

- See A above

E. *Lack of public awareness of erosion issues*

F. *Inadequate vegetative protection measures on Little Miami River*

- Establish contact with Hamilton County Soil Conservation District and Clermont County Soil Conservation District
- Develop a management plan
- Establish contacts with interested conservation groups (i.e. Isaac Walton League, etc.)
- Specialized PSA for landowners along riverbanks, as well as literature or articles

### **Droughts and Extreme Cold**

A. *Water supply distribution system*

- Make sure the topic is cross-referenced or noted in the EOP
- Seek grants to modify system to protect against events

B. *Lack of education awareness (state list)*

- Develop PSAs, articles, or literature to be distributed to homeowners---issues associated with extreme events (ex. Cinergy "Heatshare" program)

C. *Lack of shelters for extreme temperature situations (hot or cold)*

- Increase public knowledge of existing emergency management programs
- Seek grants to stock shelters with emergency supplies

### **Tornadoes**

A. *Lack of warning system*

- Refer to 1-F above. Focus on public awareness and understanding the warning system
- Seek grant money for back-up generators for warning system

B. *Lack of shelters*

- Public awareness about emergency management plan
- Seek grant money for emergency supplies

C. *Lack of hazardous tree management program*

- Refer to 1-C above

D. *Lack of public education (weather radios)*

- PSAs, articles, or literature on changing batteries in weather radios
- Seek grant money for developing an informational segment for City's website (including sound bites, warning updates, emergency levels, etc.)

### **Earthquakes**

A. *Lack of public awareness/education*

- PSA, article, or literature on existing fault system and hazards

APPENDIX 7 - STATEWIDE DROUGHT EVENTS

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 Lake	06/21/1994	2200	Drought	N/A	0	0	0	0
2 Northern Ohio	09/01/1995	0000	Drought	N/A	0	0	0	0
3 Ashland, Ashtabula, Crawford, Cuyahoga, Erie, Fulton, Geauga, Hancock, Henry, Holmes, Huron, Knox, Lake, Lorain, Lucas, Mahoning, Marion, Medina, Morrow, Ottawa, Portage, Richland, Sandusky, Seneca, Stark, Summit, Trumbull, Wayne, Wood, Wyandot	08/01/1996	12:00 AM	Drought	N/A	0	0	0	0
4 Ashtabula, Lorain, Mahoning, Stark, Trumbull	07/01/1997	12:00 AM	Drought	N/A	0	0	0	0
5 Gallia, Jackson, Lawrence, Meigs, Vinton	05/01/1999	12:00 AM	Drought	N/A	0	0	0	0
6 Ashland, Ashtabula, Crawford, Cuyahoga, Erie, Fulton, Geauga, Hancock, Henry, Holmes, Huron, Knox, Lake, Lorain, Lucas, Mahoning, Marion, Medina, Morrow, Ottawa, Portage, Richland, Sandusky, Seneca, Stark, Summit, Trumbull, Wayne, Wood, Wyandot	06/01/1999	12:00 AM	Drought	N/A	0	0	0	0
7 Athens, Gallia, Jackson, Lawrence, Meigs, Vinton, Washington	06/01/1999	12:00 AM	Drought	N/A	0	0	0	0
8 Ashland, Ashtabula, Crawford, Cuyahoga, Erie, Fulton, Geauga, Hancock, Henry, Holmes, Huron, Knox, Lake, Lorain, Lucas, Mahoning, Marion, Medina, Morrow, Ottawa, Portage, Richland, Sandusky, Seneca, Stark, Summit, Trumbull, Wayne, Wood, Wyandot	07/01/1999	12:00 AM	Drought	N/A	0	0	0	0
9 Adams, Auglaize, Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Delaware, Fairfield, Fayette, Franklin, Greene, Hamilton, Hardin, Highland, Hocking, Licking, Logan, Madison, Mercer, Miami, Montgomery, Pickaway, Pike, Preble, Ross, Scioto, Shelby, Union, Warren	07/01/1999	12:00 AM	Drought	N/A	0	0	0	0
10 Athens, Gallia, Jackson, Lawrence, Meigs, Morgan, Perry, Washington	07/01/1999	12:00 AM	Drought	N/A	0	0	0	0
11 Ashland, Ashtabula, Crawford, Cuyahoga, Erie, Fulton, Geauga, Hancock, Henry, Holmes, Huron, Knox, Lake, Lorain, Lucas, Mahoning, Marion, Medina, Morrow, Ottawa, Portage, Richland, Sandusky, Seneca, Stark, Summit, Trumbull, Wayne, Wood, Wyandot	08/01/1999	12:00 AM	Drought	N/A	0	0	0	0

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
12 Adams, Auglaize, Brown, Butler, Champaign, Clark, Clermont, Clinton, Darke, Delaware, Fairfield, Fayette, Franklin, Greene, Hamilton, Hardin, Highland, Hocking, Licking, Logan, Madison, Mercer, Miami, Montgomery, Pickaway, Pike, Preble, Ross, Scioto, Shelby, Union, Warren	08/01/1999	12:00 AM	Drought	N/A	0	0	0	0
13 Belmont, Carroll, Columbiana, Coshocton, Guernsey, Harrison, Jefferson, Monroe, Muskingum, Noble, Tuscarawas	08/01/1999	12:00 AM	Drought	N/A	0	0	0	0
14 Athens, Gallia, Jackson, Lawrence, Meigs, Morgan, Perry, Vinton, Washington	08/01/1999	12:00 AM	Drought	N/A	0	0	0	0
15 Ashland, Ashtabula, Crawford, Cuyahoga, Erie, Geauga, Hancock, Holmes, Huron, Knox, Lake, Lorain, Lucas, Mahoning, Marion, Medina, Morrow, Ottawa, Portage, Richland, Sandusky, Seneca, Stark, Summit, Trumbull, Wayne, Wood, Wyandot	09/01/1999	12:00 AM	Drought	N/A	0	0	0	200.0M
16 Belmont, Carroll, Columbiana, Coshocton, Guernsey, Harrison, Jefferson, Monroe, Muskingum, Noble, Tuscarawas	09/01/1999	12:00 AM	Drought	N/A	0	0	0	0
17 Athens, Gallia, Jackson, Lawrence, Meigs, Morgan, Perry, Vinton, Washington	09/01/1999	12:00 AM	Drought	N/A	0	0	0	0
18 Athens, Gallia, Jackson, Lawrence, Meigs, Morgan, Perry, Vinton, Washington	10/01/1999	12:00 AM	Drought	N/A	0	0	0	0
19 Athens, Gallia, Jackson, Lawrence, Meigs, Morgan, Perry, Vinton, Washington	09/01/2002	12:00 AM	Drought	N/A	0	0	0	0
<b>TOTALS:</b>					<b>0</b>	<b>0</b>	<b>0</b>	<b>200.000M</b>

**Key:**   Mag:   Magnitude  
           Dth:   Deaths  
           Inj:   Injuries  
           PrD:   Property Damage  
           CrD:   Crop Damage

## **Appendix 8 - 2010 Updates to the Hazard Mitigation Plan**

### **Warning System**

The CodeRED Emergency Notification warning system is available to City of Milford residents, businesses, and schools. This system allows us to notify all or a targeted area of the City in case of an emergency situation. The system provides a pre-recorded message describing the emergency situations to a live person or an answering machine in the affected area possibly including instructions requiring action on the part of the recipient. A follow up call will be issued as needed with additional instructions.

### **Wellhead Protection Plan**

Ground water is one of Milford's most valuable resources. Although unseen, it supplies the daily water needs of our community. The main reason for implementing a Wellhead Protection Plan is to protect the health of people using water from public water wells by preventing contamination of the water supply. Wellhead Protection Plans formulate and implement a set of actions and management practices to protect our groundwater. The main objective of the plan is to institute a program that will provide for the protection of the municipal water supply system by preventing new risks and reducing existing threats to the well field. Furthermore, the Wellhead Protection Plan was developed to promote public health, safety, and general welfare; minimize public and private losses due to contamination of the public water supply; maximize groundwater protection; implement pollution abatement control procedures, and minimize land use restrictions. Realizing the importance of a reliable groundwater supply, Milford developed a Wellhead Protection Plan.

### **Water Management and Sediment Control (WMSC) Regulations**

The purpose of the Water Management Sediment Control regulations is to establish management and conservation practices which will eliminate or abate soil erosion and degradation of waters of the State from sediment caused by non-farm earth disturbing activities. These regulations further intend, but are not limited to accomplish the following practices.

One practice is to eliminate or minimize downstream flooding, erosion, and sedimentation damages caused by development and other earth disturbing activities. Another practice is to eliminate or reduce damage to watercourses which may be caused by increases in the volume of the runoff entering the streams or by the sediment and pollutants contained in the storm water runoff. Establish a basis for the design for storm water management system in order to protect the current and future rights and options of both the dominant and sub-servient property owners and help assure the long-term adequacy of the storm water management systems that will be required. Encourage innovative design that will enhance the control of erosion and sediment in a manner consistent with the intent of the regulation. Provide for innovative design of the controlled release of storm water from the site, in lieu of those requirements resulting from a strict interpretation of these regulations so long as the system meets the allowable discharge rates, or an equivalency is met.

## Appendix 9 – Updated Events From 2005-2010

### Floods

On March 19, 2008 the Little Miami River began flooding at approximately 03:00 hours and continued to flood the “Island” area of Old Milford. The flooding continued until the River began to recede at about 15:00 hours on March 19, 2008. The command staff monitored the National Weather Service’s broadcasts to gauge the storms impact and implement a plan of action from City Hall. The command team contacted affected residents and businesses in the flood zone and pooled resources from each department.

The Clermont County EMA director was contacted and briefed on the situation made the decision to acquire sandbags from the Clermont County Engineers office. The command staff coordinated a meeting with all City Council members in order to brief them on the status of the flood.



Figure 31. 2008 flood photos

Windstorm 2008

The remnants of Hurricane Ike moved through Ohio with tropical storm force winds, causing widespread downing of trees and power lines. Clermont Count declared a county-level emergency due to high winds. The subsequent addresses reported one or more of the following: trees down, wires down, structural damage, injuries and fires from the windstorm on September 14, 2008.

Address	Street Name	Address	Street Name
17	Apple Ln.	209	Laurel Ave.
506	Belt St.	209	Laurel Ave.
	Belt St. & Riverside Dr.	227	Laurel Ave.
522	Belt St. in Alley	240	Laurel Ave.
107	Bradford Dr.	203	Main St.
550	Brandon Ave.	204	Main St.
126	Cash St.	205	Main St.
804	Center St.		Main St. at Promont
823	Center St.	9	McCormick Tr.
843	Center St.	434	Mill St.
806	Center St.	445	Mill St. & Cleveland Ave.
907	Center St.	904	Mohawk Tr.
	Center St. & Miami Ave.	904	Mohawk Tr.
18	Chateu Place	919	Mohawk Tr.
1	Choctaw Ln.	201	Mound
32	Clertoma Dr.	43	Mound Ave
139	Cleveland Ave.	707	Pike St.
516	Dot St.		Railroad Crossing & Beechwood Connector
517	Dot St.		Rear Entrance of 201 Mound Ave. (SEM Villa)
	Duke Substation		Riverside Dr. & Belt St.
	Elm St.		Riverside Dr. & Brandon Ave.
	Elm St. & Water St.	886	Seminole Tr.
	Elm St. & Water St.		South Milford Rd. & St. Andrews Cemetery
	End of Hogan Dr.	707	St. Rt. 28 Lot #204
833	Forest Ave.	830	U.S. Rt. 50
729	Garfield Ave.		U.S. Rt. 50 & Klonyke Rd.
831	Garfield Ave.	20	Valley View Circle
	Garfield Rd. & Apple Ln.	306	Valleybrook Dr.
10	Hogan Dr.		Valleybrook Dr. & Main St.
122	Laurel Ave.	647	Wallace Ave
122	Laurel Ave.	999	Wallace Ave
205	Laurel Ave.		



## Snow Storm 2008

The statewide snowstorm of 2008 was a record setting event that occurred on Friday, March 7<sup>th</sup>, and Saturday, March 8<sup>th</sup>, 2008. The storm entered southeastern Ohio in the early morning hours of March 7<sup>th</sup>. By 8:00 AM, snow had begun to fall in the central portions of the state. By late in the afternoon, snow had reached the northeastern corner of the state. Most areas of Ohio received between two and four inches of snow on March 7<sup>th</sup>. Cleveland and Cincinnati received approximately twelve inches of snow on March 8<sup>th</sup>. At the storm's peak on March 8<sup>th</sup>, approximately two-thirds of Ohio's eighty-eight counties had declared Level Two or Level Three Snow Emergencies, where automobile travel is either discouraged or prohibited.



Figure 32. 2008 Snow Storm

## **Appendix 10 – Updated Projects from 2005-2010**

### **Critchell Park Erosion Project**

The erosion project is located at Critchell Park next to the Clermont Lumber Site. The project involved stabilizing the Little Miami Riverbank in 2008. The total project cost to repair the hillside and prevent any additional damage was \$377,282.99.

### **CSO Elimination**

The Combined Sewer Overflow project area on Main Street from Garfield to Mill Street eliminated sanitary sewage in 2007. During heavy rain events, this overflow currently discharges into the Little Miami River. The \$283,000 project involved the installation of a new wastewater line and the current 27" pipe will remain in place to carry storm water only. The project area was on Main Street from Race to Five Points area will be under construction to eliminate sanitary sewage from a 54" Combined Sewer Overflow (CSO) located at Riverside II Park near the American Legion. This project involves the installation of a new wastewater line. The current 54" pipe will remain in place to carry storm water only. The 54" Combined Sewer Overflow elimination project was completed in 2009. This three phase project was necessary to meet an EPA mandate to eliminate all the CSO's by December 1, 2009. Before the project began, the combine sewer collected and transported both storm water and wastewater generated from homes.

In 1960, combines sewer overflow structures were constructed to regulate the flow of wastewater from the plant to the river during major wet weather events. Elimination of the sanitary sewer will significantly impact the general health, public safety, and welfare of the service area downstream communities because the river is enjoyed for recreational activities such as fishing, canoeing and kayaking. The \$1,562,500 funding for the project includes \$546,875 from Ohio Water Division Authority (OWDA), \$450,000 in grants from Ohio Public Works Commission (OPWC) and \$315,625 in low interest loans from the OPWC and the OWDA. Construction of the new sanitary sewer has been fairly involved. We will make every attempt to minimize disruption and maintain traffic, both vehicular and pedestrian, to reduce the impact on area residents and businesses.

### **Storm water Projects**

A new storm sewer was installed underneath Powhatton Drive to alleviate a majority of the storm water problems that occur in the Clertoma subdivision during large rain events in 2006. The project was funded with the Storm Water Utility Fund that was created in 2004. The project is scheduled to be completed in the third week of July and will include the repaving of the street following construction. The Powhatton Storm Water project was the first priority identified in the Storm Water Master Plan. The total cost of this project is \$376,000

Milford completed the East Milford Phase A1 Project in 2008. The purpose of the project was to alleviate storm water problems in the East Milford area that result from large rain events. The project was funded with the Storm water utility created in 2004; the total project cost was \$522,000.



**Appendix 11 – Emergency Shelter Locations in Milford**

<u>Facility</u>	<u>Capacity</u>
Milford Exempted Village School Pattison Elementary School 5330 South Milford Road Milford, Ohio 45150	Evacuation at 20sq.ft./person = 2227 Post Impact at 40sq.ft./person =1113 Restrooms and Kitchen
<b><u>Contact to Authorize Facility Use</u></b> Jeff Johnson, Director of Operations Daytime phone number: 513-831-1314 After-hours/emergency phone number 513-518-7796	Daytime/Emergency phone number: 513- 615-7525
<b>To open facility, call</b> Bob Penders, Manager of Building Services	<b>Alternate contact to open facility, call</b> Dave Spurlock, Electrician Daytime/Emergency phone number: 513- 623-8253

<u>Facility</u>	<u>Capacity</u>
St. Andrews Church-Basement 551 Main Street Milford, Ohio 45150	150 person Restrooms
St. Andrews Community Center 560 Main Street Milford, Ohio 45150	250 person Restrooms & Kitchen

**Contact to Authorize Facility Use**  
Shirley Soellner, Business Manager  
Daytime Phone Number  
513-831-3353  
After-hours/emergency phone number:  
513-833-1894

**Emergency Shelter Locations in Clermont County**

Clermont County Emergency Services Agency  
Contact-Beth Nevel, Director  
2279 Clermont Center Rd.  
Batavia , Oh 45103  
513- 732-7661  
email: [bnevel@co.clermont.oh.us](mailto:bnevel@co.clermont.oh.us)



## Appendix -12 Implementation Schedules

Model Implementation Schedule	Implementation Schedule	Funding / Project Estimates	Responsible Entity	2010 Update
<b>Sever Storms</b>				
There is a lack of an adequate warning system.				Weather Radios- The police department has a weather radio. Code Red- Milford has implemented a CodeRED Emergency Notification System. Civil Defense Sirens- Milford received a CDBG for a new Civil Defense Siren which will be sent out for bid by Clermont County. Lighting Detection System- The commission agreed that the lighting detection equipment is no longer needed.
Develop a program to acquire weather radios and lighting detection equipment	2009	\$74,450	Service Dept./ City Manager	
There is a lack of lighting warning system.				
Perform a study to determine if a need exists for a lightning detection warning system. Seek grant money for the study and for follow-up implementation items if a need exists.	2009	\$10,000 (cost of one detection system)	Service Dept./ City Manager	The commission agreed that this is no longer needed. Finley Ray Park has a lightning detection system.
There is a lack of awareness of existing PSAs.				
Increase awareness through articles in community newsletters.	2005	\$1,795/quarter print cost	City Manager	Sever Storm information has been included in the community newsletters.
Encourage City Council to recognize the published articles in Council, which will appear on TV and in the Council minutes.	2005	In house - no additional cost	City Manager	City Council has recognized published articles.
Increase awareness by providing information on the City's website. The City currently does not have its own webmaster and grant funding is needed to maintain the site.	2005	\$67/hr	City Manager	Grant funding is not available for maintaining the website. But Milford has a contract with local webmaster.
There is a need for a tree hazard management program for power lines and public access areas.				
Develop a landowner awareness program or an informative article to be published in the local newspaper targeting landowner awareness.	2009	\$1,795/quarter print cost-(if a tree hazard management program were implemented, there would be a \$1,500/tree 2009 cost	Planning and Zoning Dept.	Milford established a street tree ordinance regarding removal of trees if identified as a safety hazard. Due to budget constraints Milford provides the newsletter online and through email subscription. Milford's newsletter and Tree commission provide tree awareness information to the public.
<b>Flash flooding</b>				
There is a lack of riparian setback in some areas.				
Implement a riparian setback through the zoning code for flood protection.	2007	In house - no additional cost	Planning and Zoning Dept.	Riparian setback has been established in the zoning code for flood protection. Milford has implemented Water Management Sediment Control Regulations for earth moving activities.
There is a lack of knowledge about high flood hazard areas.				
Increase signage in hazard areas.	2005	6 signs at \$36/sign= Total of \$216	Service Dept.	There is an ordinary high water mark for the bridge. The commission agreed that this is no longer needed.
There is a lack of proper storm water system maintenance and /or detention basins.				
Request that current storm water system maintenance be increased/improved.	2005	Maintenance is currently budgeted at \$60,000/yr for a 5-yr budget	Service Dept.	The Service Dept. sweeps the streets, cleans & repairs catch basins, dry wells and storm drains regularly throughout the community.
Combined Sewer overflows (CSO) exist in the City.				
Provide signage at locations of existing outfalls.	2004	4 signs at \$80/sign=Total of \$320	Service Dept.	The CSOs have been eliminated and signs are no longer needed.
Provide information through community newsletters and/or an article in the local newspaper.	2009	\$1,795/quarter print cost	City Manager	The community newsletter and local newspaper have provided the public with CSO project information.
There is a lack of a proper drainage system in certain areas of the City.				
Create new infrastructure in accordance with the storm water master plan.	2009	\$200,000/yr	City Manager	Milford completed storm water projects from the storm water master plan.
There is a lack of public awareness program.				
Increase awareness through community mailers and/or articles in the local newspaper.	2009	\$1,795/quarter print cost	City Manager	The community newsletter and local newspaper have provided the community with CSO project information.
<b>Other types of flooding</b>				
There is a lack of City input on dam discharge from Harsha Lake.				
Initiate dialogue with USACE concerning discharge from Harsha Lake and Caesar Creek Dams.	2007	In house - no additional cost	City Manager	Staff has contacted USACE regarding discharge from Harsha Lake and Caesar Creek Dams. Mark Philips, Hydraulic Engineer, stated that there have not been any changes in the operation of the dams action plan since 1995. We will continue to dialogue with USACE regarding both Dams discharge.
Solid waste storage is located in the floodplain areas.				
Investigate FEMA programs for the purchase of floodplain land.	2009	In house - no additional cost	City Manager	Due to budget constraints this has been placed on hold.



<b>Erosion</b>		
Hillside erosion is problematic within the City limits		
Require as-built plans.	2006 In house - no additional cost	Building Dept./ City Manager
There are inadequate vegetative protection measures on the Little Miami River.		
Establish contact with Hamilton County and Clermont County Soil and Water Conservation Districts. Establish a cost-share program for removal of invasive growing along waterways.		
	2009 In house - no additional cost	Planning and Zoning Dept.
There is a lack of City input on dam discharges from Harsha Lake.		
Initiate dialogue with USACE concerning discharge from Harsha Lake and Caesar Creek Dams.		
	2007 In house - no additional cost	City Manager
<b>Drought and Extreme Temperatures</b>		
There is a lack of shelters for extreme temperature situations (hot or cold).		
Increase public knowledge of existing emergency management programs.	2007 In house - no additional cost	City Manager
Identify shelters and seek grants to stock shelters with emergency supplies.	2009 In house - no additional cost	City Manager
<b>Tornadoes</b>		
There is a lack of warning system		
Seek grant money for backup generators for the warning system.	2009 In house - no additional cost	City Manager
There are a lack of shelters.		
Identify shelters and seek grants to stock shelters with emergency supplies.	2009 In house - no additional cost	City Manager

Figure 34. Implementation Schedule 2005