

Town of Constantia

Jurisdictional Annex

Town of Constantia

1.0 Contacts

Primary and secondary contacts regarding this plan are identified as follows:

- Kenneth Mosley – Town Supervisor
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2.0 Municipal Profile

Population

The 2016 American Community Survey estimated that 4,924 people live in the Town of Constantia. The Town's population has decreased by 4.2% compared with the 2000 Census population (5,141) (U.S. Census Bureau, 2016).

Location

The Town of Constantia is located in southeastern Oswego County and is bordered by Oneida Lake to the south, the Town of West Monroe to the west, the Town of Amboy to the north, and the Town of Vienna (Oneida County) to the east. The Village of Cleveland is located in the southeastern corner of the Town. Constantia is about seven (7) miles east of the Interstate 81 corridor, and State Route 49 provides direct access to the Town.

Brief History

The Town of Constantia was formed in 1808 from Scriba's patent. Located on the shore of Oneida Lake, the area was originally occupied by the Oneida Nation for hunting and fishing. Post-European settlement, the lake remained an important draw to the area as it provided a means of transportation as well as fishing opportunities. Logging was the main industry in the Town, and a number of sawmills were in operation during the late 1800s. Agriculture later became more significant, as well as iron and glass manufacturing (Peck, 2016).

Governing Body

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

Future Growth

The Town is seeking stable growth as opportunities arise. Since the last County HMP (2012), the Town of Constantia has had no new commercial or residential developments. All potential developments would undergo local site plan review to ensure that all local, state, and federal requirements and regulations are met.

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
Severe Winter Storm	3	1	2	3	High	1
Ice Storm	3	1	3	2	High	2
Flood	3	2	3	3	High	3
Severe T-Storm/Wind/Tornado	3	1	3	3	High	4
Transportation Accident	1	3	2	1	Moderate	5
Water Supply Contamination	2	3	2	1	High	6
Wildfire	2	3	2	1	Moderate	7
Fire	1	3	2	1	Moderate	8

Table 1: Hazard Vulnerability by Event						
Hazard Event	Extent	Onset	Impact (Damages and Injury)	Frequency	Vulnerability Rank	Jurisdiction Rank
HAZMAT Transit	2	3	2	1	Moderate	9
Ice Jam	2	1	2	2	Moderate	10
Infestation	2	1	2	1	Moderate	11
Drought	3	1	2	1	Moderate	12
Dam Failure	1	3	2	1	Moderate	13
Coastal Storm	3	1	2	1	Moderate	14
Earthquake	2	3	2	1	Moderate	15

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 Constantia. The tables below denote the number and locations of critical facilities within the Town.

Table 2: Critical Infrastructure in the Town of Constantia			
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
Transportation Network			
Evacuation Routes	-	-	-
Bridges	-	-	-
Engineers Airport	off of CR 23	No	No
Shepard Airport	off of Hatchery Rd	100YR, 500YR	No
Public Utilities			
911 Tower	off of CR 17	No	No
National Grid Substation	Off of Redfield St	No	No
Municipal Services			
Constantia Town Hall	14 Frederick St, Constantia, NY 13044	No	No
Town Highway Garage	60 Railroad St, Bernhards Bay, New York	No	No
Emergency and Medical Services			
Constantia Volunteer Fire Dept.	23 Mill St, Constantia, NY 13044	No	No
Community Services			
David C. Webb Taft Bay Park	Off of Railroad St	100YR, 500YR	No
Vanderkamp	Off of Martin Rd	No	No
Bernhards Bay Post Office	694 NY-49, Bernhards Bay, NY 13028	No	No
Constantia Post Office	45 Redfield St, Constantia, NY 13044	100YR	No

Table 2: Critical Infrastructure in the Town of Constantia

Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
NYSDEC Oneida Fish Hatchery	3 Hatchery Rd, Constantia, NY 13044	100YR	No
Educational, Shelter and Evacuation Facilities			
A. A. Cole Elementary School	1683 NY-49 Constantia, NY 13044	100YR, 500YR	100YR, 500YR
Dams			
Cleveland Reservoir Dam	Trib. to Black Creek off of Reservoir Dr	-	-
Cody Pond Dam	Trib. to West Branch Little River off of Center St	-	-
Francis Pond Dam	Spring Brook off of Dutcherville Rd	-	-
Frederick Creek Hatchery Dam	Frederick Creek off of Kibbie Lake Rd	-	-
Hatchery Dam	Frederick Creek off of Hatchery Rd	-	-
J F Buff Dam	West Branch Little River off of Center St	-	-
Lower Soule Dam	Crandall Creek off of CR 17	-	-
Northshore Sportsmens W L Marsh Dam	Trib. to Spring Brook off of Whipple Rd	-	-
Panther Lake Dam	West Branch Little River off of CR 17	-	-
Southwell Dam	Scriba Creek off of CR 23	-	-
Tanner Creek Dam	Tanner Creek off of CR 23	-	-
Upper Soule Dam	Crandall Creek off of CR 17	-	-
Will Hatchery Dam	Frederick Creek off of Kibbie Lake 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 within Oswego County 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 Constantia. Climate change is expected to cause an increase in weather volatility, rising sea level, and greater temperature extremes. Properties along Oneida Lake and its tributaries are likely to experience increased flooding occurrences.

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 Constantia are described in detail below.

4.1.1 Severe Winter Storm

For a description of this hazard, please see 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 Constantia 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 Constantia 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 Constantia.

Future Potential Impacts

The Town of Constantia 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.

4.1.2 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 Constantia is susceptible to damages from an ice storm event.

Historical Hazard Occurrences and Damage Estimates

The Town of Constantia 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 Constantia.

Future Potential Impacts

The Town of Constantia 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.

4.1.3 Flood

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

Hazard Vulnerability

The Town generally drains to the Salmon River. 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 Constantia 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 Constantia Total Area	Percent of Total Area		
	100-Year Floodplain	500-Year Floodplain	Area of Minimal Flood Hazard
36,607 acres	18.76%	0.31%	80.93%

Table 4 below summarizes the value of properties in the Town of Constantia 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	2	\$107,200	0	-
Commercial	16	\$4,114,000	8	\$2,294,000
Community Services	7	\$1,011,100	4	\$92,800
Industrial	2	\$13,000	0	-
Residential	847	\$81,889,800	478	\$50,821,850
Utility	4	\$93,863	1	\$79,763
Other**	299	\$5,535,800	101	\$4,925,100
Total	1177	\$92,764,763	592	\$58,213,513
*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 fifteen (15) years, two (2) flood records were noted to specifically impact the Town of Constantia. The first record was a flash flood that occurred on August 5, 2003 which caused approximately \$25,000 in damages in the Town of Constantia. The second record was a flood that occurred on September 30, 2010, impacting multiple jurisdictions in Oswego County. This event involved localized flooding caused by heavy precipitation that occurred the day before (3.2 inches fell overnight). Several roads were closed in the Town, and the NCDC estimated total damages for this event in the Town of Constantia to be \$8,000. 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, twelve (12) NFIP loss claims have been paid as of November 2017 in the Town of Constantia totaling \$145,089.16. There are two (2) repetitive loss properties in the Town of Constantia, both single family residences. Together, the two (2) properties have incurred a total of five (5) losses, with total payments of \$51,325.51. Of this total, \$47,924.69 was paid for building damages and \$3,400.82 was paid for content damages.

Future Potential Impacts

Properties along the shore of Oneida Lake, which borders the Town to the south, and its tributaries are vulnerable to flooding. Nearly 20% of the Town of Constantia is within a mapped 100-year floodplain. In addition, several critical facilities are located on parcels that intersect the 100-year and/or 500-year floodplain. For some of these facilities, the structures themselves are

outside of a mapped floodplain (Table 2). One of the Town's critical facilities are located within a mapped 100-year and 500-year floodplain:

- A. A. Cole Elementary School

The school facilities total approximately \$4,557,100 in value. The Town will continue to enforce local floodplain regulations in order to protect properties from damages as much as possible.

4.1.4 Severe Thunderstorm, Wind, or Tornado and Coastal Storm

For a description of severe thunderstorm, wind, or tornado event, please see Section 5.1.1 of the main body of the Plan. Coastal storms can cause increases in tidal elevations (called storm surge), wind speed, and erosion, caused by both extratropical events and tropical cyclones. Extratropical events including Nor'easters and severe winter low-pressure systems are more applicable to Oswego County. These non-tropical storms produce strong winds and heavy rain or snow, and can last for several days and affect a very large area.

Hazard Vulnerability

The entire Town is susceptible to damages from a severe thunderstorm, wind, or tornado or coastal storm 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 twelve (12) specific severe storm events that occurred in the Town of Constantia between 1994 and 2017 (frequency of about once every two years). Two (2) of these records were hail events and ten (10) were thunderstorm winds. Estimated damages for the Town of Constantia ranged from \$5,000 to \$20,000 (Table 5). Actual damages were likely greater than those estimated by the NCDC.

Table 5: Severe Storm Event Records for the Town of Constantia				
Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage
Hail	5/26/1994	1 inch	\$5,000	-
Thunderstorm Wind	8/23/1998	-	\$8,000	-
Thunderstorm Wind	6/26/2002	50 kts	\$15,000	-
Thunderstorm Wind	8/5/2003	50 kts	\$10,000	-
Thunderstorm Wind	1/9/2008	65 kts	\$15,000	-

Table 5: Severe Storm Event Records for the Town of Constantia				
Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage
Thunderstorm Wind	7/26/2011	52 kts	\$10,000	-
Thunderstorm Wind	5/29/2012	50 kts	\$8,000	\$8,000
Hail	5/22/2013	1 inch	\$5,000	-
Thunderstorm Wind	6/24/2014	50 kts	\$10,000	-
Thunderstorm Wind	9/18/2016	50 kts	\$20,000	-
Thunderstorm Wind	5/18/2017	52 kts	\$12,000	-
Thunderstorm Wind	8/12/2017	50 kts	\$8,000	-
Total			\$126,000	\$8,000

Future Potential Impacts

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

4.1.5 Wildfire

A wildfire is an uncontrollable combustion of trees, brush, or grass involving a substantial land area which may have the potential for threatening human life and property. Wildfires often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles around. In Oswego County, past occurrences of wildfires were caused by open burning.

Hazard Vulnerability

The Town of Constantia is moderately susceptible to a wildfire. The Town primarily consists of forested cover and also has a large number of agricultural properties. A wildfire event could impact a moderate amount of the Town and would come with little to no warning. The Town of Constantia experienced 1.4 to 3.4 wildfires per square mile between 2003 and 2017 (see Figure 5.9, Appendix A of the main body of the report).

Historical Hazard Occurrences and Damage Estimates

There are no historical records or damage estimates of wildfires within the Town of Constantia. Previous wildfire events within Oswego County were generally caused by open burning during dry weather. The NYSDEC implemented a statewide open burn ban in 2010, which has helped reduce the number of wildfires throughout the state. Wildfires generally do not cause significant property damages as they tend to occur in undeveloped portions of the County.

Crop damage is more likely to occur. However, the jurisdiction or County would likely incur significant costs associated with firefighting and other emergency response needs.

Future Potential Impacts

The Town of Constantia is largely undeveloped and remains susceptible to wildfires, though the risk is relatively low. The statewide open burn ban is expected to remain in effect, which lessens the risk of wildfires.

4.1.6 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 Constantia, an ice jam could occur along Scriba Creek, Frederick Creek, and other major tributaries to Oneida Lake (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 4.1.3. In the Town of Constantia, these areas primarily consist of residential properties and vacant land.

Historical Hazard Occurrences and Damage Estimates

In the winter of 2018, an ice jam occurred on Scriba Creek and resulted in flooding downstream.

Future Potential Impacts

Major tributaries to Oneida Lake will continue to pose risks of ice jams in the Town of Constantia. In the future, ice jams may occur more frequently due to climate change.

4.1.7 Infestation

Hazard Vulnerability

The Town of Constantia is moderately vulnerable to an infestation due to this hazard's moderate extent and moderate impact potential. Emerald ash borer is of primary concern. The majority of the Town of Constantia consists of forested land. Ash trees comprise approximately 16-30% per total basal area of forests in the area according to the NYSDEC (Figure 5.8, Appendix A of the main body of the plan), which are susceptible to emerald ash borer infestation.

Historical Hazard Occurrences and Damage Estimates

The Town of Constantia, along with other jurisdictions in the southern portion of Oswego County, is within the emerald ash borer restricted zone defined by the NYSDEC. The restricted zone in NYS generally encompasses the currently infested area (as of May 2017). The transport of ash tree materials (wood, logs, untreated firewood, nursery stock, and wood chips) outside of the restricted zone is prohibited to prevent the spread of emerald ash borer. In addition, the NYSDEC prohibits the import of firewood into NY State unless it has been heat-treated to kill emerald ash borer and other pests. In addition, untreated firewood originating anywhere in NY State cannot be transported more than fifty (50) miles from its origin.

Future Potential Impacts

Emerald ash borer is likely to continue to spread throughout Oswego County. The Town of Constantia has a large amount of forested land, and is likely to be susceptible to increased tree damage from the emerald ash borer.

4.1.8 Drought

Droughts are extended periods of time with unusually low precipitation, which lead to a limited water supply and crop losses. Drought periods progress through stages and drought intensity may vary considerably during the drought period. The time of occurrence and duration can cause significant variations in drought impacts. Droughts are categorized by the U.S. Drought Monitor in five (5) levels based on severity:

- Category D0: Abnormally dry conditions; may lead to a drought.
- Category D1: Moderate drought; some damages to crops and pasture may occur, water levels are low.
- Category D2: Severe drought; crop losses and water shortages are likely to occur.

- Category D3: Extreme drought; major crop losses and widespread water shortages.
- Category D4: Exceptional drought; extreme crop losses and water emergencies result.

Hazard Vulnerability

The entire Town of Constantia is moderately susceptible to a drought due to the widespread extent and potential to cause moderate damages. Agricultural areas and private wells would experience the most significant impacts. The Town currently has a public water system for portions of the Town. A new public water system is currently in construction in the Bernhards Bay area. Other residents rely on private groundwater wells for potable water.

Historical Hazard Occurrences and Damage Estimates

There are no drought records specifically reported for the Town of Constantia. The Town was impacted by a drought in the late summer and fall of 2016, which affected the entire County.

Future Potential Impacts

The entire Town of Constantia remains susceptible to a drought event. While drought events only occur occasionally, they are likely to increase in frequency and magnitude in the future due to climate change.

4.1.9 Earthquake

An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth's tectonic plates. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. The most seismically active regions in New York State are in the Adirondacks and near the Canadian border along the St. Lawrence River followed by the New York City and the Buffalo, Niagara, and Attica regions.

Hazard Vulnerability

Earthquakes are a rare occurrence, and there are no records of earthquakes originating in Oswego County. An inactive fault line runs underneath the county. Earthquakes originating in other portions of the state have been felt in Oswego County. The Town of Constantia is moderately susceptible to a potential earthquake event, due to the lack of warning and moderate extent and damages associated with this hazard.

Historical Hazard Occurrences and Damage Estimates

There are no historical records of earthquakes occurring in the Town of Constantia. The Town of Amboy, which borders the Town of Constantia to the north, experienced damages to their fire station due to an earthquake originating in Au Sable Forks on April 20, 2002. An earthquake has the potential to cause hundreds of thousands of dollars in damages.

Future Potential Impacts

The Town of Constantia is susceptible to future earthquake events affecting Oswego County. However, earthquakes are expected to remain a rare event in Oswego County and pose a very low risk to the County and its jurisdictions.

4.2 Technological Hazards

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

4.2.1 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 Constantia contains State Route 49, a major transportation route. State Route 49 runs east to west through the southern portion of the Town. This roadway is 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 State Route 49 has the potential to impact a portion of the Town of Constantia.

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 Constantia (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 State Route 49.

Future Potential Impacts

Major transportation accidents are infrequent, but the Town remains susceptible to future incidents along State Route 49, 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.

4.2.2 Water Supply Contamination

Hazard Vulnerability

The Town of Constantia would be highly vulnerable to water supply contamination due to the moderate extent, fast onset, and moderate damage or injury potential for this hazard. The southern portion of the Town is supplied by a public water system, and an expansion of the existing system to the Bernhard's Bay area is currently under construction. The Town's water systems receive water from the Onondaga County Water Authority (OCWA). Water is supplied by the Metropolitan Water Board's (MWB) Lake Ontario water treatment facility near the City of Oswego. While unlikely, contamination could be caused due to improper treatment or localized groundwater contamination. Water supply contamination could also result from terrorism.

Historical Hazard Occurrences and Damage Estimates

There are no historical records or damage estimates for water supply contamination in the Town of Constantia. However, if this event were to occur, it has the potential to cause a moderate number of injuries or loss of life.

Future Potential Impacts

The Town is susceptible to a water supply contamination event, but the risk is relatively low.

4.2.3 Fire

Hazard Vulnerability

The Town of Constantia had a moderate vulnerability ranking for fires. These events tend to be more localized, affecting one (1) 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 reported in January 2009 at Panther Lake caused significant property damage but no injuries were reported. A fire at

the Nice n' Easy gas station in the Town in February 2018 destroyed two (2) snowmobiles that caught fire during fueling, fortunately, no injuries were reported.

Future Potential Impacts

The Town of Constantia is largely undeveloped. The developed portions (primarily in the southern part of the Town) are most susceptible to structure fires.

4.2.4 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 Constantia contains State Route 49, which runs east to west through the southern portion of the Town. A transportation accident involving hazardous materials on this roadway has the potential to impact a portion of the Town of Constantia.

Historical Hazard Occurrences and Damage Estimates

There are no specific records of HAZMAT in transit events in the Town of Constantia. This hazard has been documented in other portions of the County (see main body of this plan update for details). However, the Town of Constantia elected to include this hazard due to the moderate risk posed by State Route 49, a major transportation route that runs directly through the Town.

Future Potential Impacts

Although HAZMAT in transit events are infrequent, the Town remains susceptible to future HAZMAT incidents along State Route 49.

4.2.5 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).

There are thirteen (13) dams in the Town of Constantia, twelve (12) of which are Class A (low hazard) dams located on various tributaries to Oneida Lake. The Hatchery Dam on Frederick Creek is classified as a Class B intermediate hazard dam. This dam impounds water for fire supply and fish stock with a normal capacity of seven acre-feet. The dam has a length of 155 feet and is 8 feet high, for a capacity of 11 acre-feet. The dam consists of earth construction.

Historical Hazard Occurrences and Damage Estimates

There are no records of dam failures occurring in the Town of Constantia. The Town elected to include this hazard due to the potential for significant damages to occur should the Class B dam at the fish hatchery fail.

Future Potential Impacts

Should the dam fail, properties immediately downstream of the dam would be susceptible to flooding, including the fish hatchery and a number of residential properties.

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 Constantia	Notes
Plans		
Comprehensive/Land Use Plan	X	Adopted in 2003.
Watershed Protection Plan	X	In place.
Capital Improvement Plan	X	In place.
Policies/Ordinances		
Building Codes	<ul style="list-style-type: none"> • 2010 Residential Code of NYS • 2010 Fire Code of NYS • 2010 Building Code of NYS • 2010 Existing 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
Land Use Codes	X	Land Development Law- Local Law 2 of 2013, as amended by Local Law 1 of 2014
Subdivision Regulations	X	Local Law 1 of 2011
Property Set-back Ordinance	X	In place.
Flood Regulations	X	Local Law #1 of 2013

Table 6. Planning Mechanisms and Capabilities		
Planning Mechanism	Town of Constantia	Notes
Site Plan Review Requirements	X	Town Planning Board responsible
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 the Village of Cleveland
Studies/Reports		
Hazard Analysis/Risk Assessment	X	2012 Oswego County Hazard Mitigation Plan
Floodplain Maps and/or Studies	X	2013 FEMA Digital Flood Insurance Rate Maps
Staff/Development		
Building Code Official	X	Code Enforcement Officer
Local Floodplain Administrator	X	Code Enforcement Officer
Public Information Official	X	Town Supervisor

5.2 Emergency Communications, Routes, and Shelters

The Town of Constantia, along with Oswego County, utilize the HyperReach emergency communications system. Major transportation routes within the Town include State Route 49. The Town of Constantia has one (1) established emergency shelter:

- Aura A. Cole Elementary School – 1683 NY-49, Constantia, NY 13044

The school is ADA-compliant. The Town currently does not have any pet sheltering accommodations in place.

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 Constantia based on the 2017 NYS Hazard Mitigation Planning Standards. It is noted that formal agreements would need to be established in order to use privately-owned properties.

- **Potential Temporary Housing Locations**
 - Vanderkamp- 337 Martin Rd, Cleveland, NY 13042
 - Camp Woodland- 491 Kibbie Lake Rd, Constantia, NY 13044
 - Taft Bay Park- off of NY-49, Bernhards Bay, NY 13028

- A.A. Cole Elementary Athletic Field- 1683 NY 49, Constantia, NY 13044
- **Potential Permanent Housing Location**
 - Taft Bay Park- off of NY-49, Bernhards Bay, NY 13028

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 Constantia currently participates in the NFIP. As of November 2017, the Town had thirty-one (31) flood insurance policies in-force with a total of \$4,752,000 in coverage. In addition, sixteen (16) NFIP claims have been filed to date, four (4) of which were closed without payment. The remaining twelve (12) claims were closed with \$145,089.16 total in payments. There are two (2) repetitive loss properties in the Town of Constantia, both single family residences. Together, the two (2) properties have incurred a total of five (5) losses, with total payments of \$51,325.51. Of this total, \$47,924.69 was paid for building damages and \$3,400.82 was paid for content damages.

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 (14 Frederick St, Constantia, NY 13044). 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 (Local Law #1 of 2013). 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. There are two (2) repetitive loss properties in the Town. The Town will consider potential mitigation efforts for these properties in order to reduce future flood-related damages.

7.0 Mitigation Strategy and Prioritization

7.1 Past, Completed, and Ongoing Initiatives

The Town proposed seven (7) mitigation actions in the 2012 Oswego County HMP. The details and status of previous actions are summarized in Table 7. None of the 2012 mitigation actions proposed for the Town of Constantia were re-included for the 2018 update.

Table 7. 2012 Hazard Mitigation Actions Town of Constantia				
Proposed Mitigation Action	Hazard(s) Mitigated	Goals and Objectives Met	Implementing Agency	Status
Complete flooding/ drainage analysis for north shore of Oneida Lake to compile actions that would reduce flooding impacts	Severe storm, flood, winter storm	4-d	Constantia Highway Dept. – in partnership with Village of Cleveland	No progress to date due to lack of funding/staff availability.
Review/implement County regulations and insurance regulations on floodplain management requirements	Flood	1-b, 3-a, 4-a, 4-b, 4-d	Constantia Floodplain Administrator	No progress to date due to lack of funding/staff availability.
Enforce/promote smart development that minimizes impacts from natural hazards	Flood	1-b, 3-a, 4-a, 4-b, 4-d	Constantia Zoning/Code Enforcement Official	No progress to date due to lack of funding/staff availability.
Implement/revise review board regulations and building/zoning codes for potential hazard mitigation updates	Severe storm, ice storm, fire, earthquake, tornado, flood, winter storm, utility failure	1-a, 3-a, 4-a	Constantia Zoning/Code Enforcement Official	No progress to date due to lack of funding/staff availability.
Implement local Land Use Plans to reduce flood impacts (reduce development and promote safe development)	Flood	1-a	Constantia Planning and Code Enforcement	No progress to date due to lack of funding/staff availability.

Table 7. 2012 Hazard Mitigation Actions
Town of Constantia

Proposed Mitigation Action	Hazard(s) Mitigated	Goals and Objectives Met	Implementing Agency	Status
Assist County with the development and implementation of new public awareness/ education programs for hazard mitigation and preparedness	All hazards	1-b	Constantia municipal board	No progress to date due to lack of funding/staff availability.
Attend County zoning training programs focused on hazard mitigation	Severe storm, ice storm, fire, earthquake, tornado, flood, winter storm, utility failure	1-a	Constantia zoning/code enforcement official	No progress to date due to lack of funding /staff availability.

7.2 Proposed Mitigation Actions

The Town proposed two (2) new mitigation actions to be included in the HMP update. These actions are described in Table 8, below and on worksheets included in Attachment A.

Table 8. 2018 Proposed Mitigation Actions Town of Constantia									
Action ID	Mitigation Action	Hazard(s) Mitigated	Implementing Agencies (Lead* & Support)	Planning Mechanism	Timeframe	New or Existing Development	Estimated Cost	Funding Source(s)	Priority
Constantia 1	Provide backup power for Town Hall, Town Highway Garage	Severe Storm, Ice Storm	Town Supervisor*	Town Capital Improvement Plan	1-2 years	Existing	\$10-15K	FEMA- PDM; USDA-RD Community Facilities Grant	1 (High)
Constantia 2	Scriba Creek feasibility study to identify problem areas and determine potential mitigation projects	Flood, Ice Jam	Town Highway Superintendent*	Town Capital Improvement Plan	5 years	Existing	\$30K	FEMA- PDM	2 (Med)
Potential Funding Sources FEMA PDM: https://www.fema.gov/pre-disaster-mitigation-grant-program USDA-RD Community Facilities Grant: https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program									

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.

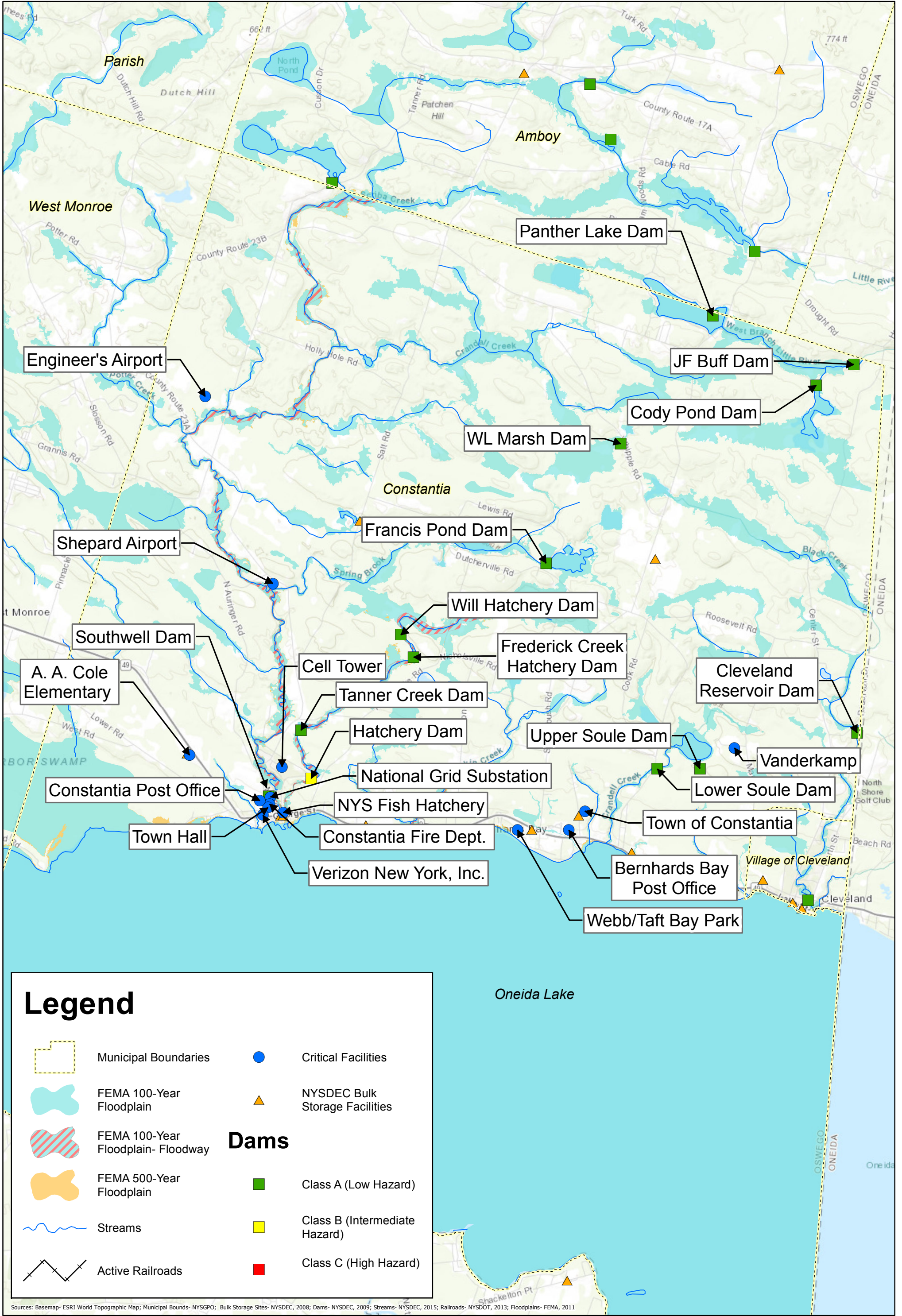
8.0 Works Cited

Peck, Peg. 2016. "Town of Constantia". *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. 52-53. Print.

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Figure 1

**Hazard Area Extent and Location Map –
Town of Constantia**



Sources: Basemap- ESRI World Topographic Map; Municipal Bounds- NYSGPO; Bulk Storage Sites- NYSDEC, 2008; Dams- NYSDEC, 2009; Streams- NYSDEC, 2015; Railroads- NYSDOT, 2013; Floodplains- FEMA, 2011



Attachment A

**Mitigation Action Worksheets –
Town of Constantia**

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of Constantia
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Mitigation Action Worksheet	
Project Name:	Provide backup power for Town Hall and Town Highway Garage
Project Number:	Constantia 1
Risk/Vulnerability	
Hazard of Concern:	Severe Storm, Severe Winter Storm, Ice Storm
Description of the Problem:	The Town Hall and Town Highway Garage currently lack backup power. The Town Hall is the designated emergency shelter location and the highway garage needs to remain operational during hazard events.
Action of Project Intended for Implementation	
Description of the Solution:	Install generator at Town Hall and Highway Garage to ensure continuity of operations and provide better shelter for Town residents.

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):	Ensure continuity of critical operations and emergency shelter availability during a power outage.
Useful Life:	Long-term		
Estimated Cost:	\$15,000		

Plan for Implementation			
Prioritization:	High (#1)	Desired Timeframe for Implementation:	1-2 years
Estimated Time Required for Project Implementation:	6 months to 1 year	Potential Funding Sources:	FEMA- PDM; USDA-RD- Community Facilities Grant
Responsible Organization:	Town Supervisor	Local Planning Mechanisms to be used in Implementation, if any:	Town Capital Improvement Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	Existing flooding issues remain.
	Purchase portable generator to be shared between facilities.	\$8,000	One facility still potentially unable to continue operations during power outage.
	Install individual emergency generators at both the Town Hall and Highway Garage	\$15,000	Maximum protection for continuity of critical operations.

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 Constantia
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Mitigation Action Worksheet	
Project Name:	Scriba Creek feasibility study to identify problem areas and determine potential mitigation projects
Project Number:	Constantia 2
Risk/Vulnerability	
Hazard of Concern:	Ice Jam
Description of the Problem:	Scriba Creek is one of the main streams that flows through the Town. The entire channel of this stream is natural. An ice jam developed on this stream in winter 2018, resulting in flooding to nearby properties.
Action of Project Intended for Implementation	
Description of the Solution:	The Town would conduct a feasibility study to identify high-priority problem areas along the channel of Scriba Creek and identify potential stream stabilization projects that would mitigate the impacts of future ice jams and associated flooding.

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:	Medium	Estimated Benefits (losses avoided):	Decrease in flood damages due to ice jams.
Useful Life:	N/A- study		
Estimated Cost:	\$20,000 to \$30,000		

Plan for Implementation			
Prioritization:	Medium (#2)	Desired Timeframe for Implementation:	5 years
Estimated Time Required for Project Implementation:	1-2 years	Potential Funding Sources:	FEMA- PDM
Responsible Organization:	Town Highway Superintendent	Local Planning Mechanisms to be used in Implementation, if any:	Town Capital Improvement Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	Flooding concerns remain.
	Complete feasibility study to identify potential stream channel stabilization projects for Scriba Creek.	\$20,000 to \$30,000	First step to targeting areas along channel that would benefit most from such a project.
	Implement stream channel stabilization project for Scriba Creek.	\$100,000	This is the ultimate goal but a feasibility study is needed to further identify highest priority areas to focus on and the types of improvements that are needed.

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 Constantia**

Worksheet #6

STAPLEE Criteria Consideration Table

Mitigation Action Prioritization and Comparison

Jurisdiction	Town of Constantia
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