Town of New Haven

Jurisdictional Annex Town of New Haven

1.0 Contacts

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

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2.0 Municipal Profile

Population

The 2016 American Community Survey estimated that 2,859 people live in the Town of New Haven. The Town's population has decreased since the 2010 Census (2,930) by 2.4% (U.S. Census Bureau, 2016).

Location

The Town of New Haven is located in central Oswego County and is bordered by Lake Ontario to the north, the Town of New Haven to the east, the Towns of Palermo and Volney to the south, and the Town of Scriba to the west. State Routes 104 and 104B provide direct access to the Town. The Town is located approximately nine miles west of the Interstate 81 corridor.

Brief History

The Town of New Haven was formed in 1813. The area was originally occupied by the Iroquois. The Town borders Lake Ontario and includes a number of streams, wetlands, and other natural resources. When first settled by Europeans (during the early 1800s), the Town consisted of dense forested land, much of which was cleared and converted to agricultural land uses. Over the first half of the 19th century, many roadways were built and expanded within the Town, and a railroad was constructed in 1865. The construction of the Rome, Watertown, and Ogdensburg railroad helped to spur development, particularly around the rail station in Demster, through the early 1900s (Strong, 2016).

Governing Body

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

Future Growth

The Town of New Haven is seeking stable growth. Since the last County HMP (2012), the Town has not had any new commercial or residential developments.

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

Table 1: Hazard Vulnerability by Event						
Hazard Event	Extent	Onset	Impact (Damages and Injury)	Frequency	Vulnerability Rank	Jurisdiction Rank
Ice Jam	2	1	2	2	Moderate	1
HAZMAT Transit	2	3	2	1	Moderate	2
Severe T-Storm/Wind/Tornado	3	1	3	3	High	3
Water Supply Contamination	2	3	2	1	High	4
Severe Winter Storm	3	1	2	3	High	5
Ice Storm	3	1	2	2	High	6
Explosion	1	3	2	1	Moderate	7
Flood	3	2	3	3	High	8
Terrorism	2	3	2	1	Moderate	9
Infestation	2	1	1	1	Low	10
Utility Failure	3	3	2	1	High	11
Radiological Transit	2	3	2	1	Moderate	12
Extreme Temps	3	1	1	2	Moderate	13
Radiological Fixed	2	3	2	1	Moderate	14
Epidemic	2	1	2	1	Moderate	15
Wildfire	2	3	2	1	Moderate	16
Earthquake	2	3	2	1	Moderate	17
Coastal Storm	3	1	3	2	High	18
Drought	3	1	2	1	Moderate	19

• High: 9 or greater

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

Table 2: Critical Infrastructure in the Town of New Haven				
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain	
	Transportation Network			
Evacuation Routes	-	-	-	
Bridges	-	-	-	
Er	nergency and Medical Services			
New Haven Volunteer Fire Dept.	4211 NY-104, New Haven, NY 13121	No	No	
	Public Utilities			
National Grid Substation	off of CR 6	No	No	
Meteorological Tower	off of Tollgate Rd (CR 43)	No	No	
Microwave Tower	4279 NY-104, New Haven, NY 13121	No	No	
Natural Gas Line	crosses Johnson Rd	No	No	
Water Treatment Facility	CR 1 and Mack Rd	No	No	
Water Treatment Facility	NY-104 and Albright Rd	No	No	
	Municipal Services			
New Haven Town Hall	4279 NY-104, New Haven, NY 13121	No	No	
Town Highway Garage	4279 NY-104, New Haven, NY 13121	No	No	
Educatio	nal, Shelter and Evacuation Facilities			
New Haven Elementary School	4320 NY-104, New Haven, NY 13121	No	No	
	Dams			
Demster Dam	Catfish Creek off of County Rt 1	-	-	
Martin Berrigan Dam	off of NY-104	-	-	
Sopers Dam	Catfish Creek off of Soper Mills 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 New Haven. Climate change is expected to cause an increase in weather volatility, rising sea level, and greater temperature extremes. Properties along the shore of Lake Ontario 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 New Haven are described in detail below.

4.1.1 <u>Ice Jam</u>

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 New Haven, an ice jam could occur along Catfish Creek and other major tributaries to Lake Ontario within the Town (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 5 in Section 4.1.4. In the Town of New Haven, these areas primarily consist of residential properties.

Historical Hazard Occurrences and Damage Estimates

There are no historical records or damage estimates for ice jams in the Town of New Haven. The Town elected to include this hazard for future planning considerations, due to the occurrence of ice jams in other municipalities in Oswego County in recent years.

Future Potential Impacts

Tributaries to Lake Ontario such as Catfish Creek will continue to pose risks of ice jams in the Town of New Haven. In the future, ice jams may occur more frequently due to climate change.

4.1.2 Severe Thunderstorm, Wind, or Tornado, Hurricane, and Coastal Storm

For a description of severe thunderstorm, wind, or tornado events, 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 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 five (5) specific severe storm events that occurred in the Town of New Haven from 1998 to 2016 (frequency of about once every three to four years). All of these records were thunderstorm winds. The estimated property damages ranged from \$7,000 to \$15,000 (Table 3). Actual damages were likely greater than those estimated by the NCDC.

Table 3: Severe Storm Event Records for the Town of New Haven					
Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage	
Thunderstorm Wind	8/23/1998	-	\$7,000	-	
Thunderstorm Wind	7/29/2006	50 kts	\$10,000	-	
Thunderstorm Wind	5/30/2015	50 kts	\$15,000	-	
Thunderstorm Wind	6/20/2016	50 kts	\$10,000	-	
Thunderstorm Wind	9/8/2016	50 kts	\$10,000	-	
-	\$52,000	-			

Future Potential Impacts

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

4.1.3 <u>Severe Winter Storm</u>

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 New Haven is highly susceptible to a severe winter storm event due to this hazard's wide extent, moderate damage potential, and common occurrence. 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 New Haven 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 New Haven. Severe winter storms commonly lead to cascading events such as transportation accidents, which can cause serious injuries and loss of life.

Future Potential Impacts

The Town of New Haven 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.

4.1.4 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 New Haven is moderately susceptible to damages from an ice storm event due to its large extent and moderate damage potential and frequency.

Historical Hazard Occurrences and Damage Estimates

The Town of New Haven 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 New Haven.

Future Potential Impacts

The Town of New Haven 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.

4.1.5 <u>Flood</u>

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

Hazard Vulnerability

The Town of New Haven generally drains to the Little Salmon River and directly to Lake Ontario. 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 4 summarizes the amount of land within the Town of New Haven that is located within 100-year and 500-year floodplains and low-risk flood areas.

Table 4: Summary of Areas in Floodplains (Source: FEMA DFIRM 2011)						
	Percent of Total Area					
Town of New Haven Total Area	100-Year500-YearArea of MinimalFloodplainFloodplainFlood Hazard					
19,952 acres	9.47%	9.47% 0.13% 90.41%				

Table 5 below summarizes the value of properties in the Town of New Haven 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 5: 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	4	\$119,900	2	\$119,600	
Commercial	3	\$200,500	1	\$44,400	
Community Services	1	\$0	0	-	
Industrial	0	-	0	-	
Residential	360	\$30,805,600	194	\$17,818,700	
Utility	0	-	0	-	
Other**	100	\$1,824,500	40	\$1,336,700	

Table 5: 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	
Total	468	\$32,950,500	237	\$19,319,400	
*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 there are no flood records specifically for the Town of New Haven. The Town has also been impacted by numerous county-wide events described in Section 5.1.2 of the main body of the Plan. Most recently, the Town was impacted by flooding due to high water levels on Lake Ontario and heavy rainfall during April and May 2017. A minimum of \$23 million damage was estimated for businesses, full-time and seasonal residences, and public entities along the lakeshore throughout the County. A Presidential Declaration in November 2017 provided Public Assistance for damages, and New York State made funds available for uninsured losses by businesses and residents. The Town also experienced areal flooding in October 2017 due to heavy rainfall, leading to several road closures that lasted about a day.

As described in Section 6.0 of this annex, one (1) NFIP loss claim has been filed in the Town of New Haven as of November 2017, but was closed without payment. There are no repetitive loss properties in the Town of New Haven.

Future Potential Impacts

Properties along Lake Ontario and its tributaries are vulnerable to flooding. None of the Town's critical facilities are located on parcels that intersect the 100-year and/or 500-year floodplain (Table 2).

4.1.6 Extreme Temperatures

For a description of this hazard, please see Section 5.1.5 of the main body of the Plan.

Hazard Vulnerability

Historically, extreme cold events have occurred about every other year in Oswego County. These events typically affect most or all of the County. The entire Town of New Haven is susceptible to an extreme temperature event. Vulnerable populations, including people under the age of five (5) or over the age of sixty-five (65), along with low income populations and people with health problems are most vulnerable. The Town was determined to have a moderate vulnerability to extreme temperature events due to their widespread nature, and relatively common occurrence.

Historical Hazard Occurrences and Damage Estimates

The Town of New Haven was affected by the county-wide extreme cold events recorded by the NCDC, which are described in Section 5.1.5 of the main body of the Plan. No damage estimates or records related to extreme temperature events are reported specifically for the Town of New Haven. Extreme temperature events are unlikely to cause significant property damage, though crop damages are possible depending on the time of year. Significant injuries or loss of life due to extreme temperature events are possible, but in small numbers.

Future Potential Impacts

The Town of New Haven will continue to experience extreme temperature events in the future, as will the rest of Oswego County. Extreme temperature events are likely to increase in frequency due to climate change. Rural communities such as the Town of New Haven are generally used to extreme temperature events. The Town has emergency shelters established, which could be used as warming stations for residents during extreme cold events.

4.1.7 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 New Haven is moderately susceptible to a wildfire. The Town primarily consists of forested and agricultural land. A wildfire event could impact a moderate amount of

the Town and would come with little to no warning. The Town of New Haven experienced 0.9 to 1.3 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 New Haven. 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 New Haven 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.

4.1.8 Infestation

An infestation is defined as an excessive population of insects, rodents, or other animals requiring control measures due to their potential to carry diseases, destroy crops, or harm the environment.

Hazard Vulnerability

The Town of New Haven has a low vulnerability rating for infestation due to this hazard's moderate extent and currently low impact potential. Emerald ash borer is of primary concern, although the Town of New Haven is currently outside of the existing emerald ash borer restricted zone. Over 50% of the Town of New Haven consists of forested land. Ash trees comprise approximately 7-15% 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 New Haven currently outside of the emerald ash borer restricted zone defined by the NYSDEC (Figure 5.7, Appendix A of the main body of the plan). 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. The Town of New Haven borders the Towns of Volney and Palermo, which are within the restricted zone. Pests from neighboring Towns could easily spread to the Town of New Haven if the regulations are not followed.

Future Potential Impacts

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

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 New Haven 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 earthquake damages for the Town of New Haven. The Town elected to include this hazard for future planning considerations. The Town of Amboy in the eastern part of Oswego County was impacted by an earthquake in April 2002 that originated in Ausable Forks, NY and damaged the Town of Amboy's fire station.

Future Potential Impacts

The Town of New Haven 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.

4.1.10 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 New Haven 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 has a municipal water system in place but it does not serve all residents. The Town's water system is supplied by groundwater wells. Many 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 New Haven. The Town was impacted by a drought in the late summer and fall of 2016, which affected the entire County. No specific damage estimates for the Town were reported, however, a number of private wells throughout the County went dry or experienced low water yields during this drought.

Future Potential Impacts

The entire Town of New Haven 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.

4.2 Technological Hazards

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

4.2.1 HAZMAT and Radiological in Transit

Hazard Vulnerability

Hazardous Materials (HAZMAT) or Radiological in Transit events involve the uncontrollable release of flammable, toxic, corrosive, chemically instable, or radioactive materials during transport that can damage infrastructure, pollute the environment, and/or cause injuries or death. The Town of New Haven contains major transportation routes (State Route 104 and State Route 104B) that are used for the transport of hazardous and radioactive materials (associated with the nearby nuclear power plants in the Town of Scriba). State Route 104 runs east to west through the center of the Town. State Route 104B runs northeast to southwest through the northeastern portion 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 New Haven.

Historical Hazard Occurrences and Damage Estimates

There are no specific records of HAZMAT in transit events in the Town of New Haven. This hazard has been documented in other portions of the County (see main body of this plan update for details). However, the Town of New Haven 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 Water Supply Contamination

Hazard Vulnerability

The Town of New Haven would be highly vulnerable to water supply contamination due to the moderate extent, fast onset, and moderate damage or injury potential for this hazard. Town residents rely on private wells for potable water. While unlikely, contamination could be caused due to improper treatment or localized groundwater contamination, particularly due to flooding. 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 New Haven. Residents along the shore of Lake Ontario dependent on private wells likely experienced contamination issues due to flooding in the spring and summer of 2017, but no damage estimates are available. However, if this event were to occur, it has the potential to cause a moderate number of injuries or potentially 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 Explosion

Hazard Vulnerability

Explosions have the greatest potential to occur at fixed sites that store hazardous materials. The NYSDEC lists four (4) petroleum bulk storage facilities within the Town of New Haven (Figure 1). These sites include the Town Highway garage, New Haven Elementary, a gas station, and a trash collection facility. 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 New Haven. 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.

4.2.4 Terrorism

Hazard Vulnerability

Terrorism is defined as the threat or use of violence for political or social gain. Terrorism typically causes community disruption and multiple injuries or deaths. The Town of New Haven is moderately susceptible to a terrorist event due to the event's short onset (little to no warning) and moderate potential impact to Town infrastructure or residents.

Historical Hazard Occurrences and Damage Estimates

There are no records of terrorist events in the Town of New Haven or Oswego County. The Town elected to profile this hazard for the HMP update to account for future potential impacts.

Future Potential Impacts

With the recent rise in localized terrorism events throughout the country such as shootings in schools and public places, the Town chose to analyze this hazard for the HMP update. However, terrorism remains a low risk for the Town of New Haven. The Town is mostly rural, however, it does have a school and public infrastructure that could potentially be targets of a terrorist attack.

4.2.5 <u>Utility Failure</u>

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 New Haven 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 New Haven 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.

4.2.7 <u>Radiological Fixed</u>

Hazard Vulnerability

A fixed-site radiological incident could occur at the Exelon Fitzpatrick Nuclear Power Plant or Ninemile Point Nuclear Power Plant which are located in the Town of Scriba, which borders the Town of New Haven to the west. An accident at either nuclear plant would affect residents in the Town of New Haven.

Historical Hazard Occurrences and Damage Estimates

There are no available records for radiological fixed site events in the Town of New Haven or Oswego County. The Town elected to profile this hazard due to the nearby nuclear power plants and potential for numerous injuries or loss of life to occur.

Future Potential Impacts

The Town remains susceptible to radiological fixed-site events, though the risk is low.

4.2.8 Epidemic

Hazard Vulnerability

Epidemics are defined as an outbreak of disease to an unusually large number of individuals or proportion of the population. Epidemics may include both human and animal illnesses. The Town of New Haven has a low vulnerability risk for an epidemic event, since it has a relatively long onset, very low frequency, low damage potential, and may impact a moderate amount of the Town's population. The most vulnerable populations include young children under five (5), older adults over sixty-six (65), and those with existing medical conditions.

Historical Hazard Occurrences and Damage Estimates

There are no historical occurrences or impact estimates of epidemics specific to the Town of New Haven. However, the Town elected to include this hazard in order to account for potential widespread illnesses such as influenza.

Future Potential Impacts

The risk of an epidemic occurring in the Town of New Haven remains low, but it is possible and could affect a portion of the Town's population.

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 New Haven	Notes			
	Plans				
Comprehensive/Land Use Plan	Х	The Town is currently working on a Comprehensive Plan.			
Post-disaster Recovery Plan	Х	In place.			
Comprehensive Emergency Management Plan	Х	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 or Land Use Codes	Х	Land Development Law adopted.			
Property Set-back Ordinance	Х	Adopted.			
Flood Regulations	Х	Local Law No. 1 of 2013			
Site Plan Review Requirements	Х	Town Planning Board responsible			
Real Estate Disclosure Requirement	Х	In place.			
	Programs				
NFIP Participant	Х	Current participant.			
Public Education/Awareness Program	Х	Fire Dept. responsible			
Stream Maintenance Program	Х	Highway Dept. responsible			
Storm Drainage Maintenance Program	Х	Highway Dept. responsible			
Mutual Aid Agreements	Х	Oswego County and neighboring jurisdictions.			
	Studies/Reports				
Hazard Analysis/Risk Assessment	Х	2012 Oswego County Hazard Mitigation Plan			
Floodplain Maps and/or Studies	X	2011 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 New Haven, along with Oswego County, utilize the HyperReach emergency communications system. Major transportation routes within the Town include State Route 104 and State Route 104B. The Town is just west of the Interstate 81 corridor. The Town of New Haven has one established emergency shelter:

• New Haven Elementary School— 4320 NY-104, New Haven, NY 13121

New Haven Elementary is ADA compliant. There are currently no established pet sheltering accommodations within the Town.

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 New Haven 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

- New Haven Elementary Athletic Field- 4320 NY-104, New Haven, NY 1311
- o Dowie Dale Campground- 470 Rte 104B, Mexico, NY 13114
- Potential Permanent Housing Locations
 - Vacant land behind Fire Dept. off of NY-104

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 New Haven currently participates in the NFIP. As of November 2017, the Town had four flood insurance policies in-force with a total of \$838,200 in coverage. In addition, one NFIP claims have been filed to date, which was closed without payment. There are no repetitive loss properties in the Town of New Haven.

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 (4279 State Route 104, New Haven, NY 13121). 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.

7.0 Mitigation Strategy and Prioritization

7.1 *Past, Completed, and Ongoing Initiatives*

The Town proposed one (1) mitigation action in the 2012 Oswego County HMP. The details and status of this action are summarized in Table 7. The Town's 2012 mitigation action was re-included for the 2018 update, as it is still considered an important action for flood mitigation.

Table 7. 2012 Hazard Mitigation Actions Town of New Haven				
Proposed Mitigation Action	Hazard(s) Mitigated	2012 Goals & Objectives Met	Implementing Agency	Status
Increase building setbacks along Lake Ontario to reduce erosion potential and impacts	Severe storm, landslide	4-b, 4-d	Municipal Planning Boards, Zoning (if applicable)	The Town has not had an opportunity to complete this action to date. This action was re-included for the HMP Update (see Table 7).

7.2 Proposed Mitigation Actions

The Town proposed three (3) 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 New Haven								
Action ID	Mitigation Action	Hazard(s) Mitigated	Implementing Agencies (Lead* & Support)	Planning Mechanism	Timeframe	New or Existing Development	Estimated Cost	Funding Source(s)	Priority
New Haven 1	Provide backup power for New Haven Elementary School (shelter)	All	Town Planning Board*	Comprehensive Plan	5 years	Existing	\$30-50K	FEMA- PDM; USDA- RD- Community Facilities Grant	1 (High)
New Haven 2	Catfish Creek realignment	Flood, Ice Jam	Town Supervisor*	Comprehensive Plan	5 years	Existing	\$200K	FEMA- PDM; Private funds	2 (High)
New Haven 3	New Haven 3 Increase building setbacks along Lake Ontario to reduce erosion impacts Flood Code Enforcement Officer* Comprehensive Plan 5 years New Low Local funds 3 (Low)								
Potential Funding Sources									
FEMA PDM: <u>https:/</u> USDA-RD.Commu	//www.fema.gov/pre-disaster-mitigation-grant-p nity Facilities Grant: https://www.rd.usda.gov/p	rogram rograms-services/com	munity-facilities-direct-loan-grant-u	orogram					

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

- Strong, Marie. 2016. "Town of New Haven". 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. 80-82. 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: <u>https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml</u>

Figure 1

Hazard Area Extent and Location Map – Town of New Haven



Attachment A

Mitigation Action Worksheets – Town of New Haven

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of New Haven		
	Mitigation Action Worksheet		
Project Name:	Provide backup power for New Haven Elementary School (shelter)		
Project Number:	New Haven 1		
	Risk/Vulnerability		
Hazard of Concern:	All		
Description of the Problem:	New Haven Elementary School (an emergency shelter location) currently lacks a backup power source. Therefore, sheltering capabilities are limited during power outages.		
Action of Project Intended for Implementation			
Description of the Solution:	Installing a generator at the elementary school would improve the Town's sheltering ability.		

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:	Medium	Estimated Benefits	Increase sheltering ability during hazard events with
Useful Life:	Long-term	(losses avoided):	power outages.
Estimated Cost:	\$30,000		

Plan for Implementation				
Prioritization:	High (#1)	Desired Timeframe for Implementation:	1-2 years	
Estimated Time Required for Project Implementation:	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:	Comprehensive Plan	

Three Alternatives Considered (Including No Action)				
	Action Estimated Cost Evaluation			
Alternatives:	No Action	\$0	No change- sheltering limitations remain for Town	
	Purchas portable generators to be used for multiple locations	\$20,000	Partial solution- may not cover all power needs for a shelter	
	Install generator at Elementary School	\$30,000	More complete solution- backup power always avilable at shcool	

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 New Haven			
	Mitigation Action Worksheet		
Project Name:	Catfish Creek realignment		
Project Number:	New Haven 2		
Risk/Vulnerability			
Hazard of Concern:	Flood, Ice Jam		
Description of the Problem:	Description of the Problem: Properties along Catfish Creek experience repetitive flooding issues.		
Action of Project Intended for Implementation			
Description of the Solution: Implement a stream realignment project along Catfish Creek to better protect nearby properties and better direct flood flows.			

Is this project related to a Critical Facility? Yes <u>No X</u> (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	Decrease in flood damages for a number of private
Useful Life:	Long-term	(losses avoided):	properties.
Estimated Cost:	\$200,000		

Plan for Implementation				
Prioritization:	High (#2)	Desired Timeframe for Implementation:	1-2 years	
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA- HMGP	
Responsible Organization:	Town Planning Board	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	Flooding issues remain.	
	Riparian buffer /streambank stabilization project along Catfish Creek	\$200,000	May alleviate some flooding issues, but damages still likely.	
	Realignment of Catfish Creek	\$200,000	Best option to prevent flooding of nearby properties and direct flood flows.	

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 New Haven

Mitigation Action Worksheet			
Project Name:	Increase building setbacks along Lake Ontario to reduce erosion impacts		
Project Number:	New Haven 3		
Risk/Vulnerability			
Hazard of Concern:	Flood		
Description of the Problem:	Lake Ontario high water levels caused significant property damages due to flooding and erosion. The Town's existing building setbacks (for new development) are not far enough away from the shoreline to prevent damages.		
Action of Project Intended for Implementation			
Description of the Solution:	Increase building setbacks along lakeshore- enforce 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:	Low	Estimated Benefits	Increase protection of new development.
Useful Life:	Long-term	(losses avoided):	
Estimated Cost:	\$5,000		

Plan for Implementation					
Prioritization:	Low (#3)	Desired Timeframe for Implementation:	1-2 years		
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Town budget		
Responsible Organization:	Code Enforcement Officer*	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	Erosion/flood risks remain.	
	Increase building setbacks for new development along lakeshore	\$5,000	Relatively simple process, better protect new buildings along shoreline and reduce property damages.	
	Require shoreline stabilization for new development along lakeshore	TBD	Not feasible	

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 New Haven

Worksheet #6

STAPLEE Criteria Consideration Table Mitigation Action Prioritization and Comparison

Jurisdiction Town of New Haven

	Action								Can action be	Does action	Can action be		Í	
Action ID									easily	achieve multiple	quickly	Level of action	Level of action	Priority
ACTION ID			Т	А	Р	L	Е	Е	implemented?	plan objectives?	implemented?	benefits	overall costs	ranking
			+ = Benefit (favorable), - = Cost (unfavorable), 0 = Neutral or N/A								Levels = High, Medium, or Low			
New Haven 1	Provide backup power for New Haven Elementary School (shelter)	+	+	-	+	-	-	+	+	+	+	High	Hlgh	High (#1)
New Haven 2	Catfish Creek realignment	0	+	-	+	+	-	+	+	+	-	High	High	High (#2)
New Haven 3	Increase building setbacks along Lake Ontario to reduce erosion impacts	0	+	-	0	-	+	+	-	+	-	Med	Low	Low (#3)