Town of Richland

Jurisdictional Annex
Town of Richland

1.0 Contacts

The contacts for the Town of Richland regarding this plan were identified as follows:

- Daniel Krupke –Town Supervisor
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  Phone: (315) 298-5174 Ext.1023
  Email: supervisor@townofrichland.org

- John Fox –Highway Superintendent
  Address: 1 Bridge Street, Pulaski, NY 13142
  Phone: (315) 298-2567
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Town Website: http://www.townofrichland.org/

2.0 Municipal Profile

Population

The 2016 American Community Survey estimated that 5,678 people live in the Town of Richland. The Town's population has decreased since the 2000 Census population (5,824) by 2.5% (U.S. Census Bureau, 2016).

Location

The Town of Richland is located in the northern portion of Oswego County and is bordered by the Town of Sandy Creek to the north, Albion to the east, Mexico to the south, and Lake Ontario to the west. Interstate 81, US Route 11, and NY Routes 3 and 13 pass through the Town.

Brief History

The Town of Richland was formed in 1807. The area was used by Native Americans as a hunting and fishing destination. European settlement in the area began along the Salmon River in 1801. Communities developed along the shore of Lake Ontario as well as along the Rome, Watertown, and Ogdensburg Railroad, which ran through the Town. Industries in the Town included agriculture (particularly dairy), cheese factories, and grist mills (Doyle, 2016).

Governing Body

The Town of Richland is governed by a five (5) member Town Board, led by the Town Supervisor.

Future Growth

Since the County's 2012 HMP, several new developments have been completed or proposed in the Town of Richland. In 2013, FX Caprara built a new car dealership facility in the Town, just south of the Village of Pulaski. The dealership is not within a mapped 100-year or 500-year floodplain. In addition, there is an Amish food storage and distribution center planned to be located on Tinker Tavern Rd in the Town of Richland and is not located in a floodplain or other hazard-prone area. No other significant residential or commercial developments have occurred within the Town since the 2012 County HMP.

3.0 Hazard Vulnerabilities and Ranking

3.1. Risk Assessment

The following scale was developed to determine hazard vulnerability for the jurisdiction. Each event was given a ranking from one (1) through three (3) for the severity of impact based on extent, onset warning, impact in damages and injury, and frequency: three (3) represents the greatest impact (large area, no warning, severe damage, and regular occurrence); two (2) represents moderate impact (several locations, hours of warning, moderate damage, and infrequent occurrence); and one (1) represents low impact (one location, days of warning, minor damage, and rare occurrence). The scores for each of these four (4) categories were used to assign an overall vulnerability for each hazard, as follows:

- Low: 5 or less
- Moderate: 6 to 8
- High: 9 or greater

Table 1: Hazard Vulnerability by Event

Hazard Event	Extent	Onset	Impact (Damages and Injury)	Frequency	Vulnerability Rank	Jurisdiction Rank
Flood	2	2	3	3	High	1
Ice Jam	2	2	3	2	High	2
Ice Storm	3	1	3	2	High	3
Severe Winter Storm	3	1	2	3	High	4
HAZMAT Transit	1	3	1	1	Moderate	5

Table 1: Hazard Vulnerability by Event						
Hazard Event	Extent	Onset	Impact (Damages and Injury)	Frequency	Vulnerability Rank	Jurisdiction Rank
Severe T-Storm/Wind/Tornado	3	1	3	3	High	6
Transportation Accident	1	3	2	2	Moderate	7
Utility Failure	3	3	2	1	High	8
Fire	1	3	2	2	Moderate	9
Explosion	1	3	2	1	Moderate	10
Structural Collapse	1	3	2	1	Moderate	11
Dam Failure	1	3	1	1	Moderate	12
Water Supply Contamination	3	3	2	1	High	13
Radiological Transit	1	3	2	1	Moderate	14

3.2. Critical Facilities

Critical facilities are defined as any facility that is critical for emergency response or that requires special emergency response in the event of hazardous incidents as identified by the Town of Richland. The tables below denote the number and locations of critical facilities within the Town.

Table 2: Critical Facilities in the Town of Richland			
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
Transportation Network			
Evacuation Routes	-	-	-
Bridges	-	-	-
Oswego County at Pulaski Heliport	100 County Rt 2A, Pulaski, NY 13142	100YR, 500YR	No
Richland Airport	off of County Rt 2	No	No
Public Utilities			
Citizens Telecom Co of NY	230 County Rt 41A		
Fernwood Well Site	off of County Rt 41		
National Grid property	30 E Wood Rd, Pulaski, NY 13142		
Schoeller Well Site	off of Stowell Drive		
Water Tower	off of Bishop Rd		
Municipal Services			
Oswego County- Pulaski Highway Garage	957 Centerville Rd, Pulaski, NY 13142	100YR, 500YR	No

Table 2: Critical Facilities in the Town of Richland			
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
Emergency and Medical Services			
Richland Fire Dept.	30 Phillips St Richland, NY 13144	No	No
NYSDEC Training Facility	24 County Rt 2A, Pulaski, NY 13142	100YR, 500YR	No
Educational and Shelter Facilities			
Pulaski High School	4624 Salina St, Pulaski, NY 13142	100YR	No
Community Services			
Selkirk Shores State Park	7101 NY-3, Pulaski, NY 13142	100YR, 500YR	No
Industrial			
Felix Schoeller Technical Papers Inc.	179 County Rt 2A, Pulaski, NY 13142	100YR, 500YR	No
Fulton Companies	972 Centerville Rd, Pulaski, NY 13142	No	No
Dams			
Fernwood Dam	off of County Rt 41A	-	-
Marshall Minot Pond Dam	off of County Rt 2 and Peck Rd	-	-

4.0 Priority Hazard Events

The following sections detail the priority hazard events identified by the jurisdiction. Additional information about County-selected hazards including frequency, history, and severity is included within Section 5.0 of the main body of the Plan.

The probability of climate-related hazard events is expected to increase in the future within the Town of Richland. Climate change is expected to cause an increase in weather volatility, rising sea level, and greater temperature extremes.

Past occurrences of hazard events are indicated in their respective profiles below. Some hazards may not have locally available documentation of past occurrence, but were included in this annex for future mitigation planning consideration.

4.1 Natural Hazards

Natural hazards selected to be profiled for the Town of Richland are described in detail below.

4.1.1 Flood

For a description of this hazard, please see Section 5.1.2 of the main body of the Plan.

Hazard Vulnerability

The Town is drained by the Salmon River, Grindstone Creek, Spring Brook, Deer Creek, Alder Creek, Snake Creek, and Mud Creek, in the Lake Ontario drainage basin. FEMA's Flood Insurance Mapping Program designates areas that are at risk for flooding. Low flood risk are areas unlikely to flood, moderate risk are areas within the 500-year floodplain (0.2% likely to flood in any given year), and high risk are areas that frequently flood, up to the 100-year flood risk zone (1% likely to flood in any given year). Table 3 summarizes the amount of land within the Town of Richland that is located within 100-year and 500-year floodplains and low-risk flood areas.

Table 3: Summary of Areas in Floodplains
(Source: FEMA DFIRM 2013)

Town of Richland Total Area	Percent of Total Area		
	100-Year Floodplain	500-Year Floodplain	Area of Minimal Flood Hazard
34,807 acres	10.5%	0.17%	89.33%

Table 4 below summarizes the value of properties in the Town of Richland that are located within the 100-year floodplain and is categorized by land use type. This table was derived from FEMA floodplain mapping and parcel data from the Oswego County Real Property Tax Office.

Table 4: Parcels within to 100-year Flood Events and Their Estimated Structure Values

Type of Structure	# Parcels in 100-Year Floodplain	Approx. Structure Value* in 100-Year Floodplain	# Parcels in 500-Year Floodplain	Approx. Structure Value* in 500-Year Floodplain
Agricultural	29	$1,689,777	2	$296,660
Commercial	19	$2,647,160	8	$1,507,560
Community Services	3	$3,192,000	1	$0
Industrial	1	$5,125,000	1	$5,125,000
Residential	536	$47,997,509	150	$15,701,903
Utility	8	$2,858,867	6	$1,315,536
Other**	239	$9,573,948	48	$7,874,434
Total	835	$73,084,261	216	$31,821,093

*Structure Value estimated by subtracting parcel's Land Assessed Value from Total Assessed Value (Oswego County Real Property Tax Office, 2018)
**Includes parcels classified as vacant; recreational; and wild forest/conservation land/parks.

Historical Hazard Occurrences and Damage Estimates

According to NOAA's Storm Events Database, in the past ten (10) years, one (1) flood record was noted to specifically impact the Town of Richland. This event occurred on September 30, 2010 and involved flash flooding along the Salmon River. The flash flood was caused by heavy precipitation the day before (3.2 inches fell overnight) and the release of approximately 17,000 CFS of water from two Brookfield Power hydroelectric dams. This event caused significant damages to a retaining wall along the Salmon River in the Village of Pulaski, and about $5,000 in property damages in the Town of Richland. Several roadways were flooded in the Town due to this event.

According to local records, on October 27, 2017, the Town of Richland was impacted by areal flooding due to heavy precipitation. The Town of Richland temporarily closed several roadways due to flooding during this event, including Halsey Rd, Lehigh Rd, Atkinson Rd, and North Herrick Rd. The neighboring Town of Sandy Creek declared a state of emergency. The Town has also been impacted by numerous county-wide events described in Section 5.1.2 of the main body of the Plan.

As described in Section 6.0 of this annex, four (4) NFIP loss claims have been paid as of July 2018 in the Town of Richland totaling $$4,493.98. There are no repetitive loss properties in the Town of Richland.

Future Potential Impacts

Properties along the Salmon River, Grindstone Creek, Spring Brook, Deer Creek, Alder Creek, Snake Creek, and Mud Creek which flow westward to Lake Ontario, and their tributaries are vulnerable to flooding. Multiple critical facilities are located on parcels that intersect the 100-year and/or 500-year floodplain, but the structures themselves are outside of a mapped floodplain (Table 2).

4.1.2 Ice Jam

An ice jam is described as a large accumulation of ice in rivers or streams that interrupts the normal flow of water and often leads to flooding conditions and/or damage to nearby structures. Ice jam events typically occur from the early winter to late spring months and are often short-lived and often affect only a localized reach or area of a body of water. Freeze-up jams occur when waterbodies are beginning to freeze over during the early winter and do not typically result in significant floods. Break-up jams typically occur later in the spring when built up ice breaks or moves as it begins to melt or when water levels rise due to precipitation or snowmelt. Break-up jams often result in flooding and property damages.

Hazard Vulnerability

In the Town of Richland, an ice jam could occur along the Salmon River, Grindstone Creek, Spring Brook, Deer Creek, Alder Creek, Snake Creek, and Mud Creek and their tributaries (Figure 1). Areas that may incur damages due to an ice jam generally include properties within a 100-year or 500-year floodplain, as shown in Table 4 in Section 4.1.1 of this annex. In the Town of Richland, these areas primarily consist of commercial and residential properties.

Historical Hazard Occurrences and Damage Estimates

There are no ice jam records available for the Town of Richland. Ice jams have occurred along the Salmon River and tributaries in the Village of Pulaski. The Town elected to profile this hazard due to its potential for occurrence along the Town's many waterbodies.

Future Potential Impacts

The Salmon River and other main waterbodies will continue to pose risks of ice jams in the Town of Richland. In the future, ice jams may occur more frequently due to climate change.

4.1.3 Ice Storm

For a description of this hazard, please see Section 5.1.3 of the main body of the Plan.

Hazard Vulnerability

Historically, ice storms have occurred about once every seven (7) years in Oswego County. These storms typically affect most or all of the County. The entire Town of Richland is susceptible to damages from an ice storm event.

Historical Hazard Occurrences and Damage Estimates

The Town of Richland was affected by the three (3) county-wide ice storm events recorded by the NCDC, which are described in Section 5.1.3 of the main body of the Plan. No damage estimates or records related to ice storms are reported specifically for the Town of Richland.

Future Potential Impacts

The Town of Richland will continue to experience ice storm events in the future, as will the rest of Oswego County. The Town Highway Dept. completes tree maintenance within Town road right of ways to minimize potential damages to overhead utility lines, which is common

during ice storms. Private utility right of ways are generally maintained by the individual utility companies.

4.1.4 Severe Winter Storm

For a description of this hazard, please see Sect Section 5.1.4 of the main body of the Plan.

Hazard Vulnerability

Severe winter storms typically occur about eleven (11) times annually in Oswego County. These storms typically affect most or all of the County. The entire Town of Richland is susceptible to damages from a severe winter storm event. The Town Highway Dept. clears Town streets during heavy snow events, and the Town works with the Oswego County Highway Dept. and NYS Dept. of Transportation for clearing of other roadways. Roadway safety is a major concern during severe winter storm events.

Historical Hazard Occurrences and Damage Estimates

The Town of Richland has been affected by a number of county-wide severe winter storm events, described in Section 5.1.4 of the main body of the Plan. Severe winter storms typically occur several times annually in Oswego County. These storms typically affect most or all of the County. The NCDC does not report any winter storm records or damage estimates specific to the Town of Richland.

Future Potential Impacts

The Town of Richland will continue to experience severe winter storm events in the future. Severe winter storms are common throughout Oswego County and occur about eleven (11) times annually.

4.1.5 Severe Thunderstorm, Wind, Tornado

For a description of this hazard, please see Section 5.1.1 of the main body of the Plan.

Hazard Vulnerability

The entire Town is susceptible to damages from a severe thunderstorm, wind, or tornado event. Fallen trees from severe winds can damage overhead utility lines, resulting in power outages. In addition, these events are likely to result in damages to private and public infrastructure and property.

Historical Hazard Occurrences and Damage Estimates

In addition to the 101 severe storm events reported within Oswego County, the NCDC reports one (1) hail event that occurred in the Town of Richland in 2009, which caused approximately $5,000 in property damages and $15,000 in crop damages (Table 5). Actual damages were likely greater than those estimated by the NCDC.

Table 5: Severe Storm Event Records for the Town of Richland

Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage
Hail	4/21/2009	0.75 inches	$5,000	$15,000
Total			$5,000	$15,000

Future Potential Impacts

Severe storms are a common event in the Town of Richland and will continue to occur in the future. The frequency and magnitude of severe storm events may be increased due to climate change.

4.2 Technological Hazards

Technological hazards selected to be profiled by the Town of Richland are described in detail below.

4.2.1 HAZMAT Transit

Hazard Vulnerability

Hazardous Materials (HAZMAT) in Transit events involve the uncontrollable release of flammable, toxic, corrosive, chemically instable, or combustible materials during transport that can damage infrastructure, pollute the environment, and/or cause injuries or death. The Town of Richland contains several major transportation routes (Interstate 81, U.S. Route 11, State Route 3, and State Route 13) that are used for the transport of hazardous materials. Interstate 81 and U.S. Route 11 run north to south in the center of the Town. State Route 3 runs north to south in the western part of the Town. State Route 13 runs east to west through the center of the Town. A transportation accident involving hazardous materials on any of these routes has the potential to impact a portion of the Town of Richland. In addition, the CSX Railroad corridor is located in the Town. This portion of the railroad is a freight-only line and transports a number of goods, including hazardous materials such as oil or chemicals. A train derailment or accident could release hazardous materials in a portion of the Town.

Historical Hazard Occurrences and Damage Estimates

There are no specific records of HAZMAT in transit events in the Town of Richland. This hazard has been documented in other portions of the County (see main body of this plan update for details). However, the Town of Richland elected to include this hazard due to the moderate risk posed by major transportation routes that run directly through the Town.

Future Potential Impacts

Although HAZMAT in transit events are infrequent, the Town remains susceptible to future HAZMAT incidents along major transportation routes.

4.2.2 Transportation Accident

Hazard Vulnerability

For the purposes of hazard mitigation, a transportation accident is defined as an accident on land, water, or in the air resulting in mass casualties or a substantial loss of property. The Town of Richland contains several major transportation routes (Interstate 81, U.S. Route 11, State Route 3, and State Route 13). Interstate 81 and U.S. Route 11 run north to south in the center of the Town. State Route 3 runs north to south in the western part of the Town. State Route 13 runs east to west through the center of the Town. These roadways are heavily travelled by trucks and there is potential for major accidents to occur, especially as a result of poor road conditions during a winter storm or ice storm. A transportation accident on any of these routes has the potential to impact a portion of the Town of Richland.

Historical Hazard Occurrences and Damage Estimates

While minor vehicular accidents are relatively common throughout the County, there are no specific records of major transportation accidents in the Town of Richland (accidents involving mass casualties or substantial loss of property). The Town elected to profile this hazard due to the increased risk of this hazard occurring along major transportation routes.

Future Potential Impacts

Major transportation accidents are infrequent, but the Town remains susceptible to future incidents along major transportation routes, particularly as a result of natural hazards such as a severe winter storm or ice storm. Transportation accidents do not pose a large risk to infrastructure, however, they are likely to cause injuries or loss of life. Maintaining roadway safety and clearly designating evacuation routes can aid in prevention of transportation accidents.

4.2.3 Utility Failure

Hazard Vulnerability

A utility failure involves the loss of electricity, natural gas supply, phone service, or water supply as a result of an internal system failure. While utility failures are often associated with natural hazard events, this hazard on its own does not include loss of utility access due to other disaster events. The Town of Richland primarily has overhead utility lines, including electric, phone, and cable networks and also has underground natural gas lines and a public water supply system. A utility failure could impact the entire developed portion of the Town. The Town's vulnerability to utility failures was determined to be high due to the widespread extent and fast onset of a utility failure.

Historical Hazard Occurrences and Damage Estimates

The Town of Richland was impacted by a widespread electricity failure in 2003 that impacted much of the northeastern U.S., which resulted in power outages for about one (1) day. No specific utility failure records are available for the Town itself. The Town is more likely to experience utility failures associated with a severe storm, ice storm, or severe winter storm than a purely technologically-caused utility failure.

Future Potential Impacts

The Town will remain susceptible to utility failures in the future. However, the Town is more likely to encounter utility failures due to a natural hazard event than this hazard occurring on its own.

4.2.4 Fire

Hazard Vulnerability

The Town of Richland had a moderate vulnerability ranking for fires. These events tend to be more localized, affecting one to several structures at a time. However, there is little to no warning and substantial structural damages and injuries or deaths are likely to occur. The central portion of the Town, which is most densely developed, would be the most vulnerable area for a fire event.

Historical Hazard Occurrences and Damage Estimates

Structural fires occur occasionally within the Town. A house fire in March 2018 left a firefighter with injuries. Another house fire in April 2018 occurred at a property on U.S. 11. Significant structural damages resulted, but no reports regarding injuries or loss of life are available.

Future Potential Impacts

The developed portions of the Town of Richland, particularly along the U.S. 11 corridor and other main roadways and seasonal residences along the Lake Ontario shoreline, remain susceptible to structure fires.

4.2.5 Explosion

Hazard Vulnerability

Explosions have the greatest potential to occur at fixed sites that store hazardous materials. The NYSDEC lists a number of bulk storage sites (including petroleum and chemical bulk storage facilities) within the Town of Richland (Figure 1). These sites include gas stations, marinas, auto shops, the County highway garage, industrial facilities, and other commercial entities. An explosion has the potential to occur at any of these sites storing petroleum products or other flammable chemicals.

Historical Hazard Occurrences and Damage Estimates

There are no available records for explosions specifically in the Town of Richland. In March 2007, a stolen propane delivery truck crashed on a street in the Village of Pulaski, next to the Salmon River. While the propane tank remained intact during the accident, the potential for an explosion while it was recovered led to a voluntary evacuation of a two (2) mile radius, which took several hours as police and fire agencies went door-to-door to inform neighboring residents of the event. The Town elected to profile this hazard due to the presence of hazardous material storage facilities and industrial facilities that store or use combustible materials.

Future Potential Impacts

The Town remains susceptible to explosions, though they are a rare occurrence. Properties close to bulk storage facilities that store combustible materials are at the most risk of being affected by an explosion.

4.2.6 Structural Collapse

Hazard Vulnerability

A structural collapse involves a structural failure of a building, bridge, or other infrastructure that threatens human life and health. The Town of Richland is moderately vulnerable to a structural collapse. Though this event would only affect a small area within the Town, there is little to no warning and it presents significant damages and injury risks. The Town contains multiple bridges. In addition, approximately 34% of housing units in the Town were

built in 1939 or earlier (U.S. Census Bureau, 2016). Older structures are more vulnerable to structural collapse than newer structures.

Historical Hazard Occurrences and Damage Estimates

There are no specific structural collapse records for the Town of Richland. However, the Town elected to profile this hazard due to the presence of vulnerable infrastructure.

Future Potential Impacts

Structural collapse is not a high-risk hazard for the Town, but it could occur particularly during a natural hazard event such as a winter storm, severe storm, or ice storm resulting in hundreds of thousands of dollars in damages and potentially injuries or loss of life.

4.2.7 Dam Failure

Hazard Vulnerability

Dam failures can be attributed to natural or man-made hazards. The impoundment of large volumes of water poses a threat; the failure of a dam can lead to catastrophic flooding.

The New York State Department of Environmental Conservation (NYSDEC) maintains a database to classify dams based on the event of a failure. Explanations of dam classifications are noted in Table 5.13 (Appendix A of the main body of the plan).

The Town of Richland contains two (2) dams. Both are Class A (low hazard) dams. The Fernwood Dam is a gravity dam located on Grindstone Creek and is used for hydroelectricity generation. The Marshall Minot Pond Dam is constructed of earth and is located on a Tributary to Spring Brook.

Historical Hazard Occurrences and Damage Estimates

There are no records of dam failures occurring in the Town of Richland. The Town elected to include this hazard due to the potential for moderate damages to occur should either dam fail.

Future Potential Impacts

Should any dams within the Town fail, properties immediately downstream of the dam would be susceptible to flooding.

5.0 Capability Assessment

5.1 Planning and Regulatory Capability

The Town's HMP update will be incorporated into and referenced by future updates of the plans, policies, ordinances, programs, studies, and reports listed in Table 6, below.

Table 6. Planning Mechanisms and Capabilities		
Planning Mechanism	Town of Richland	Notes
Plans		
Comprehensive/Land Use Plan	X	Joint Comprehensive Plan with Village of Pulaski- 2018 update in progress
Post-Disaster Recovery Plan	X	In place.
Watershed Protection Plan	X	In place.
Comprehensive Emergency Management Plan	X	In place.
Policies/Ordinances		
Building Codes	• 2010 Residential Code of NYS • 2010 Fire Code of NYS • 2010 Building Code of NYS • 2010 Exiting Building Code of NYS • 2010 Energy Conservation Construction Code of NYS • 2010 Plumbing Code of NYS • 2010 Mechanical Code of NYS • 2010 Fuel Gas Code of NYS	Town Code Enforcement Officer
Zoning Code	X	Adopted. Updated in 2018
Subdivision Regulations	X	Adopted.
Property Set-Back Ordinance	X	In zoning.
Flood Regulations	X	Adopted.
Site Plan Review Requirements	X	In place.
Real Estate Disclosure Requirement	X	In place.
Programs		
NFIP Participant	X	Current participant.
Public Education/Awareness Program	X	Fire Dept. responsible.
Stream Maintenance Program	X	Highway Dept. Responsible
Storm Drainage Maintenance Program	X	Highway Dept. Responsible
Mutual Aid Agreements	X	Agreements with neighboring jurisdictions and Oswego County
Studies/Reports		
Hazard Analysis/Risk Assessment	X	Oswego County HMP- 2012
Floodplain Maps and/or Studies	X	FEMA- 2013
Staff/Development		
Building Code Official	X	Town Code Enforcement Officer
Local Floodplain Administrator	X	Town Code Enforcement Officer
Public Information Official	X	Town Supervisor

5.2 Emergency Communications, Routes, and Shelters

The Town of Richland, along with Oswego County, utilize the HyperReach emergency communications system. Major transportation routes within the Town include County routes, County Routes 2, 22, and 50. The Town of Richland has three (3) established emergency shelters:

- Ringgold Fire Hall - 12 Lake Street, Pulaski, NY 13142
- Lura Sharp Elementary School - 2 Hinman Road, Pulaski, NY 13142
- Pulaski Jr/Sr High School - 4624 Salina Street, Pulaski, NY 13142

The Fire Hall and both schools are ADA-compliant. The Town does not currently have any emergency sheltering accommodations in place for pets.

5.3 Temporary and Permanent Housing Locations

The potential temporary and permanent housing locations listed below were identified for displaced residents in the Town of Richland based on the 2017 NYS Hazard Mitigation Planning Standards.

- **Potential Temporary Housing Locations**
  - Selkirk Shores State Park/Campground - 7101 NY-3, Pulaski, NY 13142
  - Brennan Beach RV Resort - 80 Brennan Beach Road, Pulaski, NY 13142
  - Bears Sleepy Hollow Campground - 7065 NY-3, Pulaski, NY 13142
  - Streamside RV Park & Golf - 800 County Rt 28, Pulaski, NY 13142
- **Potential Permanent Housing Locations**
  - Oswego Co IDA Property - off of Peck Road

6.0 National Flood Insurance Program

Long-term mitigation of potential flood impacts can be best achieved through comprehensive floodplain management regulations and enforcement at a local level. The National Flood Insurance Program (NFIP), regulated by FEMA, aims to reduce the impact of flooding on private and public structures by providing affordable insurance for property owners. The program encourages local jurisdictions to adopt and enforce floodplain management regulations in order to mitigate the potential effects of flooding on new and existing infrastructure (FEMA, 2015).

Communities that participate in the NFIP adopt floodplain ordinances. If an insured structure incurs damage costs that are over 50% of its market value, the owner must comply with the local floodplain regulations when repairing or rebuilding the structure. A structure could be rebuilt at a higher elevation, or it could be acquired and demolished by the municipality or relocated outside of the floodplain. Insured structures that are located within floodplains identified on FEMA's Flood Insurance Rate Maps (FIRMs) may receive payments for structure and content losses if impacted by a flood event.

The NFIP and other flood mitigation actions are important for the protection of public and private property and public safety. Flood mitigation is valuable to communities because it:

- Creates safer environments by reducing loss of life and decreasing property damage;
- Allows individuals to minimize post-flood disaster disruptions and to recover quicker (homes built to NFIP standards generally experience less damage from flood events, and when damage does occur, the flood insurance program protects the homeowner's investment); and
- Lessens the financial impacts on individuals, communities, and other involved parties (FEMA, 2015).

The Town of Richland currently participates in the NFIP. As of July 2018, the Town had seventeen (17) flood insurance policies in-force, with a total coverage amount of $3,597,600, and nine (9) claims have been filed to date. All of these claims are closed, five (5) of which were closed without payment. Paid claims totaled $4,493.98. There are no repetitive loss properties within the Town of Richland.

The Town's Code Enforcement Officer serves as the Local Floodplain Administrator, and flood maps are available for viewing and copying at the Town Hall (1 Bridge Street, Pulaski, NY 13142). The Town has been maintaining NFIP participation by performing the duties and actions that were listed in the local laws adopted by the Town Board. The Town will continue to comply with the NFIP by enforcing floodplain management requirements and regulating new development in Special Flood Hazard Areas, in addition to other required duties.

7.0 Mitigation Strategy and Prioritization

7.1 Past, Completed, and Ongoing Initiatives

The Town of Richland proposed six (6) mitigation actions in the 2012 Oswego County HMP. The details and status of those actions are described in Table 7 below. The Town has completed several mitigation-related projects in recent years.

Table 7. 2012 Hazard Mitigation Actions
Town of Richland

Proposed Mitigation Action	Hazard(s) Mitigated	2012 Goals & Objectives Met	Implementing Agency	Status
Implement response protocols to remove debris jams from waterways	Flood	3-c	County DPW, Municipal DPW/Highway, Fire Depts., Canal Corps, USACE	No longer a concern. Adequately addressed by Town and County highway departments.
Implement response protocols to remove ice jams from waterways	Ice jam	4-d, 4-e, 5-a, 5-e	County DPW, Municipal DPW/Highway, Fire Depts., Canal Corps, USACE	No longer a concern. Adequately addressed by Town and County highway departments.
Review emergency evacuation signage within I-81 corridor communities – establish such signage if needed	Severe storm, ice storm, earthquake, tornado, flood, wildfire, winter storm, coastal storm, landslide, terrorism, hazmat (transit)	5-c, 5-e	County EMO, Richland Municipal Board and Highway/DPW, NYSDOT	The NYSDOT added emergency signage along I-81 since the County's 2012 HMP. The Pulaski Fire Dept was involved.
Increase building setbacks along Lake Ontario to reduce erosion potential and impacts	Severe storm, landslide	4-b, 4-d	Richland planning & zoning board	Re-included in present HMP update.
Establish snow drift caution signage along NYS Route 104 and Route 3 – coordinate with NYS DOT	Winter storm	5-c	County Highway and DPW, NYSDOT, Towns of Oswego and Richland	Not yet completed-lack of resources
Purchase new radios for 911 system – Town Richland and Village Pulaski	All hazards	5-c	Town of Richland Board and Village of Pulaski Board	Completed for Village police department.

7.2 Proposed Mitigation Actions

The Town proposed six (6) new mitigation actions to be included in the HMP update. Two of these proposed actions are joint projects with the Village of Pulaski. These actions are described in Table 8, below and on worksheets included in Attachment A.

Table 8. 2018 Proposed Mitigation Actions
Town of Richland

Action ID	Mitigation Action	Hazard(s) Mitigated	Implementing Agencies (Lead* & Support)	Planning Mechanism	Timeframe	New or Existing Development	Estimated Cost	Funding Source(s)	Priority
Richland 1	Increase security at Town well fields	Water Supply Contamination	Town Water Dept.*	Comprehensive Plan	1-2 years	Existing	$30,000	FEMA- PDM, Town budget	1
Richland 2	Conduct a feasibility study for Snake Creek bridge flood mitigation on S Ramona Beach Rd	Flood	Town Supervisor*, Town Highway Superintendent	Comprehensive Plan	1 year	Existing	$15-20K	FEMA- PDM	2
Richland 3	Increase building setbacks along Lake Ontario	Flood	Code Enforcement Officer (Floodplain Administrator)*	Comprehensive Plan	1-5 years	New	Low	Town budget	3
Richland 4	Develop and distribute property resilience brochure to all Town residents	Severe Thunderstorm/ Wind/Tornado, Flooding, Severe Winter Storm, Ice Storm	Town Supervisor	Comprehensive Plan	1 year	Existing	$500-2K	Town budget	4
Richland 5*	Construct an easy on/off ramp to Interstate 81	Severe Storm, Severe Winter Storm, Ice Storm, Flood	Pulaski Village DPW*, Richland Town Highway Dept*, NYSDOT	Comprehensive Plan	5 years	Existing	$3 million	FEMA- PDM, NYSDOT-LAFAP	5

Table 8. 2018 Proposed Mitigation Actions
Town of Richland

Action ID	Mitigation Action	Hazard(s) Mitigated	Implementing Agencies (Lead* & Support)	Planning Mechanism	Timeframe	New or Existing Development	Estimated Cost	Funding Source(s)	Priority
Richland 6*	Purchase 2 variable message boards for use along NY-3, NY-104, CR-28, and CR-41 during hazard conditions to alert residents of snow drifts, evacuation routes, flooding, etc.	All	Pulaski Village DPW*, Richland Town Highway Dept*, NYSDOT	Village Capital Improvement Plan	1-5 years	Existing	$30,000	FEMA- PDM, NYSDOT- CFA	6

*Shared action with Village of Pulaski

Potential Funding Sources

FEMA PDM: https://www.fema.gov/pre-disaster-mitigation-grant-program
NYSDOT- LAFAP: https://www.dot.ny.gov/divisions/operating/opdm/local-programs-bureau/locally-administered-federal-aid-projects
NYSDOT- CFA: https://www.dot.ny.gov/programs/consolidatedfundingapplication

7.3 Cost-Benefit Analysis

Each of the Town's proposed mitigation actions were evaluated and prioritized using the STAPLEE cost-benefit analysis. The Town's STAPLEE worksheet is provided in Attachment B. The STAPLEE analysis includes the following lenses of evaluation: social, technological, administrative, political, legal, economic, and environmental.

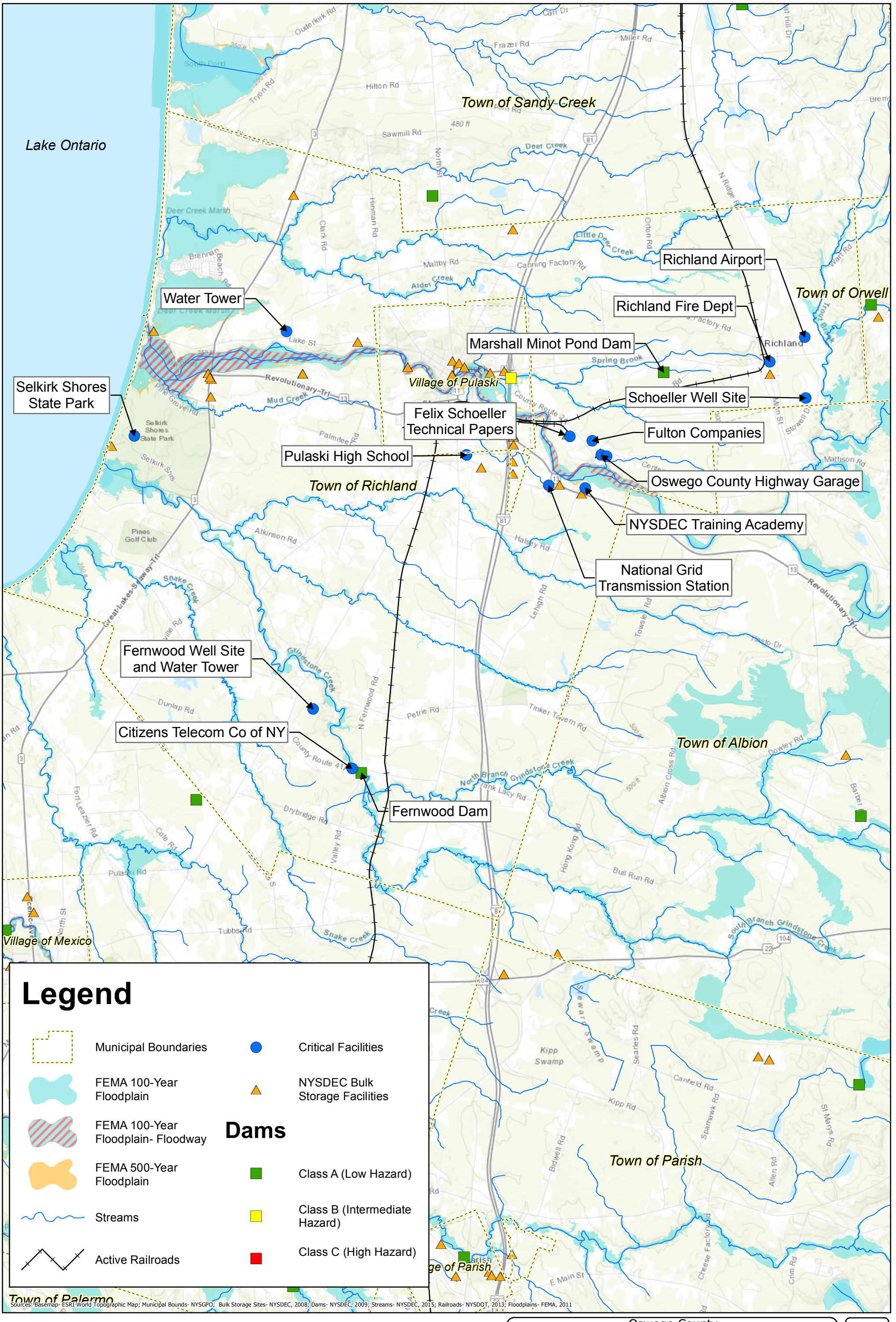
8.0 Works Cited

Doyle, Shawn. 2016. "Town of Richland". History of Oswego County, New York, Marking the Bicentennial. Eds Shawn Doyle, Roy Reehil, Debra Allen, Justin White, Janet Clerkin, Kelly Jordal, and Kara Alheim. Oswego, NY: Oswego County, New York, 2016. 113-117. Print.

U.S. Census Bureau. 2016. "Summary File." 2012 – 2016 American Community Survey. U.S. Census Bureau's American Community Survey Office, 2016. Web. Accessed 5 September 2018. Available from: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

Figure 1

Hazard Area Extent and Location Map – Town of Richland



Barton & Loguidice

Oswego County
Hazard Mitigation Plan
Town of Richland
Critical Facilities
Oswego County August 2018 New York

Figure 1

Project No. 132.237

Attachment A

Mitigation Action Worksheets – Town of Richland

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	**Town of Richland**

Mitigation Action Worksheet	
Project Name:	Increase security at Town well fields
Project Number:	Richland 1
Risk/Vulnerability	
Hazard of Concern:	Water Supply Contamination
Description of the Problem:	Currently both Town well fields (Fernwood and Schoeller) and water storage tank lack secured access and surveillance. This poses a risk for potential unauthorized access to the Town's water infrastructure and water supply contamination.
Action of Project Intended for Implementation	
Description of the Solution:	Install security cameras, alarms, and remote gate systems at both well fields and water storage tank to increase security of these sites and allow maintenance personnel to more easily control site access.

Is this project related to a Critical Facility? **Yes** **X** **No** _____

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	High	**Estimated Benefits (losses avoided):**	Increased security lessens potential for water supply contamination
Useful Life:	Long term		
Estimated Cost:	$30,000		

Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	1-2 years
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	FEMA- PDM, Town budget
Responsible Organization:	Town Water Dept.	**Local Planning Mechanisms to be used in Implementation, if any:**	Comprehensive Plan

Three Alternatives Considered (Including No Action)			
	Action	**Estimated Cost**	**Evaluation**
Alternatives:	No Action	$0	Lack of security at well sites/water tank remains
	Install security measures at one water infrastructure location (one well site or water storage tank)	$10,000	Increases security but not a complete solution- would still have unsecured locations
	Install security measures at both well sites and storage tank site	$30,000	Maximum protection of water supply

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of Richland

Mitigation Action Worksheet	
Project Name:	Conduct a feasibility study for Snake Creek bridge flood mitigation on S Ramona Beach Rd
Project Number:	Richland 2
Risk/Vulnerability	
Hazard of Concern:	Flood
Description of the Problem:	Sediment buildup in culverts near the bridge over Snake Creek leads to flooding of nearby properties on S Ramona Beach Rd. The culverts are adequately sized and were replaced in 2016. The Town is unsure of the best next steps to take regarding flood mitigation in this location.
Action of Project Intended for Implementation	
Description of the Solution:	Conduct a feasibility study to explore options for flood mitigation at the bridge over Snake Creek on S Ramona Beach Rd.

Is this project related to a Critical Facility? Yes _____ No X

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	Low	Estimated Benefits (losses avoided):	Explore alternatives to reduce flood damages.
Useful Life:	Short-term		
Estimated Cost:	$15,000-20,000		

Plan for Implementation			
Prioritization:	Low-Medium	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	FEMA- PDM
Responsible Organization:	Town Supervisor and Highway Superintendent	Local Planning Mechanisms to be used in Implementation, if any:	Comprehensive Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	$0	No change in flooding issues.
	Conduct feasibility study	$15-20K	First step to address the issue and select an informed alternative.
	Proceed with breakwall construction to prevent sediment buildup	$100K	May not be the best alternative to reduce sediment buildup and associated flooding long-term.

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	**Town of Richland**

Mitigation Action Worksheet	
Project Name:	Increase building setbacks along Lake Ontario
Project Number:	Richland 3
Risk/Vulnerability	
Hazard of Concern:	Flood
Description of the Problem:	Town code needs to be revised to increase building setbacks along lakeshore to prevent flooding issues
Action of Project Intended for Implementation	
Description of the Solution:	Revise Town code to increase the existing building setback along Lake Ontario- to be required for new development

Is this project related to a Critical Facility? **Yes** _____ **No** **X**

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	High	**Estimated Benefits (losses avoided):**	Reduced flooding potential for new development along lakeshore
Useful Life:	Long term		
Estimated Cost:	Low		

Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	1-5 years
Estimated Time Required for Project Implementation:	1 year	**Potential Funding Sources:**	Town budget
Responsible Organization:	Town Code Enforcement Officer (Floodplain Administrator)	**Local Planning Mechanisms to be used in Implementation, if any:**	Comprehensive Plan

Three Alternatives Considered (Including No Action)			
	Action	**Estimated Cost**	**Evaluation**
Alternatives:	No Action	$0	No change in existing conditions- buildings could be constructed within SHFA and would be at a high risk for flooding.
	Increase building setbacks along lakeshore	Low	Reduce flood damage potential for new development along lake shore and protect lake shore- reduce erosion potential, etc.

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of Richland

Mitigation Action Worksheet	
Project Name:	Develop and distribute property resilience brochure to all Town residents
Project Number:	Richland 4
Risk/Vulnerability	
Hazard of Concern:	Severe Thunderstorm/Wind/Tornado, Flooding, Severe Winter Storm, Ice Storm
Description of the Problem:	Many residents throughout Oswego County, including the Town of Richland, may lack knowledge regarding how to make their properties more resilient to flooding and storm events. Storm damages could be minimized or avoided if residents had access to practical methods for hardening their properties.
Action of Project Intended for Implementation	
Description of the Solution:	Modify County-wide property resiliency brochure to include additional information regarding Town codes, contact information, and other Town-specific information. Distribute the brochure to each Town resident, either by mailing or making the document available on the Town website and at the Town Hall.

Is this project related to a Critical Facility? Yes _____ No X

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	Low	Estimated Benefits (losses avoided):	Town residents would be better informed about ways to protect their properties during flooding and storm events, which would help to lessen property damages in the future.
Useful Life:	Long-term		
Estimated Cost:	$500-2,000		

Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	3 months	Potential Funding Sources:	Town budget
Responsible Organization:	Town Supervisor	Local Planning Mechanisms to be used in Implementation, if any:	Comprehensive Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	$0	No change in public awareness regarding property resilience.
	Distribute property resiliency brochure developed by Oswego County	$500-2,000	Partial solution. The property resiliency techniques likely would be the same as those identified for the County, but this option lacks Town-specific information.
	Distribute Oswego County property resiliency brochure modified with Town-specific information	$500-2,000	Most comprehensive approach, gives Town residents more complete information regarding Town-specific codes and contacts.

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	**Village of Pulaski and Town of Richland**

Mitigation Action Worksheet	
Project Name:	Construct and easy on/off ramp to Interstate 81
Project Number:	Pulaski/Richland 5
Risk/Vulnerability	
Hazard of Concern:	Severe Storm, Severe Winter Storm, Ice Storm, Flood
Description of the Problem:	Currently the on/off ramps to I-81N and I-81S are separated- ramps to I-81 N are off of CR-2, and ramps to I-81 S are off of NY-13.
Action of Project Intended for Implementation	
Description of the Solution:	Coordinate with NYSDOT to construct easy on/off ramps in the same location to access both I-81 N and S would improve access to this important emergency evacuation route within the Village and Town.

Is this project related to a Critical Facility? **Yes** _____ **No** **X**

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	High	**Estimated Benefits (losses avoided):**	Improve emergency evacuation route access for residents
Useful Life:	Long term		
Estimated Cost:	$3 million		

Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	5 years
Estimated Time Required for Project Implementation:	2 years	**Potential Funding Sources:**	FEMA PDM, NYSDOT- LAFAP
Responsible Organization:	Pulaski Village DPW	**Local Planning Mechanisms to be used in Implementation, if any:**	Village Capital Improvement Plan

Three Alternatives Considered (Including No Action)			
	Action	**Estimated Cost**	**Evaluation**
Alternatives:	No Action	$0	No change to current situation. No improvement to emergency evacuation route access
	Install easy on/off ramps	$3 million	Improved emergency evacuation route access and access to I-81 in general

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	**Village of Pulaski and Town of Richland**

Mitigation Action Worksheet	
Project Name:	Purchase 2 variable message boards for use along NY-3, NY-104, CR 28, and CR 41 during hazard conditions to alert residents of snow drifts, evacuation routes, flooding, etc.
Project Number:	Pulaski/Richland 6
Risk/Vulnerability	
Hazard of Concern:	All
Description of the Problem:	Currently lack emergency signage along main roadways within Town and Village. Heavy snow drifts, storms, etc. can create hazardous driving conditions.
Action of Project Intended for Implementation	
Description of the Solution:	Purchase 2 variable message boards for use along main roadways during hazard events. Two would allow both directions of traffic to be notified. The boards are portable and could be used in different locations as needed to alert residents of hazardous travel conditions.

Is this project related to a Critical Facility? **Yes** _____ **No** **X**

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	High	**Estimated Benefits (losses avoided):**	Better informed public before and during hazard events
Useful Life:	Long term		
Estimated Cost:	$30,000 total		

Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	1-5 years
Estimated Time Required for Project Implementation:	6 months-1 year	**Potential Funding Sources:**	FEMA- PDM, NYSDOT- CFA
Responsible Organization:	Village DPW	**Local Planning Mechanisms to be used in Implementation, if any:**	Village Capital Improvement Plan

Three Alternatives Considered (Including No Action)			
	Action	**Estimated Cost**	**Evaluation**
Alternatives:	No Action	$0	No change- still lack emergency signage
	Purchase 1 variable message board	$15,000	Only notifies people travelling in one direction
	Purchase 2 variable message boards	$30,000	Notifies people travelling in both directions along a given roadway and maximizes communication of hazard conditions

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

Attachment B

STAPLEE Table – Town of Richland

Worksheet #6

STAPLEE Criteria Consideration Table
Mitigation Action Prioritization and Comparison

Jurisdiction Town of Richland

Action ID	Action	S	T	A	P	L	E	E	Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		+ = Benefit (favorable), - = Cost (unfavorable), 0 = Neutral or N/A										Levels = High, Medium, or Low		
Richland 1	Increase security at Town well fields	+	+	+	+	+	0	+	+	+	+	High	Med	High (#1)
Richland 2	Conduct a feasibility study for Snake Creek bridge flood mitigation on S Ramona Beach Rd	+	+	+	+	0	-	0	0	+	0	Low	Med	Med (#2)
Richland 3	Increase building setbacks along Lake Ontario	-	+	+	0	+	0	+	+	+	0	High	Low	Med (#3)
Richland 4	Develop and distribute property resilience brochure to all Town residents	+	+	+	+	+	+	0	+	+	+	Low	Low	Med (#4)
Richland 5*	Construct an easy on/off ramp to Interstate 81	+	-	+	+	+	-	0	-	+	-	High	High	Med (#5)
Richland 6*	Purchase 2 variable message boards for use along NY-3, NY-104, CR-28, and CR-41 during hazard conditions to alert residents of snow drifts, evacuation routes, flooding, etc.	+	+	+	+	0	-	0	+	+	+	High	Low	Med (#6)

*Shared action with Village of Pulaski