

Chapter 7: Risk Assessment

SECTION 7.1: PURPOSE

The purpose of the risk assessment is to:

- Inventory critical facilities and community assets in Orleans County;
- Assess the vulnerability of the critical facilities and community assets to the high priority hazards identified in the hazard analysis;
- Estimate potential losses in a hazard event; and
- Assess future vulnerability based on development trends.

SECTION 7.2: METHODOLOGY

Subsection 7.2.A: Develop Criteria

The Planning Committee was provided with draft criteria to be used in developing a consistent list of critical facilities and community assets. A set of criteria was developed by G/FLRPC that conforms to FEMA's How-To Guide *Understanding Your Risks*. The criteria were reviewed and approved by the Planning Committee, and used to develop the list of vulnerable facilities.

Criteria for Inventory of Critical Facilities and Community Assets:

Critical Facilities are facilities important to the community. They include essential facilities, transportation systems, lifeline utility systems, high potential loss facilities, and hazardous materials facilities.

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. The potential consequences of losing them are so great that they should be carefully inventoried. Vulnerability is based on the service they provide rather than just their physical aspects; therefore, not only their structural integrity and content value should be considered, but also the effects of interrupting their functions. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.

Transportation Systems include airways – airports, airstrips, and heliports; highways – bridges, tunnels, roadbeds, overpasses, and transfer centers; railways – trackage, tunnels, bridges, rail yards, and depots; waterways – canals, locks, seaports, ferries, harbors, drydocks, and piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power, and communication systems. This includes such facilities as electrical sub stations, water treatment facilities, telephone central offices, and wastewater facilities.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Community Assets are other community elements that might be vulnerable to particular types of hazards, and could present a different type of loss than a critical facility. Community assets include vulnerable populations, economic elements, historic and cultural resource areas, natural resource and recreation areas, high density development areas, and facilities providing important services.

Vulnerable Populations are people, such as non-English speakers or the elderly, who may require special response assistance or special medical care after a disaster. Locations identified may include senior citizen complexes, group homes or mobile home parks. Also included in this category are groups of properties that are vulnerable to certain hazards, such as FEMA flood zones.

Economic Elements are major employers and financial centers in the county that could affect the local or regional economy if significantly disrupted. Major employers are those with 50 employees or more, and may even be located outside the county, while still employing a significant number of county residents.

Historic and Cultural Resource Areas are historic properties and cultural facilities that are identified and protected on the State and National Register of Historic Places, as well as those identified by the Planning Committee as significant to local history and culture.

Natural Resource and Recreation Areas include major natural resource and recreational areas that are considered unique or valuable to the community. Possible resources include major waterbodies, streams, wetlands, parks, forested areas, and large areas potentially susceptible to wildfires.

High Density Development Areas are areas of high-density residential or commercial development that, if damaged, could result in high death tolls and injury rates.

Facilities Providing Important Services are facilities that provide important services, such as government buildings, banks and certain commercial establishments, such as grocery stores, hardware stores and gas stations.

Subsection 7.2.B: Inventory Critical Facilities and Community Assets

The Orleans County Department of Planning and Development began the process of identifying the county's critical facilities and community assets. Using the above criteria, it created a database of locations that was then given to G/FLRPC. G/FLRPC staff used this information to produce maps depicting the locations and an accompanying master list. At the May Regional (Municipal) and County Agency meetings these maps and lists were shown to municipal officials who then had the opportunity to correct and make additions to them. The maps and lists were shown to the Planning Committee at its June meeting, where the attendees had the opportunity to correct and make additions to them. Following the June meeting, the list and maps of critical facilities and community assets were updated by G/FLRPC staff. The revised list and maps were reviewed by the Planning Committee in late July.

The following list breaks down the master list of Critical Facilities and Community Assets into two divisions, **Critical Facilities** and **Community Assets**. Each of these divisions is further broken down into five subdivisions, which clarify the functions of the facilities analyzed in this plan.

I. Critical Facilities:

1. Essential Facilities

Emergency Operations Centers, Evacuation Shelters, Sheriff & Police Stations, County Courthouse & Jail, Fire Stations, Schools, Hospitals, Clinics & Other Medical Facilities, Village DPW & Town Highway Garages.

2. Transportation Systems(Infrastructure)

Railroads, State and County Roads, State and County (selected) Bridges.

3. Lifeline Utility Systems

Water Supply Infrastructure, Sewage Systems and Treatment Infrastructure, Communication Facilities, Telephone Facilities, Electric Lines, Substations, etc.

4. High Potential Loss Facilities

Dams, Prisons.

5. *Hazardous Material Facilities*

Gasoline/Diesel Fuel Storage and/or Distribution Facilities, Manufacturing and Processing Facilities, Farms (Fertilizer/Chemical Storage).

II. Community Assets:

6. *Vulnerable Populations*

Nursing Homes, Homes for the Aged, Intermediate Care Facilities, Child Care Centers, Mobile Home Parks.

7. *Economic Elements*

Major Employers, Manufacturing and Processing Facilities.

8. *Historic and Cultural Resource Areas*

Architectural Landmarks, Historic Sites, Public Libraries, Community Centers and Recreation Halls.

9. *Natural Resource and Recreation Areas*

State Owned Public Parks, Recreation Areas, and other multiple use areas, County Owned Public Parks and Recreation Areas, Town/Village Public Parks and Recreation Areas, Marinas, Racetracks.

10. *Facilities Providing Important Services*

Government Offices (Town & Village Halls, County Buildings).

Subsection 7.2.C: Assess Vulnerability of Critical Facilities and Community Assets

The hazard analysis identified the hazard types to be analyzed, and the inventory identified critical facilities and community assets. To assess the vulnerability of each facility and asset, G/FLRPC used a computer model to overlay the facilities and assets with the hazard risk areas. This model was developed using GIS, Microsoft Word and Excel software. Table 7.1 lists the countywide hazard concerns and extents considered by the Orleans County Hazard Analysis Report. This information was used to map and define potential hazard extents.

It is important to note that all Orleans County residents and properties are generally vulnerable to certain types of hazards, including weather related hazard events such as ice storms, winter storms, severe storms, tornados, and extreme temperatures. Other hazards that fall into this category include epidemics, earthquakes, fires, fuel shortages, and utility failures. Some hazards, such as floods, HAZMAT incidents, and transportation accidents, are mainly limited to certain areas within the County, such as flood plains and transportation infrastructure.

Table 7.1: Hazard Concerns and Hazard Impact Areas for Orleans County

Countywide Hazard Concerns and Impact Areas	
Hazard Concerns:	Hazard Impact Areas:
Terrorism	Entire county
Dam Failure	Watercourses below dams (see Map 12: <i>Flood zone areas</i>)
Hazmat (Fixed Site)	Industrial Properties, Agricultural Operations, Major Oil Storage Facilities, Petroleum Bulk Storage, Chemical Bulk Storage, Regulated Facilities, HAZMAT facilities (See Map 13: <i>Potential Hazard Zones</i>)
Blight	All agricultural lands in the county
Water Supply Contamination	Lifeline Utilities (pump stations), surface water supplies (Lake Ontario, local rivers), groundwater (See Map 2: <i>Water Resources</i>)
Severe Winter Storm	Entire county
Utility Failure	Entire county
Ice Storm	Entire county
Fire	All structures are vulnerable. Most Vulnerable: High Density Development Areas,

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

	Large Industrial Facilities (See Map 16: <i>High Density Development Areas</i>)
Hazmat (In Transit)	Railroads, State and County roads (see Map 14: <i>Transportation Accident Potential</i>)
Infestation	Entire county
Earthquake	Entire county; Magnitude 6.5 earthquakes are possible in the region
Oil Spill	Railroads, State and County roads, HAZMAT sites (see Map 14: <i>Transportation Accident Potential</i> , and Map 13: <i>Potential Hazard Zones</i>)
Extreme Temperatures	Entire county
Transportation Accident	All roads, bridges, railroads, airports, and airstrips are vulnerable (See Map 14: <i>Transportation Accident Potential</i>)
Tornado	Entire county
Explosion	Industrial Properties, Natural Gas Wells, Agricultural Operations, Major Oil Storage Facilities, Petroleum Bulk Storage, Chemical Bulk Storage, Regulated Facilities, HAZMAT facilities (See Map 13: <i>Potential Hazard Zones</i>)
Severe Storms	Entire county
Flood	100 year flood zones (see Map 12: <i>Flood zones</i>)
Drought	All agricultural lands in the county
Civil Unrest	Civic and Institutional Facilities
Ice Jam	100 year flood zones (See Map 12: <i>Flood zones</i>)
Wildfire	All agricultural lands in the county
Air Contamination	Industrial Properties, Agricultural Operations, Major Oil Storage Facilities, Petroleum Bulk Storage, Chemical Bulk Storage, Regulated Facilities, HAZMAT facilities; any location within a 2 mile radius of these facilities (See Map 13: <i>Potential Hazard Zones</i>)
Structural Collapse	All structures are vulnerable.
Hurricane	Entire county
Epidemic	Entire county
Landslide	Areas with slopes greater than 25%; significant stream bank erosion sites (see Map 15: <i>Steep Slopes</i>)
Radiological (In Transit)	Railroads, State and County roads (see Map 14: <i>Transportation Accident Potential</i>)
Fuel Shortage	Entire county
Radiological (Fixed Site)	HAZMAT facilities (See Map 13: <i>Potential Hazard Zones</i>)
Fuel Shortage	Entire county

Table 7.2 lists municipal hazard concerns and hazard impact areas identified by municipal officials at the May 2006 Regional meetings and by G/FLRPC staff based on discussions with municipal officials, analysis of hazard extents, and the history of hazard events.

Table 7.2: Municipal Hazard Concerns and Impact Areas

Municipal Hazard Concerns and Impact Areas	
Hazards:	Hazard Impact Areas:
Terrorism	All municipalities except Barre and Kendall agreed this is a high hazard.
Dam Failure	Critical dams are located in the Towns of Carlton, Ridgeway, and Yates as well as the Village of Lyndonville.
Hazmat (Fixed Site)	All municipalities except Kendall agreed this is a high hazard.
Blight	All municipalities except V. Albion, Holley, Ridgeway, Shelby, and Yates agreed this is a high hazard.
Water Supply Contamination	All municipalities except Kendall and Shelby agreed this is a high hazard.
Severe Winter Storm	All municipalities agreed this is a high hazard.
Utility Failure	All municipalities except V. Albion agreed this is a high hazard.
Ice Storm	All municipalities agreed this is a high hazard.

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Fire	All municipalities except T. Albion and Yates agreed this is a high hazard.
Hazmat (In Transit)	All municipalities except Kendall agreed this is a high hazard.
Infestation	All municipalities except Clarendon and Yates agreed this is a high hazard.
Earthquake	Clarendon, Gaines, Holley, Lyndonville, Medina, Ridgeway and Shelby
Oil Spill	All municipalities except Albion and Clarendon agreed this is a high hazard.
Extreme Temperatures	All municipalities except T. Albion, V. Albion, Clarendon, and Murray agreed this is a high hazard.
Transportation Accident	V. Albion, Carlton, Medina, Ridgeway, and Shelby selected this hazard.
Tornado	Two municipalities, Barre and Shelby selected this hazards
Explosion	Three municipalities, Barre, Medina, and Shelby, selected this hazard.
Severe Storms	Three municipalities, Barre, Shelby, and Yates selected this hazard.
Flood	Five municipalities, Barre, Gaines, Kendall, Shelby, and Yates selected this hazard.
Drought	Two municipalities, Carlton and Kendall, selected this hazard.
Civil Unrest	One municipally, Medina, selected this hazard.
Ice Jam	One municipality, Yates, selected this hazard.
Wildfire	Shelby, Barre, and Clarendon selected this hazard.
Air Contamination	Two municipalities, Barre and Yates, selected this hazard.
Structural Collapse	One municipality, Medina, selected this hazard.
Hurricane	No municipalities selected this hazard.
Epidemic	One municipality, Shelby, selected this hazard.
Landslide	No municipalities selected this hazard.
Radiological (In Transit)	No municipalities selected this hazard.
Fuel Shortage	No municipalities selected this hazard.
Radiological (Fixed Site)	No municipalities selected this hazard.
Fuel Shortage	No municipalities selected this hazard.

Table 7.3 identifies the Orleans County municipalities that currently participate in the National Flood Insurance Program (NFIP). The NFIP, established in 1968, is a Federal program that enables property owners in member communities to purchase flood insurance. This insurance is only made available to municipalities that adopt and enforce a floodplain management ordinance. The fundamental goal of NFIP floodplain management requirements is to reduce the threat to lives and the potential for property damage in flood-prone areas.

Each municipality that participates in the NFIP typically has a Flood Insurance Rate Map (FIRM) that is issued by FEMA. This document maps out flood hazard areas in the municipality. The flood zones used by the Orleans County All-Hazard Mitigation Plan to determine the vulnerability of Critical Facilities and Community Assets to flooding are the areas identified by the FIRMs as Zone A areas, which are defined as “Areas of 100-year flood.”

As the table indicates, all municipalities in Orleans County currently participate in the NFIP. One municipality, the Town of Clarendon, does not have a FIRM.

Table 7.3: Orleans County National Flood Insurance Program (NFIP) Membership

Municipality:	NFIP Member?	Date of Current Effective Flood Insurance Rate Map (FIRM)
Albion, Town	Yes	08/08/80
Albion, Village	Yes	11/30/79
Barre, Town	Yes	10/15/81
Carlton, Town	Yes	11/01/78
Clarendon, Town	Yes	NSFHA*
Gaines, Town	Yes	06/08/84
Holley, Village	Yes	11/30/79
Kendall, Town	Yes	05/01/78

Lyndonville, Village	Yes	09/16/81
Medina, Village	Yes	03/28/80
Murray, Town	Yes	03/21/80
Ridgeway, Town	Yes	09/14/79
Shelby, Town	Yes	12/23/83
Yates, Town	Yes	09/29/78

Source: Federal Emergency Management Agency (FEMA), Community Status Book Report. Report Level: County
 * NSFHA – No Special Flood Hazard Area. The Town of Clarendon does not have a FIRM. The entire town is considered by FEMA to be a Zone C area, which is defined as “Areas of Minimal Flooding” and are not mapped.

Subsection 7.2.D: Estimate Potential Losses

G/FLRPC staff estimated potential financial losses by using the property assessments provided by the New York State Office of Real Property Services. Using the municipality’s most up to date assessed value, each critical facility and community asset was calculated at a 25%, 50% and 75% loss. These estimates do not consider functional or content loss. Furthermore, they do not consider the cost of repairing or replacing these structures should they be damaged or destroyed. Given the resources available for developing this plan, there was no practical way of determining the exact cost of repairing or rebuilding each of these facilities. However, the method used does provide an accurate indicator of the potential property tax revenue loss for the municipalities should a hazard event damage or destroy a community’s critical facilities and community assets.

SECTION 7.3: RESULTS

Subsection 7.3.A: Critical Facilities and Community Assets

The process of preparing an inventory of critical facilities and community assets yielded the following figures, shown in Tables 7.4 and 7.5, for each municipality. In all, there are 173 Critical Facilities and 87 Community Assets in Orleans County, for a total of 260 sites.

Tables 7.4 and 7.5 list the overall number of Critical Facilities and Community Assets in the county. These tables, like all subsequent tables in this chapter, are organized by municipality.

Table 7.4: Critical Facilities in Orleans County By Municipality

Municipality	Essential Facilities	Transportation Systems	Lifeline Utility Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Albion, Town	4	8	2	1	1	16
Albion, Village	11	4	2	0	2	19
Barre, Town	3	1	3	0	0	7
Carlton, Town	4	0	3	1	1	9
Clarendon, Town	2	0	6	0	1	9
Gaines, Town	1	2	2	0	1	6
Holley, Village	7	1	3	0	4	15
Kendall, Town	6	0	1	0	1	8
Lyndonville, Village	4	0	3	1	3	11
Medina, Village	7	9	11	0	3	30
Murray, Town	3	9	0	0	3	15

Ridgeway, Town	3	5	1	2	6	17
Shelby, Town	3	0	3	2	0	8
Yates, Town	1	0	2	0	0	3
Total Facilities	59	39	42	7	26	173

Table 7.5: Community Assets in Orleans County By Municipality

Municipality	Vulnerable Populations	Economic Elements	Historic & Cultural Resource Areas	Natural Resource & Recreation Areas	Facilities Providing Important Services	Grand Total
Albion, Town	2	0	1	0	0	3
Albion, Village	7	1	0	0	4	12
Barre, Town	3	0	0	0	0	3
Carlton, Town	7	0	0	7	1	15
Clarendon, Town	4	0	1	0	1	6
Gaines, Town	4	0	3	0	0	7
Holley, Village	0	0	1	1	0	2
Kendall, Town	6	0	0	1	1	8
Lyndonville, Village	0	0	0	0	1	1
Medina, Village	7	0	1	1	5	14
Murray, Town	5	0	0	0	0	5
Ridgeway, Town	4	0	0	0	0	4
Shelby, Town	2	0	0	0	2	4
Yates, Town	3	0	0	0	0	3
Total Facilities	54	1	7	10	15	87

Subsection 7.3.B: Vulnerability Assessment Summary

The following tables describe the vulnerability of Orleans County’s critical facilities and community assets by indicating how many of these locations lie within specific hazard extents.

Not all hazards have mapped extents, because all inhabitants, facilities, and locations in the County are considered vulnerable to the following hazards:

- Weather-related events, including Severe Storms, Severe Winter Storms, Ice Storms, Tornadoes, and Extreme Temperatures.
- Earthquakes.
- Fires (densely built-up areas, such as villages, hamlets, and clusters of lakeside cottages, are especially vulnerable to fires, but all buildings in the county should be considered vulnerable).

Tables 7.6 and 7.7 list the number of critical facilities and community assets affected by flooding and ice jams (see Map 12, Flood Zone Areas).

For a complete listing of all Critical Facilities and Community Assets and their vulnerability to specific hazards, please refer to Appendix B at the end of this Plan.

Table 7.6: Critical Facilities Affected by Floods and Ice Jams in Orleans County By Municipality

Township	Essential Facilities	Transportation Systems	Lifeline Utility Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Albion, Town	0	7	1	0	1	9
Albion, Village	0	3	0	0	0	3
Barre, Town	0	0	1	0	0	1
Carlton, Town	0	0	1	1	0	2
Clarendon, Town	0	0	0	0	0	0
Gaines, Town	0	2	0	0	0	2
Holley, Village	0	1	0	0	0	1
Kendall, Town	1	0	0	0	0	1
Lyndonville, Village	2	0	2	1	0	5
Medina, Village	0	9	3	0	0	12
Murray, Town	2	9	0	0	1	12
Ridgeway, Town	1	5	1	1	0	8
Shelby, Town	0	0	1	0	0	1
Yates, Town	0	0	1	0	0	1
Total Facilities	6	36	11	3	2	58

Table 7.7: Community Assets Affected by Floods and Ice Jams in Orleans County By Municipality

Township	Vulnerable Populations	Economic Elements	Historic & Cultural Resource Areas	Natural Resource & Recreation Areas	Facilities Providing Important Services	Grand Total
Albion, Town	0	0	0	0	0	0
Albion, Village	0	0	0	0	0	0
Barre, Town	0	0	0	0	0	0
Carlton, Town	1	0	0	6	0	7
Clarendon, Town	0	0	0	0	0	0
Gaines, Town	1	0	0	0	0	1
Holley, Village	0	0	0	0	0	0
Kendall, Town	0	0	0	1	0	1
Lyndonville, Village	0	0	0	0	1	1
Medina, Village	0	0	0	0	0	0
Murray, Town	3	0	0	0	0	3
Ridgeway, Town	1	0	0	0	0	1
Shelby, Town	1	0	0	0	0	1
Yates, Town	1	0	0	0	0	1
Total Facilities	8	0	0	7	1	16

Tables 7.8 and 7.8 list the number of Critical Facilities and Community Assets affected by the Hazardous Materials (In Transit) and Transportation Accident hazard extents.

Table 7.8: Critical Facilities Affected by HAZMAT (In Transit) and Transportation Accident in Orleans County By Municipality

Township	Essential Facilities	Transportation Systems	Lifeline Utility Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Albion, Town	3	1	2	1	1	8
Albion, Village	5	1	0	0	1	7
Barre, Town	2	0	1	0	0	3
Carlton, Town	0	0	1	0	1	2
Clarendon, Town	2	0	2	0	1	5
Gaines, Town	1	1	1	0	1	4
Holley, Village	5	0	1	0	3	9
Kendall, Town	5	0	1	0	1	7
Lyndonville, Village	4	0	0	0	1	5
Medina, Village	2	3	7	0	3	15
Murray, Town	2	2	0	0	2	6
Ridgeway, Town	2	1	1	1	5	10
Shelby, Town	2	0	1	1	0	4
Yates, Town	0	0	0	0	0	0
Total Facilities	35	9	18	3	20	85

Table 7.9: Community Assets Affected by HAZMAT (In Transit) and Transportation Accident in Orleans County By Municipality

Township	Vulnerable Populations	Economic Elements	Historic & Cultural Resource Areas	Natural Resource & Recreation Areas	Facilities Providing Important Services	Grand Total
Albion, Town	2	0	1	0	0	3
Albion, Village	2	1	0	0	1	4
Barre, Town	3	0	0	0	0	3
Carlton, Town	2	0	0	5	0	7
Clarendon, Town	2	0	1	0	1	4
Gaines, Town	0	0	3	0	0	3
Holley, Village	0	0	0	0	0	0
Kendall, Town	3	0	0	0	1	4
Lyndonville, Village	0	0	0	0	1	1
Medina, Village	2	0	0	1	3	6
Murray, Town	3	0	0	0	0	3
Ridgeway, Town	2	0	0	0	0	2
Shelby, Town	1	0	0	0	2	3
Yates, Town	1	0	0	0	0	1
Total Facilities	23	1	5	6	9	44

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Tables 7.10 and 7.11 list the number of Critical Facilities and Community Assets affected by the Hazardous Materials (Fixed Site), Explosion, and Air Contamination hazard extents.

Table 7.10: Critical Facilities Affected by HAZMAT (Fixed Site), Explosion, and Air Contamination in Orleans County By Municipality

Township	Essential Facilities	Transportation Systems	Lifeline Utility Systems	High Potential Loss Facilities	Hazardous Material Facilities	Grand Total
Albion, Town	3	4	1	1	1	10
Albion, Village	11	4	2	0	2	19
Barre, Town	0	0	0	0	0	0
Carlton, Town	1	0	2	0	1	4
Clarendon, Town	1	0	5	0	1	7
Gaines, Town	1	0	1	0	1	3
Holley, Village	7	1	3	0	4	15
Kendall, Town	0	0	0	0	1	1
Lyndonville, Village	4	0	3	1	3	11
Medina, Village	7	9	11	0	3	30
Murray, Town	1	6	0	0	3	10
Ridgeway, Town	2	4	0	1	6	13
Shelby, Town	0	0	2	2	0	4
Yates, Town	1	0	1	0	0	2
Total Facilities	39	28	31	5	26	129

Table 7.11: Community Assets Affected by HAZMAT (Fixed Site), Explosion, and Air Contamination in Orleans County By Municipality.

Township	Vulnerable Populations	Economic Elements	Historic & Cultural Resource Areas	Natural Resource & Recreation Areas	Facilities Providing Important Services	Grand Total
Albion, Town	2	0	1	0	0	3
Albion, Village	7	1	0	0	4	12
Barre, Town	0	0	0	0	0	0
Carlton, Town	0	0	0	0	1	1
Clarendon, Town	0	0	1	0	1	2
Gaines, Town	1	0	3	0	0	4
Holley, Village	0	0	1	1	0	2
Kendall, Town	5	0	0	1	0	6
Lyndonville, Village	0	0	0	0	1	1
Medina, Village	7	0	1	1	5	14
Murray, Town	3	0	0	0	0	3
Ridgeway, Town	2	0	0	0	0	2
Shelby, Town	0	0	0	0	2	2

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Yates, Town	0	0	0	0	0	0
Total Facilities	27	1	7	3	14	52

Subsection 7.3.C: Estimated Losses

Thus far, the Orleans County All-Hazard Mitigation Plan has profiled past hazard events, inventoried critical facilities and community assets, and determined the vulnerability of these critical facilities and community assets to potential hazard events. Subsection 7.3.C provides estimates of the financial losses that might occur from these potential hazards. The following tables are designed to provide a general understanding of the potential monetary losses in each town.

Potential property damage is based on the current assessed value of the inventoried properties. A review of the criteria used to classify Orleans County facilities precedes the table. Not every critical facility or community asset had an assessed value assigned to it, and therefore not all facilities could be included in the estimated losses table.

Summary of Criteria for Critical Facilities and Community Assets:

- Essential Facilities (*i.e. hospitals, police/fire stations, schools, evacuation shelters*)
- Transportation Systems (*i.e. airports, highways, railways, waterways, bridges, tunnels*)
- Lifeline Utility Systems (*i.e. facilities for potable water, wastewater, oil, gas, electric*)
- High Potential Loss Facilities (*i.e. prisons, dams*)
- Hazardous Material Facilities (*i.e. facilities housing industrial or hazardous materials*)
- Vulnerable Populations (*i.e. senior citizen complexes, group homes, or mobile home parks*)
- Economic Elements (*i.e. major employers and financial centers*)
- Historic and Cultural Resource Areas (*i.e. historic properties, cultural facilities*)
- Natural Resource and Recreation Areas (*i.e. water bodies, wetlands, parks, forests*)
- Facilities Providing Important Services (*i.e. government buildings*)

Albion (Town and Village)				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$45,530,000	\$34,147,500	\$22,765,000	\$11,382,500
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$287,703	\$215,777.3	\$143,851.5	\$71,925.75
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$3,392,900	\$2,544,675	\$1,696,450	\$848,225
Vulnerable Populations	\$12,975,500	\$9,731,625	\$6,487,750	\$3,243,875
Economic Elements	\$3,278,000	\$2,458,500	\$1,639,000	\$819,500
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	\$618,800	\$464,100	\$309,400	\$154,700

Barre				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$359,100	\$269,325	\$179,550	\$89,775
Transportation Systems	\$331,200	\$248,400	\$165,600	\$82,800
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	0	0	0	0
Vulnerable Populations	0	0	0	0
Economic Elements	0	0	0	0

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0

Carlton				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$280,500	\$210,375	\$140,250	\$70,125
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$40,000	\$30,000	\$20,000	\$10,000
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$10,000	\$75,000	\$50,000	\$25,000
Vulnerable Populations	\$99,500	\$74,625	\$49,750	\$24,875
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	\$2,028,160	\$1,521,120	\$1,014,080	\$507,040
Important Services	\$10,000	\$7,500	\$5,000	\$2,500

Clarendon				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$180,000	\$135,000	\$90,000	\$45,000
Transportation Systems	0	0	0	0
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$413,600	\$310,200	\$206,800	\$103,400
Vulnerable Populations	\$13,245,800	\$9,934,350	\$6,622,900	\$3,311,450
Economic Elements	0	0	0	0
Historic & Cultural Resources	\$47,300	\$35,475	\$23,650	\$11,825
Natural Resource & Recreation	0	0	0	0
Important Services	\$155,000	\$116,250	\$77,500	\$38,750

Gaines				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$200,000	\$150,000	\$100,000	\$50,000
Transportation Systems	0	0	0	0
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$3,070,900	\$2,303,175	\$1,535,450	\$767,725
Vulnerable Populations	\$10,500	\$78,750	\$52,500	\$26,250
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0

Holley				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$150,000	\$112,500	\$75,000	\$37,500
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$113,600	\$85,200	\$56,800	\$28,400
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$2,268,800	\$1,701,600	\$1,134,400	\$567,200
Vulnerable Populations	0	0	0	0
Economic Elements	0	0	0	0

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Historic & Cultural Resources	\$43,800	\$32,850	\$21,900	\$10,950
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0

Kendall				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$453,700	\$340,275	\$226,850	\$113,425
Transportation Systems	0	0	0	0
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$154,200	\$115,650	\$77,100	\$38,550
Vulnerable Populations	\$28,200	\$21,150	\$14,100	\$7,050
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	\$600,000	\$450,000	\$300,000	\$150,000
Important Services	\$411,500	\$308,625	\$205,750	\$102,875

Lyndonville				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	0	0	0	0
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$150,543	\$11,2907.3	\$7,5271.5	\$37,635.75
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$1,143,400	\$857,550	\$571,700	\$285,850
Vulnerable Populations	0	0	0	0
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	\$241,600	\$181,200	\$120,800	\$60,400

Medina				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$140,200	\$105,150	\$70,100	\$35,050
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$24,942	\$18,706.5	\$12,471	\$6,235.5
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$4,750,000	\$3,565,000	\$2,375,000	\$1,187,600
Vulnerable Populations	\$9,322,300	\$6,991,725	\$46,611,500	\$2,330,575
Economic Elements	0	0	0	0
Historic & Cultural Resources	\$60,900	\$45,675	\$30,450	\$15,225
Natural Resource & Recreation	\$1,700	\$1,275	\$850	\$425
Important Services	\$744,500	\$558,375	\$372,250	\$18,6125

Murray				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$331,700	\$248,775	\$165,850	\$82,925
Transportation Systems	0	0	0	0
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	\$5,262,000	\$3,946,500	\$2,631,000	\$1,315,500
Vulnerable Populations	\$3,380,600	\$2,535,450	\$1,690,300	\$845,150
Economic Elements	0	0	0	0

Orleans County Multi-Jurisdictional All-Hazard Mitigation Plan

Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0

Ridgeway				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	0	0	0	0
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$26,200	\$19,650	\$13,100	\$6,550
High Potential Loss Facilities	\$20,800	\$15,600	\$10,400	\$5,200
Hazardous Materials Facilities	\$1,678,900	\$1,259,175	\$839,450	\$419,725
Vulnerable Populations	0	0	0	0
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0

Shelby				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	0	0	0	0
Transportation Systems	0	0	0	0
Lifeline Utility Systems	\$2,130,540	\$1,597,905	\$1,065,270	\$532,635
High Potential Loss Facilities	\$85,000	\$63,750	\$42,500	\$21,250
Hazardous Materials Facilities	0	0	0	0
Vulnerable Populations	\$265,200	\$198,900	\$132,600	\$66,300
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	\$379,900	\$284,925	\$189,950	\$95,975

Yates (including Village of Lyndonville)				
<i>Facility Type</i>	<i>Total Value</i>	<i>75% Loss</i>	<i>50% Loss</i>	<i>25% Loss</i>
Essential Facilities	\$495,600	\$371,700	\$247,800	\$123,900
Transportation Systems	0	0	0	0
Lifeline Utility Systems	0	0	0	0
High Potential Loss Facilities	0	0	0	0
Hazardous Materials Facilities	0	0	0	0
Vulnerable Populations	\$99,800	\$74,850	\$49,900	\$24,950
Economic Elements	0	0	0	0
Historic & Cultural Resources	0	0	0	0
Natural Resource & Recreation	0	0	0	0
Important Services	0	0	0	0