

- 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 |
| TOTALS: | | | | | 0 | 0 | 0 | 200.000M |

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 |
|---------|--------------------------|
| 17 | Apple Ln. |
| 506 | Belt St. |
| | Belt St. & Riverside Dr. |
| 522 | Belt St. in Alley |
| 107 | Bradford Dr. |
| 550 | Brandon Ave. |
| 126 | Cash St. |
| 804 | Center St. |
| 823 | Center St. |
| 843 | Center St. |
| 806 | Center St. |
| 907 | Center St. |
| | Center St. & Miami Ave. |
| 18 | Chateau Place |
| 1 | Choctaw Ln. |
| 32 | Clertoma Dr. |
| 139 | Cleveland Ave. |
| 516 | Dot St. |
| 517 | Dot St. |
| | Duke Substation |
| | Elm St. |
| | Elm St. & Water St. |
| | Elm St. & Water St. |
| | End of Hogan Dr. |
| 833 | Forest Ave. |
| 729 | Garfield Ave. |
| 831 | Garfield Ave. |
| | Garfield Rd. & Apple Ln. |
| 10 | Hogan Dr. |
| 122 | Laurel Ave. |
| 122 | Laurel Ave. |
| 205 | Laurel Ave. |

| Address | Street Name |
|---------|---|
| 209 | Laurel Ave. |
| 209 | Laurel Ave. |
| 227 | Laurel Ave. |
| 240 | Laurel Ave. |
| 203 | Main St. |
| 204 | Main St. |
| 205 | Main St. |
| | Main St. at Promont |
| 9 | McCormick Tr. |
| 434 | Mill St. |
| 445 | Mill St. & Cleveland Ave. |
| 904 | Mohawk Tr. |
| 904 | Mohawk Tr. |
| 919 | Mohawk Tr. |
| 201 | Mound |
| 43 | Mound Ave |
| 707 | Pike St. |
| | Railroad Crossing & Beechwood Connector |
| | Rear Entrance of 201 Mound Ave. (SEM Villa) |
| | Riverside Dr. & Belt St. |
| | Riverside Dr. & Brandon Ave. |
| 886 | Seminole Tr. |
| | South Milford Rd. & St. Andrews Cemetery |
| 707 | St. Rt. 28 Lot #204 |
| 830 | U.S. Rt. 50 |
| | U.S. Rt. 50 & Klonyke Rd. |
| 20 | Valley View Circle |
| 306 | Valleybrook Dr. |
| | Valleybrook Dr. & Main St. |
| 647 | Wallace Ave |
| 999 | Wallace Ave |

Snow Storm 2008

The statewide snowstorm of 2008 was a record setting event that occurred on Friday, March 7th, and Saturday, March 8th, 2008. The storm entered southeastern Ohio in the early morning hours of March 7th. 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 7th. Cleveland and Cincinnati received approximately twelve inches of snow on March 8th. At the storm's peak on March 8th, 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

Facility

Milford Exempted Village School
Pattison Elementary School
5330 South Milford Road
Milford, Ohio 45150

Capacity

Evacuation at 20sq.ft./person = 2227
Post Impact at 40sq.ft./person =1113
Restrooms and Kitchen

Contact to Authorize Facility Use

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

To open facility, call

Bob Penders, Manager of Building Services

Alternate contact to open facility, call

Dave Spurlock, Electrician
Daytime/Emergency phone number: 513-
623-8253

Facility

St. Andrews Church-Basement
551 Main Street
Milford, Ohio 45150

Capacity

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

Appendix -12
Implementation
Schedules

| Model Implementation Schedule | Funding / Project Estimates | Implementation Schedule | Responsible Entity | 2010 Update |
|---|---|--------------------------------|--------------------|--|
| Sever Storms There is a lack of an adequate warning system. | | | | |
| Develop a program to acquire weather radios and lighting detection equipment | 2009 \$74,450 | Service Dept./ City Manager | | 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. |
| 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 lightening 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 cost \$1,795/quarter print cost-(if a tree hazard management program were implemented, there would be a \$1,500/tree 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. |
| Flash flooding 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 \$216 6 signs at \$36/sign= Total of | 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 yr budget Maintenance is currently budgeted at \$60,000/yr for a 5- | 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 \$320 4 signs at \$80/sign=Total of | 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. |
| Other types of flooding 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 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. |

| | | |
|---|------------------------------------|------------------------------|
| Erosion | | |
| 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. | | Planning and Zoning Dept. |
| There is a lack of City input on dam discharges from Harsha Lake. | 2009 In house - no additional cost | |
| | | |
| Initiate dialogue with USACE concerning discharge from Harsha Lake and Caesar Creek Dams. | 2007 In house - no additional cost | City Manager |
| Drought and Extreme Temperatures | | |
| 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 |
| Tornadoes | | |
| 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