

Appendix C

Mitigation Measure Cost-Benefit Reviews and Priority Assessments

INTRODUCTION

This Appendix contains additional information about the ranking and prioritization process for each of the mitigation measures listed in Chapter 8. All the Plan’s mitigation measures are included here and are accompanied by a “Cost/Benefit” table that indicates the applicability of the “STAPLEE” criteria to each mitigation measure. These tables illustrate how the Planning Committee’s initial prioritization of the mitigation measures was expanded by G/FLRPC staff to produce the final Priority rank for each mitigation measure.

STAPLEE is an acronym that stands for the following:

S – Social: Consider public acceptance and support of the mitigation measure.

T – Technical: Evaluate whether the proposed action is technically feasible.

A – Administrative: Evaluate the anticipated staffing, funding, and maintenance requirements of the mitigation measure.

P – Political: Determine the local political leadership’s support of the mitigation measure.

L – Legal: Evaluate the community’s legal authority to implement a mitigation measure.

E – Economic: Consider the cost-effectiveness of the action, potential funding sources, and the potential impact on local economic conditions.

E – Environmental: Evaluate how the action affects local environmental concerns.

STAPLEE is a widely accepted evaluation process used throughout the country in hazard mitigation planning. It provides a systematic procedure for assessing the practicality of proposed mitigation measures. The STAPLEE evaluations provided in this Appendix are based on the FEMA “How-To” guide publication *Using Benefit-Cost Review in Mitigation Planning* (FEMA 386-5).

Below each Cost/Benefit review table is a “Priority Assessment,” which is a short paragraph that provides an explanation of the reasoning behind the rankings in the Cost/Benefit tables. The data in these tables is intended to provide a quantitative assessment of the Planning Committee’s initial qualitative ranking of the mitigation measures.

All Mitigation Measures are ranked as either a **HIGH**, **MEDIUM**, or **LOW** priority. These priorities are based on the Total Score of each mitigation measure as explained in the following table:

Priority:	Ranking:
HIGH	6 and up
MEDIUM	3, 4, or 5
LOW	1 or 2

Please see the next page for the beginning of the list of Mitigation Measures with their accompanying STAPLEE tables and Priority Assessments.

1. Digitalize and update all Flood Insurance Rate Maps (FIRMs). This process is currently underway at the state level and county/local officials should coordinate where necessary to ensure their communities are accurately mapped. Updated FIRMs will be used by Orleans County municipalities to revise their zoning codes in order to steer new development away from flood prone areas.

Mitigation Measure No. 1: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 1 was assigned a MEDIUM priority. This project would not require much work on the part of local officials, although they would have to coordinate with state and federal officials to realize it, but it would have many benefits in improving municipal abilities to regulate development in floodplains, safeguard the local environment, and protect area residents.

2. All municipalities should consider participating in the Community Rating System (CRS). The CRS is a voluntary program that provides reduced flood insurance premiums (ranging from 5% to 45%) to municipalities that exceed the NFIP’s minimum floodplain management requirements.

Mitigation Measure No. 2: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 2 was assigned a MEDIUM priority. This project would require some effort on the part of local boards and officials to implement it, but it would result in substantial advantages to local property owners in terms of reduced flood insurance rates and increased protection from flooding events. It would also benefit local environmental conditions by reducing the amount of property exposure to floods.

3. Develop a county-wide drainage district to minimize the impact of flooding and remediate drainage problems. The Orleans County Drainage District (OCDD) will identify specific flooding and drainage problem sites, determine the best means of eliminating them, and coordinate the remediation work. The Orleans County Soil & Water Conservation District will spearhead this initiative and oversee all flood/drainage remediation projects in the county. The *Orleans County Flood Mitigation Prioritization Plan* will constitute the official document that guides the OCDD's projects.

The OCDD will begin implementing flood mitigation projects identified in the *Orleans County Flood Mitigation Prioritization Plan*, which provides a detailed overview of flooding and drainage problem areas throughout the County. Specific flood problem sites in Orleans County are listed in *Appendix D* of this Plan.

Mitigation Measure No. 3: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	9		
Total Score:	-2 + 9 = 7			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 3 was assigned a HIGH priority. This action would require support from local boards and officials, but it would result in substantial benefits to property owners and greatly assist the County and municipalities with reducing the danger and potential damages resulting from flood events.

4. Develop a central GIS clearinghouse to provide county and municipal officials with detailed and accurate maps depicting all utility lines, infrastructure, critical facilities, land uses and covers, for use in emergency situations.

Mitigation Measure No. 4: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 4 was assigned a MEDIUM priority. This project would require financial and technical support of the County and staff time from the County’s Planning and Development Department to accomplish. However, it would provide County and municipal officials with readily accessible mapping in the event of an emergency, which would greatly improve public safety and emergency response capabilities.

5. The Orleans County Emergency Management Office, Highway Department, Planning Department, and Soil & Water Conservation District should regularly communicate with the NYS Canal Corporation, specifically the Buffalo Division and Albion Section, regarding maintenance projects along the canal.

Mitigation Measure No. 5: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	0	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	0	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	3		
Total Score:	-2 + 3 = 1			
Priority:	LOW			

Priority Assessment: Mitigation measure No. 5 was assigned a LOW priority. This action would help County and municipal officials be more aware of conditions along the canal, and would require little effort in project development. However, flooding along the canal, while always possible, is not considered a major threat.

6. Where necessary, install/upgrade back-up power sources at key installations, including:
 - Town highway garages/fuel farms.
 - Village DPW garages/fuel farms.
 - Fire halls.
 - Nursing/senior living facilities.
 - Emergency shelters.
 - Water treatment plants.
 - Wastewater treatment plants.
 - Sewer lift stations.

Mitigation Measure No. 6: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	1		

Environmental	0	0
Sub-total of Cost/Benefit	-2	8
Total Score:	-2 + 8 = 6	
Priority:	HIGH	

Priority Assessment: Mitigation measure No. 6 was assigned a HIGH priority. These projects will, in general, have a major positive impact in municipalities throughout the County. They would allow for government buildings to be used as public shelters and emergency response operations centers in the event of an emergency, help protect public property and equipment, safeguard vulnerable populations, and be relatively economical to carry out.

- Assess the safety of three critical dams: the Waterport/Lake Alice, Glenwood, and Lyndonville dams. The Lyndonville dam's flood gates are leaking and there are erosion problems around the structure. The Waterport/Lake Alice dam is visibly in need of maintenance work. This dam is the most critical to assess because a dam failure could cause significant property damage/loss of life if it were to occur during the sports fishing season. If the safety assessments determine there are serious problems with the dams, the State DEC Dam Safety Section should be alerted.

Mitigation Measure No. 7: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 7 was assigned a HIGH priority. The County's three dams are all quite old and there is no good readily available data on their condition. If these dams were to fail, they could cause severe environmental and property damage as well as loss of life. Safety assessments on these dams will provide local officials with good information on their stability and long term viability.

- Upgrade security at the lakeshore water supply plants for Yates and Albion. New security features would include fencing, cameras, and tighter control over access to the facilities.

Mitigation Measure No. 8: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable

Economic	0	0
Environmental	0	1
Sub-total of Cost/Benefit	-2	7
Total Score:	-2 + 7 = 5	
Priority:	MEDIUM	

Priority Assessment: Mitigation measure No. 8 was assigned a MEDIUM priority. This project would require some effort on the part of local officials to obtain funding outside of routine maintenance budgets, but this project would have broad benefits for improving public safety and reducing the potential impacts of terrorism/tampering with public water supplies.

9. Water plant intakes on Lake Ontario should be regularly patrolled to keep people away from them. During the navigation season, buoys could be anchored over the intakes warning people to avoid them. The County should coordinate with the U.S. Coast Guard to safeguard the water intakes.

Mitigation Measure No. 9: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	-1	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-3	4		
Total Score:	-3 + 4 = 1			
Priority:	LOW			

Priority Assessment: Mitigation measure No. 9 was assigned a LOW priority. This project would require support from the U.S. Coast Guard and the County Sheriff's office to realize. It would have a variety of benefits for public safety, but is not something that the County or municipalities could implement without strong outside support.

10. Revise local laws to mandate the use of backflow preventers for municipal water systems.

Mitigation Measure No. 10: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	5		
Total Score:	-2 + 5 = 3			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 10 was assigned a MEDIUM priority. This action would be relatively simple to carry out in terms of the revision of local laws, and it would have a variety of benefits in terms of public safety, technical feasibility, and environmental protection.

11. Install a camera on top of the new lighthouse at the mouth of the Oak Orchard Creek to provide information on weather and for surveillance.

Mitigation Measure No. 11: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	-1	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-3	6		
Total Score:	-3 + 6 = 3			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 11 was assigned a MEDIUM priority. This project would require support from the U.S. Coast Guard and the County Sheriff’s office, and would have benefits for improving public safety conditions. The County Sheriff would probably be the lead agency in this and would have to agree to take on responsibility for operation and maintenance.

12. When revising local zoning laws and ordinances, subdivision regulations, and site plan review ordinances, municipal officials will collaborate with local fire departments to ensure that adequate provisions for addressing wildfires are included within such local laws, ordinances and codes.

Mitigation Measure No. 12: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	0	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	4		
Total Score:	-2 + 4 = 2			
Priority:	LOW			

Priority Assessment: Mitigation measure No. 12 was assigned a LOW priority. Wildfires are mainly a potential hazard in the Towns of Shelby, Barre, and Clarendon. This action would be relatively straightforward to implement in terms of revisions to local laws, and it would have a variety of improvements. However, it addresses a lowly ranked hazard that does not pose a significant threat to the County.

13. The Office of Emergency Management will have a countywide seismic vulnerability survey prepared (to be known as the Orleans County Seismic Vulnerability Survey). This survey will assess the vulnerability of key dams; bridges; and public, institutional, and utility buildings and facilities to earthquakes.

Mitigation Measure No. 13: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 13 was assigned a MEDIUM priority. Earthquakes are a potentially devastating threat to the County and this action will provide local officials with a comprehensive overview of the vulnerability of key structures and facilities to such events. It would require some investment of effort on the part of local boards and officials to carry out, but it would have many benefits in terms of public safety, safeguarding infrastructure and critical facilities, and providing local officials with a clear idea of the earthquake threat.

14. Based on the Orleans County Seismic Vulnerability Survey, a seismic protection plan for each of the critical facilities identified by the survey will be prepared by the agency responsible for overseeing the maintenance and operation of the facility.

Mitigation Measure No. 14: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 14 was assigned a MEDIUM priority. This action will assist local officials with protecting critical public property and infrastructure by providing a clear cut plan to safeguard those properties from earthquake damage. With such a plan in place local officials can sure renovations and upgrades can be done in such a way as to increase the resilience of critical facilities to earthquakes.

15. All municipalities will enforce the New York State Building Code for all new, remodeled, repaired, and expanded buildings with the aim of making such buildings more resistant to earthquakes. In general, all new construction and reconstruction of existing buildings in the County should be designed to withstand a magnitude 6.5 earthquake.

Mitigation Measure No. 15: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 15 was assigned a MEDIUM priority. This project will assist municipal officials with ensuring all buildings within their jurisdictions are built to withstand earthquake events, thus protecting public safety, safeguarding property and infrastructure, and easing potential demands on emergency services that might result from an earthquake.

16. Tree limbs should be trimmed away from buildings and structures that could be damaged if the limbs fall due to high winds or ice build up. Municipal officials will oversee the trimming of branches away from public buildings and facilities, but private landowners should ensure their properties are sufficiently protected as well.

Mitigation Measure No. 16: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 16 was assigned a HIGH priority. This action will directly address dangers posed by severe weather events such as severe storms, ice storms, and other high wind events. It will improve public safety by reducing potential property damage, is technically feasible, and will reduce demands on local officials and utilities to respond to damaged infrastructure.

17. Develop a countywide tree trimming program aimed at safeguarding utility infrastructure from falling tree limbs due to ice storms, severe storms, and other high wind events such as tornadoes.

Mitigation Measure No. 17: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 17 was assigned a HIGH priority. This program will specifically address potential damages to utility infrastructure from falling trees caused by severe weather events such as ice storms and strong wind storms. This project will improve public safety, be technically feasible, and reduce the demands placed on emergency responders following a hazard event.

18. All community/municipal buildings, such as town halls, highway and public works garages, community centers, libraries, schools, and other such buildings, will be renovated to ensure they are wind-resistant and meet design wind speeds.

Mitigation Measure No. 18: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 18 was assigned a HIGH priority. This project will result in improved public safety, the protection of public buildings and property, reduction in the demands placed on local officials after a hazard event.

19. Municipal governing boards and code enforcement officers will consider upgrading their building codes and code enforcement procedures to ensure that all new construction, and all reconstruction of existing buildings, is designed and built to be wind-resistant and able to withstand design wind speeds.

Mitigation Measure No. 19: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 19 was assigned a HIGH priority. This project is aimed at addressing potential hazards such as severe storms and high wind events. It will ensure that all new construction and re-construction of existing buildings is done in such a way so as to improve public safety by protecting buildings and property, be technically feasible, and have support from local officials and staff.

20. Develop and print brochures about hazard awareness and preparation. These brochures should demonstrate how citizens can prepare for specific hazards. The brochures can be distributed through tax bills, utility bills, public information sessions, and at town and village halls. Specific topics that should be covered include:

- Property maintenance activities aimed at safeguarding private residences from the effects of severe storms, high wind events, and ice storms, such as tree-trimming practices, the use of plantings that are resistant to ice build-up, stockpiling of food and medicine for at least three days, and other actions that can help citizens protect their property and survive severe storm events.
- Information on how to cope with prolonged periods of extreme heat and cold and the location of emergency shelters that can provide relief from these events.
- Information on how to help prevent and cope with epidemics should they occur.
- The threat posed by earthquakes to the County.
- Information on how to reduce/prevent property damage as a result of flooding.

Mitigation Measure No. 20: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 20 was assigned a MEDIUM priority. This project is aimed at building public awareness of the dangers posed by a variety of hazard events. It will have major benefits for improving general public safety and citizen recognition of the dangers posed by hazards, and will also benefit local officials working to improve the resilience of their municipalities. It will require some time and effort to develop an effective delivery mechanism, but the long term benefits of providing the public with accurate and objective data are clear.

21. Periodically hold public information sessions to inform and educate interested citizens about disaster preparation activities, such as how to prepare ahead of time for a disaster event and what to do during a disaster. These sessions should be regularly scheduled over the course of a year and publicized through flyers, local papers, and County websites. Different County departments and agencies can take turns running these sessions.

Mitigation Measure No. 21: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 21 was assigned a MEDIUM priority. This project is aimed at building public awareness of the dangers posed by a variety of hazard events. It will have major long term benefits for improving public health and safety and improving the ability of local officials to effectively prepare for respond to hazard events.

22. Develop a countywide tree planting program to replace trees lost in storms. Ensure that all newly planted trees are more resistant to severe weather events, especially ice storms.

Mitigation Measure No. 22: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 22 was assigned a MEDIUM priority. This project will protect the local environment and help the County improve its ability to weather severe storm events such as ice storms and high winds.

23. Purchase/lease a tub grinder for the use of county agencies and all municipalities. Identify and prepare a central location where this grinder will be located and where all debris can be dropped off for grinding.

Mitigation Measure No. 23: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 23 was assigned a HIGH priority. This project will help County agencies effectively deal with brush and debris piles that are left by a severe storm event. This will allow clean up efforts to safely and properly dispose of waste and ensure local officials can rapidly work to clear away debris.

24. Develop a countywide mosquito control program. This program should be coordinated with the OCDD's projects to ensure that areas of stagnant water are drained or prevented from forming.

Mitigation Measure No. 24: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 24 was assigned a MEDIUM priority. This project is aimed at improving public health conditions and reducing the possibility of an epidemic due to insect born diseases. This project would have significant public safety benefits and can help local officials ease the demands on emergency responders due to disease outbreaks.

25. Encourage the protection of wetlands and aquifers through municipal zoning regulations wherever possible. Wetlands are capable of absorbing large amounts of flood water, slowing and reducing downstream flow, and filtering water of both sediment and pollutants, and many people are not aware of the critical role that wetlands play in the natural system.

Mitigation Measure No. 25: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 25 was assigned a MEDIUM priority. This project would help local governments improve water quality and environmental protection for water resources in their jurisdictions, and it will reduce the threats posed by flooding/ice jam events to property and infrastructure.

26. Create an official Orleans County disaster preparedness website. This site should be overseen by the emergency management office, but be developed with input from a broad range of county and municipal officials, as well as from entities such as the Orleans County Red Cross. It will serve as a “clearinghouse” of information for the public about hazard preparation activities.

Mitigation Measure No. 26: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	7		
Total Score:	-2 + 7 = 5			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 26 was assigned a MEDIUM priority. This project is mainly aimed at increasing public safety by improving the ability of local officials to provide citizens with the information and resources they need to help survive and address a hazard event. This project would have important benefits for public safety, be technically feasible, and assist local officials with publicizing information about potential hazards.

27. The county will develop a reverse 911 call system to notify inhabitants of upcoming dangers. This system should be designed to function on either a countywide or municipal scale depending on the hazard and the expected geographic extent of that hazard.

Mitigation Measure No. 27: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 27 was assigned a HIGH priority. This project is mainly aimed at increasing public safety by improving the ability of local officials to notify citizens of an impending or occurring disaster.

28. Develop a hotline for people to call to find out about emergency response information, such as the locations of clinics and shelters. The Emergency Management Office should oversee this hotline, which could be an automated voice system.

Mitigation Measure No. 28: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 28 was assigned a MEDIUM priority. This project is mainly aimed at increasing public safety by improving the ability of local officials to notify citizens of an impending or occurring disaster.

29. Develop a low band radio broadcast system for the public to tune into in the event of a disaster. This system can be modeled on the NYS DOT highway radio notification system. Carry out a public outreach program to inform citizens of this system.

Mitigation Measure No. 29: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 29 was assigned a MEDIUM priority. This project is mainly aimed at increasing public safety by improving the ability of local officials to notify citizens of an impending or occurring disaster.

30. Develop a flood warning system for the Oak Orchard and Johnson Creeks downstream of the Glenwood and Lyndonville dams.

Mitigation Measure No. 30: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	2		
Sub-total of Cost/Benefit	-2	8		
Total Score:	-2 + 8 = 6			
Priority:	HIGH			

Priority Assessment: Mitigation measure No. 30 was assigned a HIGH priority. This project will require some efforts on the part of local officials to secure funding. However, it would have major benefits for public safety by allowing local officials to evacuate people in case an emergency was expected. It would also benefit local environmental conditions by allowing time for property owners to prepare for flooding.

31. Carry out a countywide equipment review of all Fire Departments to ensure they are equipped with 800 megahertz radios.

Mitigation Measure No. 31: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable

Administrative	-1	2		0	None/Not Applicable
Political	0	1		-1	Unfavorable
Legal	0	0		-2	Very Unfavorable
Economic	0	0			
Environmental	0	0			
Sub-total of Cost/Benefit	-2	6			
Total Score:	-2 + 6 = 4				
Priority:	MEDIUM				

Priority Assessment: Mitigation measure No. 31 was assigned a MEDIUM priority. This project would require some effort on the part of emergency management officials to carry out, but it would result in major benefits for the ability of local fire companies to coordinate their response to major fire events.

32. Revise/update local emergency response plans to include provisions for operating emergency heating/cooling centers, especially for vulnerable population groups such as the disabled, elderly, and young children.

Mitigation Measure No. 32: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	2	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 32 was assigned a MEDIUM priority. This project will require some County and emergency response staff time to properly carry out, but it would have important benefits for the local population and the ability of local officials to properly respond to a variety of hazard events.

33. Upgrade the County’s emergency management office to improve the facility’s capabilities as both a training center and a command center. Key upgrades will include a new radio tower and a GIS system that can track real-time changes in utility outages.

Mitigation Measure No. 33: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	2	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable

Economic	0	0
Environmental	0	0
Sub-total of Cost/Benefit	-2	6
Total Score:	-2 + 6 = 4	
Priority:	MEDIUM	

Priority Assessment: Mitigation measure No. 33 was assigned a MEDIUM priority. This project would require some effort on the part of County and emergency management officials to implement, but would have many benefits for public safety and the training/response of emergency providers.

34. Remediate scour problems on key bridges before the bridges are damaged. The following bridges are currently affected by scour problems:

BIN:	Road:	Feature Crossed:
3318800	Yates/Carlton T.L. Road	Johnson Creek
3318830	Angling Road	Johnson Creek
3318840	Marshall Road	Johnson Creek
3318860	Mill Road	Jeddo Creek
3318950	Kenyonville Road	Oak Orchard Creek
3319110	Kent Road	Marsh Creek
3319410	Orleans-Monroe Co. Line Road	Sandy Creek
3361990	Hall Road	Marsh Creek

The Orleans County Highway Department and the Orleans County Soil and Water Conservation District, working with municipal highway and public works departments and private landowners, will periodically identify bridges, culverts, embankments, and other structures that require remediation work aimed at preventing major damage.

Mitigation Measure No. 34: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	2	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	1	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	1		
Sub-total of Cost/Benefit	-2	6		
Total Score:	-2 + 6 = 4			
Priority:	MEDIUM			

Priority Assessment: Mitigation measure No. 34 was assigned a MEDIUM priority. These projects are more of a long term, routine maintenance proposal that will have broad benefits to the County in terms of public safety and safeguarding public infrastructure investments, as well as protecting local environmental features, from a variety of hazard events.

35. Municipalities should consider enacting a local law or ordinance that will require a tornado shelter to be built in all mobile home parks.

Mitigation Measure No. 35: Cost/Benefit Review			Definition of Rating Scale:	
Criteria:	Cost:	Benefit:	Rate:	Definition:
Social	0	1	2	Very Favorable
Technical	-1	1	1	Favorable
Administrative	-1	1	0	None/Not Applicable
Political	0	0	-1	Unfavorable
Legal	0	0	-2	Very Unfavorable
Economic	0	0		
Environmental	0	0		
Sub-total of Cost/Benefit	-2	3		
Total Score:	-2 + 3 = 15			
Priority:	LOW			

Priority Assessment: Mitigation measure No. 35 was assigned a LOW priority. While this project would help people living in mobile home parks and be technically and administratively feasible for municipal staff to accomplish, it addresses a lowly ranked hazard and would probably not have a great deal of practical application.