original problem. This is part of the town’s day-to-day operations.	Municipalities	No Progress	Cost	-	<ol style="list-style-type: none"> Discontinue - This action does not pertain to the Town of Pembroke; therefore, it will not be included in the 2019 HMP update.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Pembroke has performed ongoing maintenance projects to reduce the impact of flooding but has not identified specific mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2010 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Pembroke participated in a mitigation action workshop on June 18, 2018 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 9.21-13 summarizes the comprehensive-range of specific mitigation initiatives the Town of Pembroke 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 (Mitigation Strategy), 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 9.21-14 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.21-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name				Priority	
T. Pembroke-1	Project Name	Snow Hazard - Public Education			Priority	High
	Description of Problem	During major snow events, clearing the state routes is difficult because road equipment is too big to fit between parked/trapped cars. This road clearing process then requires more extensive resources. As a result, the community must enforce road closures for a longer period when it takes longer than should be the case to clear the roads. People are not able to get reach their work and school locations, and there is general impact on the local economy when people cannot transact normal business.			Lead & Support Agencies	Town of Pembroke Highway Department
	Description of Solution	Better education and outreach about importance of heeding road warnings from the National Weather Service and other alert agencies. Increase awareness about potential complications associated with failure to comply with snow advisories. Potential education and outreach may include radio PSAs, brochures, ROAD SIGNS (you are now entering a snow zone).			Estimated Benefits	Roads are cleared more quickly and efficiently in a major snow event. Saves municipal resources (time, labor, equipment) on response and recovery.
	Hazard(s) Mitigated	Severe Winter Storm	Estimated Timeline	3 months	Estimated Cost	Low for non-digital signs; moderate for electronic signs with real time capabilities.
	Mitigation Category	EAP	Critical Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potential Funding Sources	HMGP, PDM
	CRS Category	PI	EHP Issues	None	Goals Met	3
T. Pembroke-2	Project Name	Town Highway Garage			Priority	High
	Description of Problem	The Town Highway Garage needs repairs, including the damaged roof. This negatively impacts the town's response to weather related events.			Lead & Support Agencies	Town Highway Department
	Description of Solution	The town will repair the Highway Garage and roof.			Estimated Benefits	Town Highway Garage protected from future damage. Highway Department able to respond to weather related events.
	Hazard(s) Mitigated	Severe Storm, Severe Winter Storm	Estimated Timeline	Within 5 years	Estimated Cost	\$175,000
	Mitigation Category	SIP	Critical Facility	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Potential Funding Sources	HMPG, PDM, town budget
	CRS Category	PP	EHP Issues	None	Goals Met	2
T. Pembroke-3	Project Name	Floodplain Administrator Training			Priority	High
	Description of Problem	The floodplain administrator for the town is currently not a certified floodplain manager and lacks training to be able to fully provide floodplain administration for the town.			Lead & Support Agencies	Code Enforcement, Flood Damage Prevention Officer
	Description of Solution	The appointed floodplain administrator will attend floodplain management training, online and in-person, to further their education and knowledge on floodplain administration. This will support the local government and residents and provide flood-related support to the community.			Estimated Benefits	Increase education and knowledge of floodplain management.
	Hazard(s) Mitigated	Flood	Estimated Timeline	Within 1 year	Estimated Cost	Less than \$10,000



Table 9.21-13. Proposed Hazard Mitigation Initiatives

	Mitigation Category	LPR	Critical Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potential Funding Sources	Municipal Budget
	CRS Category	PR	EHP Issues	None	Goals Met	All
Project Number	Project Name	Update the Flood Damage Prevention Ordinance			Priority	High
T. Pembroke-4	Description of Problem	The current flood damage prevention ordinance for the Town of Pembroke is out-of-date and have not been updated since the FIRM was issued in 1987. The ordinance does not include the state minimum for freeboard.			Lead & Support Agencies	Code Enforcement, Flood Damage Prevention Officer
	Description of Solution	Revise the current flood damage prevention ordinance to include the state minimum requirement for freeboard, which is two feet above the base flood elevation. This will ensure structures are protected to the 100-year flood event.			Estimated Benefits	Provides increase of protection for buildings located in the floodplain.
	Hazard(s) Mitigated	Flood	Estimated Timeline	Within 1 year	Estimated Cost	Less than \$10,000
	Mitigation Category	LPR	Critical Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potential Funding Sources	Municipal Budget
	CRS Category	PR	EHP Issues	None	Goals Met	All
Project Number	Project Name	Tonawanda Creek Flood Protection			Priority	High
T. Pembroke-5	Description of Problem	Several homes along Tonawanda Creek in the hamlet of Cooksville have flooding issues due to being built too close to the creek.			Lead & Support Agencies	Floodplain Administrator
	Description of Solution	The town will work with property owners to identify the proper mitigation techniques to protect the homes from flood damage. Options to be explored will include possible elevations and acquisitions. The town will then support homeowners with applying for grant funding to support the selected mitigation.			Estimated Benefits	Properties protected from flood damage.
	Hazard(s) Mitigated	Flood	Estimated Timeline	Within 5 years	Estimated Cost	Outreach costs of \$100.
	Mitigation Category	EAP, SIP	Critical Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potential Funding Sources	HMGP, PDM
	CRS Category	PI, PP	EHP Issues	None	Goals Met	2

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
 FEMA Federal Emergency Management Agency
 FPA Floodplain Administrator

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program
 PDM Pre-Disaster Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.





HMA Hazard Mitigation Assistance
N/A Not applicable
NFIP National Flood Insurance Program
OEM Office of Emergency Management

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

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*

Critical Facility:


- Yes  - Critical Facility located in 1% floodplain



Table 9.21-14. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
T. Pembroke-1	Snow Hazard-Public Information	1	1	1	1	1	1	0	1	1	1	0	1	1	1	12	High
T. Pembroke-2	Town Highway Garage	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Pembroke-3	Floodplain Administrator Training	1	1	1	1	1	1	1	0	0	1	0	1	0	1	10	High
T. Pembroke-4	Update the Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	0	0	1	0	1	0	1	10	High
T. Pembroke-5	Tonawanda Creek Flood Protection	1	1	1	1	1	0	0	1	0	1	0	0	1	1	9	High

Note: Refer to Section 6 (Mitigation Strategy), which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-9), High (10-14).



9.21.7 Future Needs to Better Understand Risk/Vulnerability

None at this time.

9.21.8 Staff and Local Stakeholder Involvement in Annex Development

The Town of Pembroke followed the planning process described in Section 3 (Planning Process). This annex was developed over the course of several months with input from many town departments, including the Highway Department and the Town Supervisor. The Highway Superintendent represented the community on the Genesee 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.

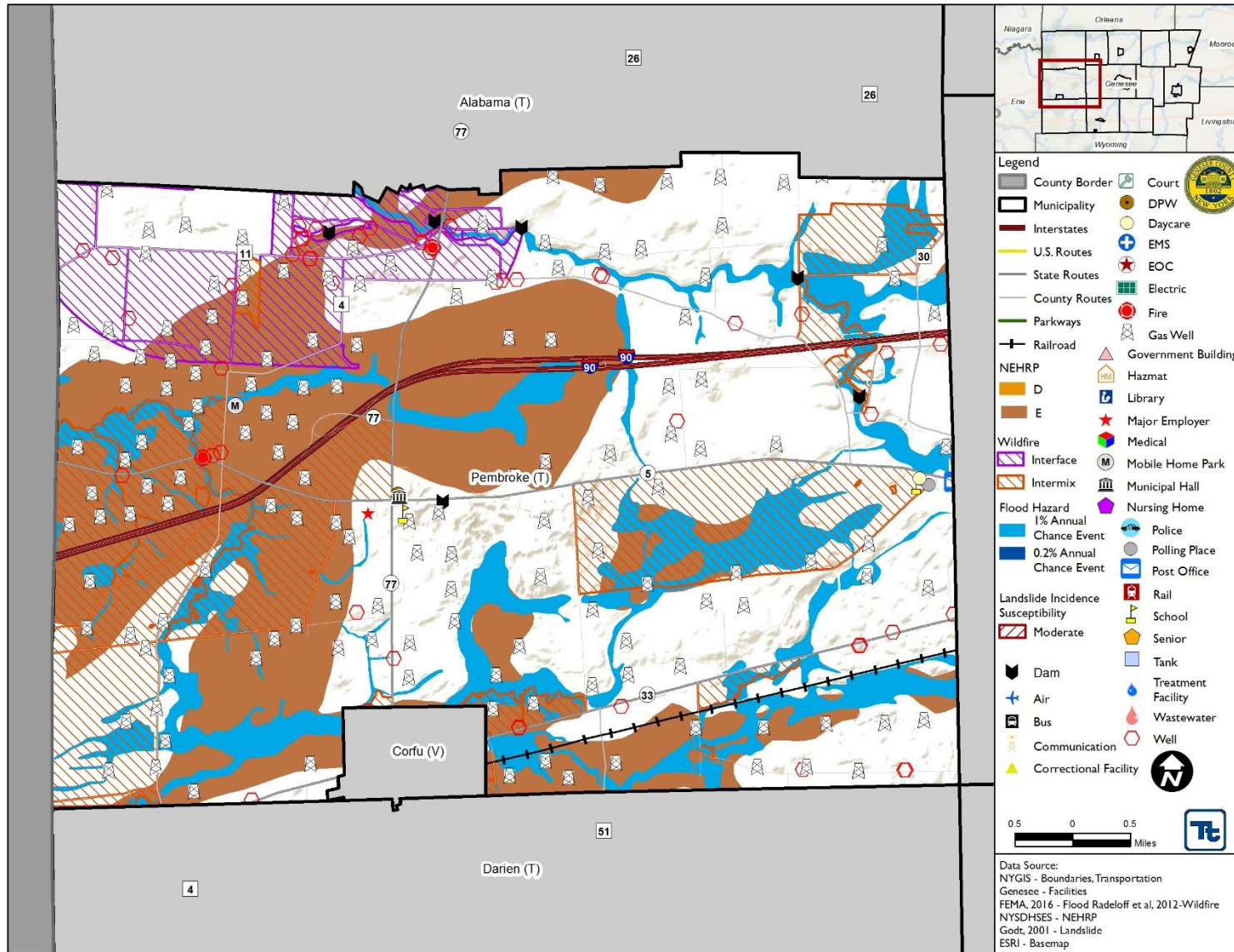
Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix B (Meeting Documentation).

9.21.9 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Town of Pembroke 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. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Pembroke has significant exposure. This map is illustrated below.



Figure 9.21-1. Town of Pembroke Hazard Area Extent and Location Map





Town of Pembroke Action Worksheet			
Project Name:	Snow Hazard - Public Education		
Project Number:	T. Pembroke-1		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Winter Storms, Snow, Ice		
Description of the Problem:	During major snow events, clearing the state routes is difficult because road equipment is too big to fit between parked/trapped cars. This road clearing process requires more extensive resources resulting in longer road closures than should be the case to clear the roads. People are not able to reach their work and school locations, and there is general impact on the local economy when people cannot transact normal business.		
Action or Project Intended for Implementation			
Description of the Solution:	Better education and outreach about importance of heeding road warnings from the National Weather Service and other alert agencies. Increase awareness about potential complications associated with failure to comply with snow advisories. Potential education and outreach activities include radio PSAs, brochures, ROAD SIGNS (you are now entering a snow zone).		
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:	N/A	Estimated Benefits (losses avoided):	Roads are cleared more quickly and efficiently in a major snow event. Saves municipal resources (time, labor, equipment) on response and recovery.
Useful Life:	10 years	Goals Met:	3
Estimated Cost:	Low for non-digital signs; moderate for electronic signs with real time capabilities.	Mitigation Action Type:	Education and Awareness Program
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Summer (pre-snow event)
Estimated Time Required for Project Implementation:	3 months	Potential Funding Sources:	HMGP, PDM
Responsible Organization:	Town of Pembroke Highway Department	Local Planning Mechanisms to be Used in Implementation if any:	Town Planning Board - local zoning (potentially designate snow zones).
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Purchase different equipment (trucks - <6 foot snow blower)	\$200,000	Would still require significant town resources following an event.
Widen the road	\$300,000	Widening the road just increases capacity for more vehicles and would potentially increase risk. It would also increase the need for resources to maintain - salt, hours to plow, etc.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			





Action Worksheet		
Project Name:	Snow Hazard - Public Education	
Project Number:	Town of Pembroke - 1	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will educate on ways to remain safe during severe winter storm events.
Property Protection	1	Project will educate on ways to protect property during severe winter storm events.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The town has the legal authority to complete the project.
Fiscal	0	The project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Winter Storm
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	Public education
Total	12	
Priority (High/Med/Low)	High	



Town of Pembroke Action Worksheet			
Project Name:	Town Highway Garage		
Project Number:	T. Pembroke-2		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm		
Description of the Problem:	The Town Highway Garage needs repairs, including the damaged roof. This negatively impacts the town's response to weather related events.		
Action or Project Intended for Implementation			
Description of the Solution:	The town will repair the Highway Garage and roof. During repairs the garage will be strengthened to be more resilient to severe weather events.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input 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:	N/A	Estimated Benefits (losses avoided):	Town Highway Garage protected from future damage. Highway Department able to respond to weather related events.
Useful Life:	25 years	Goals Met:	2
Estimated Cost:	\$175,000	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, PDM, town budget
Responsible Organization:	Town Highway Department	Local Planning Mechanisms to be Used in Implementation if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Build new Highway Garage	\$250,000	Costly.
	Contract Highway Department actions to neighboring town.	N/A	The town needs to have its own highway department in order to quickly respond to hazard events and maintain roadways.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Town Highway Garage	
Project Number:	T. Pembroke-2	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Highway operations to protect life during severe storms will be preserved.
Property Protection	1	Highway garage protected from storm damage.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The town 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, Severe Winter Storm.
Timeline	1	
Agency Champion	1	Highway Department
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	



Town of Pembroke Action Worksheet			
Project Name:	Tonawanda Creek Flood Protection		
Project Number:	T. Pembroke-5		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Several homes along Tonawanda Creek in the hamlet of Cooksville have flooding issues due to being built too close to the creek.		
Action or Project Intended for Implementation			
Description of the Solution:	The town will work with property owners to identify the proper mitigation techniques to protect the homes from flood damage. Options to be explored will include possible elevations and acquisitions. The town will then assist property owners to secure funding to mitigate properties.		
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:	500-year flood	Estimated Benefits (losses avoided):	Properties protected from flood damage.
Useful Life:	100 years for acquisitions, 30 years for elevations	Goals Met:	2
Estimated Cost:	\$100 for outreach. Cost for mitigation will be dependent on number of elevations and buyouts	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:	5 years	Potential Funding Sources:	HMGP, PDM. Municipal budget for outreach
Responsible Organization:	Floodplain Administrator	Local Planning Mechanisms to be Used in Implementation if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Buyout all properties	Roughly \$200,000 per buyout	Not necessary and more costly.
	Elevate all properties	Roughly \$40,000 per elevation	May leave highest risk properties still at risk.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	T. Pembroke-5	
Project Number:	Tonawanda Creek flood protection	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects residents from flooding.
Property Protection	1	Protects homes from flooding.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	Property owners will need to decide to take part.
Fiscal	0	Project requires fiscal support.
Environmental	1	
Social	0	Acquisition may result in residents leaving the area.
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	
Agency Champion	1	Floodplain Administrator
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	