

Town of Granby

Jurisdictional Annex

Town of Granby

1.0 Contacts

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

- John Snow, Jr. – Town Supervisor
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- Daniel Duncan – Highway Superintendent
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2.0 Municipal Profile

Population

The 2016 American Community Survey estimated that 6,681 people live in the Town of Granby. The Town's population has decreased since the 2000 Census population (7,009) by 4.7% (U.S. Census Bureau, 2016).

Location

The Town of Granby is located in the southwestern portion of Oswego County and is bordered by the Town of Hannibal and Town of Ira (Cayuga County) to the west, Towns of Minetto and Oswego to the north, the Towns of Volney and Schroepel and City of Fulton to the east, and the Town of Lysander (Onondaga County) to the south. The Oswego River runs along the eastern border of the Town. State Routes 3, 48, and 176 provide direct access to the Town.

Brief History

The Town of Granby was officially formed in 1818. The area was first used as hunting and fishing grounds by the Onondaga Nation. Post-European settlement, the main industries in the Town included farming (primarily crop production), as well as paper, brick, and textile manufacturing. The Syracuse and Oswego Railroad was constructed through the Town in 1848, which helped spur development (Snow, 2016).

Governing Body

The Town of Granby is governed by a five (5)-member Town Council, led by the Supervisor.

Future Growth

The Town of Granby is seeking stable growth. The Town Planning Board is currently considering changes to zoning law, requiring subdivisions of any size be subject to approval. Recent issues that have come in front of the Planning Board include a Motocross Training Facility and a new roofing business facility.

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	9	1
Severe T-Storm/Wind/Tornado	3	1	3	3	10	2
Ice Storm	3	1	3	2	9	3
Utility Failure	3	3	1	1	8	4
Flood	3	2	3	3	11	5
Transportation Accident	1	3	2	2	8	6
HAZMAT Transit	2	3	2	1	8	7
Structural Collapse	1	3	2	1	7	8
Extreme Temps	3	1	1	2	7	9
Drought	3	1	1	1	6	10
Wildfire	2	3	1	1	7	11
Coastal Storm	3	1	2	1	7	12
Earthquake	2	3	2	1	8	13
Epidemic	2	1	2	1	6	14
Fire	1	3	2	2	8	15
Water Supply Contamination	3	3	2	1	9	16
Radiological Fixed	2	3	2	1	8	17
HAZMAT Fixed	1	3	2	1	7	18
Dam Failure	1	3	2	1	7	19

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

Table 2: Critical Facilities in the Town of Granby			
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
Public Utilities			
National Grid Granby Center Station 293	off of County Rt 8	No	-
Water Pump Station	off of Pendergast Rd	No	-
Water Tower	off of County Rt 8	No	-
Fulton WWTP	141 S 1st St, Fulton, NY 13069	100YR, 500YR	100YR, 500YR
Cell Tower	off of County Line Rd	No	-

Table 2: Critical Facilities in the Town of Granby			
Facility Name	Address (Street, Town/Town/Hamlet)	Parcel Located in Floodplain	Structure Located in Floodplain
Cell Tower	off of Muck Dr	No	-
National Grid Substation	off of NY-176	No	-
National Grid Substation	off of CR 8	No	-
Municipal Services			
Granby Highway Garage	820 County Rt 8, Fulton, NY 13069	No	-
Granby Town Office	820 County Rt 8, Fulton, NY 13069	No	-
Emergency Services			
Cody Fire Dept.	31 Wilcox Rd, Fulton, NY 13069	No	-
Cody Volunteer Fire Dept.	155 County Rt 55 Fulton, NY 13069	No	-
Granby Center Fire Dept.	1400 County Rt 8, Fulton, NY 13069	100YR	No
Educational Facilities			
Granby Elementary School	400 W 7th St N, Fulton, NY 13069	No	-
Dams			
Gates Dam	off of Harris Hill Rd	-	-
Van Heech-Blair Dam	off of Guernsey Rd	-	-

4.0 Priority Hazard Events

The following sections details the fifteen (15) top 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 generally expected to increase in the future within the Town of Granby. Climate change is expected to cause an increase in weather volatility, rising sea level, and greater temperature extremes.

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

4.1 Natural Hazards

Natural hazards selected to be profiled for the Town of Granby 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 Granby is susceptible to damages from a severe winter storm event. The Town Public Works department 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 Granby 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 Granby.

Future Potential Impacts

The Town of Granby 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 Severe Thunderstorm, Wind, Tornado, 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 eight (8) wind events occurred in the Town of Granby in from 1994 to 2017. Actual damages were likely greater than those estimated by the NCDC.

Table 3: Severe Storm Event Records for the Town of Granby				
Event Type	Date	Magnitude	Estimated Property Damage	Estimated Crop Damage
Thunderstorm Wind	8/13/2016	50 kts	\$10,000	-
Thunderstorm Wind	7/8/2014	55 kts	\$10,000	-
Thunderstorm Wind	6/13/2014	50 kts	\$15,000	-
Thunderstorm Wind	9/2/2013	50 kts	\$15,000	-
Thunderstorm Wind	9/8/2012	50 kts	\$10,000	-
Thunderstorm Wind	8/10/2004	50 kts	\$10,000	-
Thunderstorm Wind	8/3/2003	55 kts	\$35,000	-
Thunderstorm Wind	7/24/2003	52 kts	\$15,000	-
Total			\$120,000	-

Future Potential Impacts

Severe storms are a common event in the Town of Granby 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 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 Granby is susceptible to damages from an ice storm event.

Historical Hazard Occurrences and Damage Estimates

The Town of Granby 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 Granby.

Future Potential Impacts

The Town of Granby will continue to experience ice storm events in the future, as will the rest of Oswego County. The Town Public Works department completes tree maintenance within Town road right of ways to minimize potential damages to overhead utility lines, which is common during ice storms. Private utility right of ways are generally maintained by the individual utility companies.

4.1.4 Flood

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

Hazard Vulnerability

The Town is predominantly drained by tributaries of the Oswego River, which forms a portion of the east border of the Town. 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 Granby 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 2013)			
Town of Granby Total Area	Percent of Total Area		
	100-Year Floodplain	500-Year Floodplain	Area of Minimal Flood Hazard
29,722	17.04%	0.32%	82.58%

Table 5 below summarizes the value of properties in the Town of Granby 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	83	\$1,643,000	6	\$60,000
Commercial	20	\$13,188,300	11	\$11,868,800
Community Services	3	\$1,077,500	0	-
Industrial	6	\$23,000	0	-
Residential	663	\$54,530,100	235	\$23,193,200
Utility	2	\$377,968	1	\$253,218
Other**	245	\$1,045,000	75	\$838,400
Total	1,022	\$71,884,868	328	\$36,213,618
*Structure Value estimated by subtracting parcel's Land Assessed Value from Total Assessed Value (Oswego County Real Property Tax Office, 2018)				
**Includes parcels classified as vacant; recreational; and wild forest/conservation land/parks.				

Historical Hazard Occurrences and Damage Estimates

According to NOAA's Storm Events Database, in the past ten (10) years, no flood records were noted to specifically impact the Town of Granby.

As described in Section 6.0 of this annex, there has been one (1) NFIP flood loss claim in the Town of Granby, totaling \$5,164.25.

Future Potential Impacts

Properties along the tributary waterways of the Oswego River are vulnerable to flooding. One critical facility (the Water Treatment Plant) is located on parcels that intersect the 100-year and/or 500-year floodplain (Table 2).

4.1.5 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 Granby 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 Granby 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 Granby. 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 Granby 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 Granby are generally used to extreme temperature events. The Town has emergency shelters established.

4.1.6 Drought

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

Hazard Vulnerability

The entire Town of Granby 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. 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 Granby. The Town was impacted by a drought in the late summer and fall of 2016, which affected the entire County. This drought resulted in significant impacts to private wells.

Future Potential Impacts

The entire Town of Granby 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.

4.1.7 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 Granby 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. According to Figure 5.9 (Appendix A of the main body of the plan), approximately 0.9 to 3.4 wildfires occurred per square mile in the Town between 2003 and 2017.

Historical Hazard Occurrences and Damage Estimates

There are no historical records or damage estimates of wildfires within the Town of Granby. 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 Granby 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 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 Granby 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 Granby. The Town of Amboy, which is located thirty-six (36) miles northeast of the Town of Granby, experienced damages to their fire station due to an earthquake originating in Au Sable Forks, NY on April 20, 2002. An earthquake has the potential to cause hundreds of thousands of dollars in damages.

Future Potential Impacts

The Town of Granby 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 Granby are described in detail below.

4.2.1 Utility Failure

Hazard Vulnerability

A utility failure involves the loss of electricity, natural gas supply, phone service, or water supply as a result of an internal system failure. While utility failures are often associated with natural hazard events, this hazard on its own does not include loss of utility access due to other disaster events. The Town of Granby 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 Granby 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.

4.2.2 Transportation Accident

Hazard Vulnerability

For the purposes of hazard mitigation, a transportation accident is defined as an accident on land, water, or in the air resulting in mass casualties or a substantial loss of property. The Town of Granby is intersected by County Route 3 and Minetto-Lysander Road. County Route 3 is a major route into the City of Fulton, to the east of Granby. A transportation accident on any of these routes has the potential to impact a portion of the Town of Granby.

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 Granby (accidents involving mass casualties or substantial loss of property). The Town elected to profile this hazard due to the increased risk of this hazard occurring along major transportation routes.

Future Potential Impacts

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

4.2.3 HAZMAT Transit

Hazard Vulnerability

HAZMAT transit events could occur due to major transit routes to and from facilities that store hazardous materials. County Route 3 is a major east-west transit route that allow for access to the City of Fulton, bordering the Town of Granby.

Historical Hazard Occurrences and Damage Estimates

There are no available records for HAZMAT accidents specifically in the Town of Granby. The Town elected to profile this hazard due to the presence of a major transit route and hazardous material storage facilities and industrial facilities that store or use combustible materials.

Future Potential Impacts

The Town remains susceptible to HAZMAT incidents, though they are a rare occurrence. Properties close to major transport routes are most vulnerable.

4.2.4 Structural Collapse

Hazard Vulnerability

A structural collapse involves a structural failure of a building, bridge, or other infrastructure that threatens human life and health. The Town of Granby is moderately vulnerable to a structural collapse. Though this event would only affect a small area within the Town, there is little to no warning and it presents significant damages and injury risks. Approximately 25% of housing units in the Town were built in 1939 or earlier (U.S. Census Bureau, 2016). Older structures are more vulnerable to structural collapse than newer structures.

Historical Hazard Occurrences and Damage Estimates

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

Future Potential Impacts

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

4.2.5 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 Granby was determined to have 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 the age of five (5) and older adults over the age of sixty-five (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 Granby. 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 Granby remains low, but it is possible and could affect a portion of the Town's population.

4.2.6 Fire

Hazard Vulnerability

The Town of Granby 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 and have the potential to cause hundreds of thousands of dollars in structural damages and significant injuries or loss of life. A house fire in December 2016 resulted in the death of one person and significant structural damage.

Future Potential Impacts

The developed portions of the Town of Granby, particularly along main roadways, remain susceptible to structure fires.

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 Granby	Notes
Plans		
Comprehensive Plan	X	Adopted.
Post-disaster Recovery Plan	X	In place.
Open Space Plan	X	In place.
Capital Improvement Plan	X	In place.
Watershed Protection Plan	X	In place.
Comprehensive Emer. Mgmt. 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 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/Land Use Codes/Restriction	X	Zoning updated in 2015
Subdivision Regulations	X	Adopted.
Property Set-back Ordinance	X	Part of zoning.
Flood Regulations	X	Adopted.
Stormwater Ordinance	X	Adopted.
Site Plan Review Requirements	X	In place.
Real Estate Disclosure Requirement	X	In place.
Programs		
NFIP Participant	X	Current participant.
Public Education/ Awareness Program	X	Fire Dept. responsible
Stream Maintenance Program	X	Town Highway Dept. responsible
Storm Drainage Maintenance Program	X	Town Highway Dept. responsible
Mutual Aid Agreements	X	Neighboring jurisdictions and Oswego County

Table 6. Planning Mechanisms and Capabilities		
Planning Mechanism	Town of Granby	Notes
Studies/Reports		
Hazard Analysis/Risk Assessment	X	2018 Oswego County HMP update
Floodplain Maps/Insurance Studies	X	FEMA- 2013
Staff/Development		
Building Code Official	X	Town Code Enforcement Officer
Engineer/Public Works Official	X	Town Highway Superintendent
Local Floodplain Administrator	X	Town Code Enforcement Officer
Public Information Official	X	Town Supervisor

5.2 Emergency Communications, Routes, and Shelters

The Town of Granby, along with Oswego County, utilize the HyperReach emergency communications system. Major transportation routes within the Town include County Route 3 and Minetto Lysander Road. The Town of Granby has two (2) established emergency shelters:

- Granby Community Center – County Rt 8, Fulton
- Granby Elementary School – W. 7th Street, Fulton

The Community Center and elementary school are both ADA-compliant. The Town does not currently have any emergency sheltering accommodations in place for pets.

5.3 Temporary and Permanent Housing Locations

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

- **Potential Temporary Housing Locations**
 - North Bay Campgrounds – 925 Phillips Street, Fulton
 - Battle Island State Park – 2150 NY-48, Fulton
 - Indian Hills Mobile Home Community – 77 NY 48, Phoenix
- **Potential Permanent Housing Locations**
 - Vacant Town property off of Honey Hill Rd

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 Granby currently participates in the NFIP. As of July 2018, the Town had thirteen (13) flood insurance policies in-force, with a total coverage amount of \$2,355,800.00. As of July 2018, one (1) claim has been filed totaling \$5,164.25. No repetitive loss properties have been identified by the Town.

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 (820 County Route 8). The Town has been maintaining NFIP participation by performing the duties and actions that were listed in the local laws adopted by the Town Board. The Town will continue to comply with the NFIP by enforcing floodplain management requirements and regulating new development in Special Flood Hazard Areas, in addition to other required duties.

7.0 Mitigation Strategy and Prioritization

7.1 Past, Completed, and Ongoing Initiatives

The Town of Granby proposed three (3) mitigation action in the 2012 Oswego County HMP. The details and status of those actions are described in Table 7 below. In addition to the Town's 2012 mitigation actions, they constructed a new bridge on Honey Hill Rd which mitigated previous flooding issues on Tannery Creek.

Table 7. 2012 Hazard Mitigation Actions Town of Granby				
Proposed Mitigation Action	Hazard(s) Mitigated	2012 Goals & Objectives Met	Implementing Agency	Status
Implement response protocols to remove debris jams from waterways	Flood	3-c	County DPW, Municipal DPW/Highway, Fire Depts., Canal Corps, USACE	No progress reported to date. Not a high priority action and no longer a concern.
Implement response protocols to remove ice jams from waterways	Ice jam	4-d, 4-e, 5-a, 5-e	County DPW, Municipal DPW/Highway, Fire Depts., Canal Corps, USACE	No progress reported to date. Not a high priority action and no longer a concern.
Clean out brush to prevent flooding at Sheldon, Lay, and Tannery Creeks	Flood, Severe Storm, Ice Jam, Winter Storm	3-c, 4-d	Town of Granby DPW/Highway Dept.	No longer a concern. Sheldon and Ley Creeks are primarily surrounded by wetlands, and there are not many flooding issues along these streams. Previous flooding issues along Tannery Creek were mitigated by replacing the bridge on Honey Hill Rd.

7.2 Proposed Mitigation Actions

The Town proposed four (4) 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 Granby									
Action ID	Mitigation Action	Hazard(s) Mitigated	Implementing Agencies (Lead* & Support)	Planning Mechanism	Timeframe	New or Existing Development	Estimated Cost	Funding Source(s)	Priority
Granby 1	Provide backup power for Town Hall and Community Center (shelter locations)	All	Town Supervisor*	Town Capital Improvement Plan	5 years	Existing	\$30-40K	FEMA- PDM; USDA- RD- Community Facilities Grant	1 (High)
Granby 2	Install snow fence during the winter along County Rt 8, County Rt 14, and Lakeshore Rd	Severe Winter Storm, Ice Storm	Town Highway Department	None	6 months	Existing	\$3,000	Town Budget	2 (Med)
Granby 3	Develop and distribute property resilience brochure to all Town residents	Severe Thunderstorm/ Wind/Tornado, Flooding, Severe Winter Storm, Ice Storm	Town Supervisor, Town Clerk	Comprehensive Emergency Management Plan	1 year	Existing	\$500-2,500	Town Budget	3 (Med)
Granby 4	Develop a heating/cooling station implementation plan	Extreme Temperatures, Severe Winter Storm, Ice Storm	Town Supervisor*	Comprehensive Emergency Management Plan	1-5 years	Existing	Low	FEMA- PDM; Local budget	4 (Med)
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**

Snow, John Jr. 2016. "Town of Granby". 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. 59-61. Print.

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

Figure 1

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

Attachment A

**Mitigation Action Worksheets –
Town of Granby**

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of Granby
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Mitigation Action Worksheet	
Project Name:	Provide backup power for Town Hall and Community Center (shelter locations)
Project Number:	Granby 1
Risk/Vulnerability	
Hazard of Concern:	All
Description of the Problem:	The Town Hall and Community Center (both emergency shelter locations) currently lack backup power. This limits the Town's ability to shelter residents during hazard events with power outages.
Action of Project Intended for Implementation	
Description of the Solution:	Install a generator at the Town Hall and Community Center - ensure continuity of Town operations as well as improved sheltering 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 Town operations and improve sheltering ability for Town residents.
Useful Life:	Long-term		
Estimated Cost:	\$30-40,000 total		

Plan for Implementation			
Prioritization:	High (#1)	Desired Timeframe for Implementation:	1-5 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:	Town Capital Improvement Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	Both critical facilities remain at risk for power loss.
	Acquire a generator for the community center	\$15-20,000	Allow community center to remain open as a shelter, but Town Hall may still lose power (2 nd shelter location)
	Acquire a generator for the community center and Town Hall	\$30-40,000	Complete solution to maintain continuity of critical operations at the Town Hall and community center.

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 Granby
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Mitigation Action Worksheet	
Project Name:	Install snow fence during the winter along County Rt 8, County Rt 14, and Lakeshore Rd
Project Number:	Granby 2
Risk/Vulnerability	
Hazard of Concern:	Severe Winter Storm, Ice Storm
Description of the Problem:	During the winter, snow drifts across County Rt 8, County Rt 14, and Lakeshore Rd pose hazardous travel conditions within the Town for residents and emergency personnel.
Action of Project Intended for Implementation	
Description of the Solution:	Install snow fencing along the toe of slope of these roadways to decrease the amount of snow drifting onto the road.

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):	Safer travel routes for residents and emergency responders.
Useful Life:	Short-term		
Estimated Cost:	\$3,000		

Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6 months
Estimated Time Required for Project Implementation:	3 months	Potential Funding Sources:	Town budget
Responsible Organization:	Town Highway Department	Local Planning Mechanisms to be used in Implementation, if any:	None

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	No change in roadway safety during the winter.
	Plant vegetative buffers along roadways	\$15,000	Woody vegetation would be planted in road right of ways, may cause issues with farm access along Lakeshore Road
	Place snow fencing along roadways	\$3,000	The Town has existing agreements with landowners on these roadways to place snow fencing (including Oswego County). Fence posts would be left in place so fencing could be easily re-installed each year.

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 Granby
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Mitigation Action Worksheet	
Project Name:	Develop and distribute property resilience brochure to all Town residents
Project Number:	Granby 3
Risk/Vulnerability	
Hazard of Concern:	Severe Thunderstorm/Wind/Tornado, Flooding, Severe Winter Storm, Ice Storm
Description of the Problem:	Many residents throughout Oswego County, including the Town of Granby, may lack knowledge regarding how to make their properties more resilient to flooding and storm events. Storm damages could be minimized or avoided if residents had access to practical methods for hardening their properties.
Action of Project Intended for Implementation	
Description of the Solution:	Modify County-wide property resiliency brochure to include additional information regarding Town codes, contact information, and other Town-specific information. Distribute the brochure to each Town resident, either by mailing or making the document available on the Town website and at the Town Hall.

Is this project related to a Critical Facility? Yes ☐ No ☒

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

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

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

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

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

Oswego County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction:	Town of Granby
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Mitigation Action Worksheet	
Project Name:	Develop a heating/cooling station implementation plan
Project Number:	Granby 4
Risk/Vulnerability	
Hazard of Concern:	Extreme Temperatures, Severe Winter Storm, Ice Storm
Description of the Problem:	The Town currently does not have a designated heating or cooling station or notification protocol for Town residents for when such a shelter would be open during extreme temperature events.
Action of Project Intended for Implementation	
Description of the Solution:	Designate a specific location (likely the community center, which is already an emergency shelter location), to be used as a heating/cooling station during extreme temperature events. Develop a plan to implement this formally (plan to include how public outreach/notification of shelter availability will be completed)

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 (losses avoided):	Improve shelter location to provide heating and cooling to residents during extreme temperature events, and establish protocol for resident notification and usage.
Useful Life:	Long-term		
Estimated Cost:	\$500		

Plan for Implementation			
Prioritization:	Medium (#2)	Desired Timeframe for Implementation:	1-5 years
Estimated Time Required for Project Implementation:	1-5 years	Potential Funding Sources:	FEMA- PDM; Town budget
Responsible Organization:	Town Supervisor	Local Planning Mechanisms to be used in Implementation, if any:	Comprehensive Emergency Management Plan

Three Alternatives Considered (Including No Action)			
	Action	Estimated Cost	Evaluation
Alternatives:	No Action	\$0	No change in current conditions.
	Designate heating/cooling station during an extreme temp event.	\$0	Partial solution; likely reaches fewer residents (not a proactive approach)
	Develop implementation plan specific to extreme temp events	\$500	Complete solution, residents would be aware of heating/cooling station location and availability before an emergency occurs.

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 Granby**

Worksheet #6

STAPLEE Criteria Consideration Table

Mitigation Action Prioritization and Comparison

Jurisdiction Town of Granby

Action ID	Action									Can action be easily implemented?	Does action achieve multiple plan objectives?	Can action be quickly implemented?	Level of action benefits	Level of action overall costs	Priority ranking
		S	T	A	P	L	E	E							
		+ = Benefit (favorable), - = Cost (unfavorable), 0 = Neutral or N/A							Levels = High, Medium, or Low						
Granby 1	Provide backup power for Town Hall and Community Center (shelter locations)	+	+	+	+	0	0	0	+	+	+	High	Med	High (#1)	
Granby 2	Install snow fence during the winter along County Rt 8, County Rt 14, and Lakeshore Rd								+	0	+	Medium	Low	Medium (#2)	
Granby 3	Develop and distribute property resilience brochure to all Town residents	+	0	+	0	0	+	+	+	+	+	Medium	Low	Medium (#3)	
Granby 4	Develop a heating/cooling station implementation plan	+	+	+	+	0	0	0	+	+	+	High	Med	Medium (#4)	