

# Flood News for Michigan Floodplain Managers

A Newsletter of the  
Land and Water Management Division  
Michigan Department of Environmental Quality  
[www.michigan.gov/deq](http://www.michigan.gov/deq)

Steven E. Chester, Director

Jennifer M. Granholm, Governor

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## DISTRICT FLOODPLAIN ENGINEERING STAFF

**SE Michigan: Maria Zingas and Patrick Durack**

Warren 586-753-3700

**Jackson/Lansing: Donna Cervelli**

Jackson 517-780-7699

Lansing 517-335-6266

**Saginaw Bay: Joy Brooks**

Bay City 989-686-8025 extension 8364

**Grand Rapids: Matt Occhipinti**

616-356-0207

**Kalamazoo: Ernie Sarkipato 269-567-3564**

**Upper Peninsula: Sheila Meier**

Gwinn 906-346-8500

**Cadillac/Gaylord: Susan Conradson**

Cadillac 231-775-3960 extension 6363

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## 2008 MSFA Conference

### *Dates are Set and Program Planning is Underway*

The 21<sup>st</sup> annual Michigan Stormwater-Floodplain Conference is set for March 18-21, 2008 at the Amway Grand Plaza Hotel in Grand Rapids, Michigan. The conference format will be similar to the 2007 conference. The planning committee is currently developing the presentation program. A one-day CFM refresher course, CFM exam proctoring, and a building official/inspector workshop for Floodplain Management 101 are being planned. Subject areas currently being considered for presentations include case studies on dam removal projects, City of Flint flood mitigation/stream restoration efforts, and rain gardens/minimum impact development projects.

Changes in the 2008 conference registration will be the availability of a one-day-or-less registration option for the fee of \$75 and the fee change for a full registration to \$150 (lodging is additional).

## New CFMs in 2007

The 2007 MSFA conference was again successful in seeing an increase in the number of Michigan Certified Floodplain Managers. As in past years, the conference provided an opportunity for floodplain managers to participate in a one-day refresher course sponsored by the consulting firm of PBS&J of Beltsville, Maryland. The refresher represented a summary review of the National Floodplain Insurance Program and its federal regulations and how they are interpreted and applied at the local level to all development projects involving floodplain areas throughout the state. Following the course, the PBS&J and MDEQ staff proctored the CFM exam, and the end result was that ten floodplain managers received passing results and formal certification by the Association of State Floodplain Managers as being knowledgeable in the field of floodplain management. The following persons attended the refresher course and successfully passed the CFM exam:

**Kyle Carrick, CFM**, Ledy Design Group, Lansing  
**David Hallgren, CFM**, Meridian Township, Ingham County  
**Craig Hanby, CFM**, Project Control Engineering, Inc., Algonac  
**Chris Hover, CFM**, Ledy Design Group, Lansing  
**Brian McKissen, P.E., CFM**, Spalding DeDecker & Associates, Inc., Rochester Hills  
**Wendy Ogilvie, CFM**, Fishbeck, Thompson, Carr & Huber, Grand Rapids  
**Ian Page, P.E., CFM**, Professional Engineering Associates, Inc., Troy  
**Claire Schwartz, P.E., CFM**, Fishbeck, Thompson, Carr & Huber, Grand Rapids  
**Maria Sedki, CFM**, Spalding & Associates, Inc., Rochester Hills  
**Charles Wood, CFM**, Drain Office of St. Clair, St. Clair

## Flood Maps and Flood Insurance

Flood maps, also known as Flood Insurance Rate Maps (FIRM), show the high-risk areas where there is at least a one percent annual chance of flooding. In these areas, also known as Special Flood Hazard Areas, flood insurance is required for federally backed mortgages. The maps also show the low- or moderate-risk areas where flood insurance is optional but recommended.

When risk designations change, flood insurance rates will change, as well. However, property

owners may be able to take advantage of certain cost saving options available through the National Flood Insurance Program (NFIP).

Owners of properties that move from a high-risk zone to a low- or moderate-risk zone may be eligible for reduced insurance rates by converting to a Preferred Risk Policy (PRP). A PRP covers both a structure and its contents and offers substantial savings. A PRP can be obtained for as little as \$112 a year.

There are also ways for owners of some structures moving into high-risk zones to save. Existing policyholders may be able to use the rate charged for the lower-risk zone through a process known as grandfathering.

#### *Grandfathering Offers Savings*

The NFIP's grandfathering provision offers savings for structures that were built before a flood map was issued for the community or that were built in compliance with the flood map in effect at the time of construction. The simplest way to grandfather is to purchase a flood insurance policy before the new map takes effect and maintain coverage without a lapse.

If a structure was built in compliance with the requirements in place at the time of construction, the zone and Base Flood Elevation (BFE)\* that was in effect can be used for rating purposes, if either is affected due to a map change. Sometimes using the new zone can provide a better rate than using the older one, so property owners should always ask their agent to look at both options.

#### *How Grandfathering Works*

If a policy is obtained before a new map becomes effective, policyholders can retain the rate associated with the previous map's flood zone and BFE, as long as continuous coverage has been maintained. For structures built after a FIRM was issued, insurance costs will be based on the zone designation and BFE for the map in effect at the time the structure was built (unless the new map offers a lower rate). However, policyholders must submit supporting documentation to their insurer that shows the structure was built to conform to standards on the earlier map. Continuous coverage is not required in this case. If a structure was built before the community's first FIRM was issued, and the policy was not purchased prior to the effective date of a new map, policyholders can still save, but policy costs will be defined by pre-FIRM rates associated with their zone designation on the new map.

#### *More Information is Available*

Property owners should be fully aware of their flood risk and the current status of flood maps in their community. They can contact their local floodplain management officials to learn the status of local flood maps or obtain a copy of the current map at [www.msc.fema.gov](http://www.msc.fema.gov)

## **Neighborhood Flood Garden Promotes Awareness**

By: Ronda Oberlin, PEM, CFM  
Lansing Emergency Management Office

Lansing is flood prone. That may not seem like news to you, but on the city's eastside it's a message that some people are working hard to spread. In the Urbandale neighborhood, the 32<sup>nd</sup> anniversary of the area's last major flood was commemorated by breaking ground for the Elizabeth Park Floodplain Garden.

The April 1975 flood caused flooding up to 8 feet deep in Urbandale, which covers parts of Lansing and Lansing Township. The Allen Neighborhood Center, which initiated the floodplain garden project, wants people not just to remember the last flood, but to be prepared for the next one.

The centerpiece of the garden is a 15 foot pole, marking the 25 (the level reached in 1975), 50, 100, and 500 year flood elevations. In June planting will begin for a rain garden around the pole.

The neighborhood hopes to make the park, located in Lansing Township, a place where school children and visitors can come to be educated, and where residents can learn about both the risks and the benefits of living in a floodplain.



## Question and Answer

**Q:** What will the new FEMA digital flood insurance rate maps (DFIRMs) mean to Mr. & Ms. Citizen?

**A:** The first understanding that is important to have is that FEMA's NFIP and flood hazard mapping efforts do not create floodplains or flood risks. Floodplains and their associated flood risks are products of Mother Nature. The NFIP and its mapping efforts are simply a process to physically identify where those floodplains and risks are located within each community. Knowing the floodplain and flood risk locations facilitates a community's efforts to protect its citizens from placing structures, developments, and themselves in harm's way of flood events. With the production of new and updated DFIRM's, Citizens will find themselves in one of the following three scenarios:

- #1 If the new maps show that a structure is now considered to be in a high flood risk area rather than the previously mapped low- to moderate-risk area or unmapped area, then flood insurance will be required for loans provided by federally regulated lenders, as well as government-sponsored enterprises such as Freddie Mac and Fannie Mae. Insurance costs may rise to reflect the new high-risk determination. FEMA's "grandfathering" rules may provide for premium rate savings.
- #2 If the new maps show that a structure is now considered to be in a low to moderate flood risk area rather than the previous finding of being in a high-risk area, flood insurance is optional but recommended, or may still be required by the lender's choice. Such a finding has not removed the flood risk; it has only been determined to be reduced. Existing high-risk policies can be converted to lower cost preferred-risk policies. 25% of all NFIP claims have been made for flood damage in the low to moderate flood risk areas.
- #3 If the new maps show no change in your flood risk determination, there will be no change in insurance requirements or rates from the production of the new maps.

**Q:** If a home that is located in the one-percent chance floodplain has an existing furnace that is below the base flood elevation (BFE), does its replacement have to be installed at or above the design flood elevation, as referred to under R323.1.5 of the 2003 Michigan Residential Building Code?

**A:** R323.1.5 "Protection of mechanical and electrical systems" of the 2003 Michigan Residential Code regulates furnace installations in structures located in the regulated floodplain. For structures constructed in flood hazard areas (A zones), this rule requires such equipment be located at or above the design flood elevation. It further stipulates that if such equipment is replaced as part of a substantial improvement, it shall meet the elevation requirement of the rule, which, as stated above, must be at or above the design flood elevation.

This rule is interpreted to mean that, in an existing structure, the replacement of mechanical and electrical systems, i.e. a furnace, would not have to be elevated to or above the design flood elevation unless the replacement by itself or as part of other structure improvements would represent a substantial improvement. The code defines substantial improvement as having a cost which exceeds 50 percent of the market value of the structure before the improvement or repair is started. Thus, the single action of replacing an existing furnace unit with another one would not require the replacement unit to be elevated any higher than the unit that is being replaced. However, a person's good judgment and common sense would certainly be cause to strongly consider elevating such equipment to a reasonable extent to minimize future flood damages and unexpected expense.

## **Federal Flood Insurance Now Available In Two New NFIP Townships**

FEMA Announcement

Washington, D.C. – The Townships of Midland in Midland County and Richmond in Macomb County have joined over 20,000 communities nationwide that are allowed to purchase federally backed flood insurance. This availability follows the communities' adoption and enforcement of ordinances to reduce flood losses and acceptance by the National Flood Insurance Program (NFIP).

The Townships of Midland and Richmond are now participants in the NFIP effective on April 12, 2007. Midland Township residents will be able to purchase flood insurance up to the limits under the Emergency Phase of the program. However, there is a 30-day waiting period before flood insurance coverage goes into effect. For single-family dwellings, the building coverage limit is \$35,000, and the contents coverage limit is \$10,000. Renters can also protect their belongings by purchasing contents coverage. For commercial properties, the building and contents coverage limits are both \$100,000. Higher limits of coverage will be available after the initial Emergency Phase.

Richmond Township residents will be able to purchase flood insurance up to the limits under the Regular Phase of the program. A 30-day waiting period is also required before flood insurance coverage goes into effect. For single-family dwellings, the building coverage limit is \$250,000, and the contents coverage limit is \$100,000. Renters can also protect their belongings by purchasing contents coverage. For commercial properties, the building and contents coverage limits are both \$500,000.

Lenders must require borrowers whose properties are located in a designated flood hazard area to purchase flood insurance as a condition of receiving a federally backed mortgage loan in accordance with the Federal Disaster Protection Act of 1973.

The NFIP is implemented through the Federal Emergency Management Agency. There are over 4 million flood insurance policies in more than 20,000 participating communities nationwide.

## **Cass and Lapeer Counties Flood Insurance Studies and Updated DFIRMs Effective September 2007**

FEMA has completed its work on the map modernization effort for updating the flood insurance rate maps for Cass and Lapeer Counties. The flood insurance studies and the DFIRMs will go into effect September 5, 2007 for Cass County and

September 19, 2007 for Lapeer County. Those communities in each county that are currently participating in the NFIP are obligated to FEMA to adopt the new study and maps through ordinance actions by the effective dates or face immediate

suspension from the program. Those communities that are not currently enrolled in the NFIP have one year from the effective date to take ordinance actions to adopt the new studies and maps and to submit an enrollment package to FEMA.

Participating community suspension from the NFIP will result in no new flood insurance policies being written, which will make mortgages from federally regulated lenders unavailable, and existing policies will not be renewable when they come due. Additionally, in a case of a federally declared disaster occurring, some federal assistance programs will not be available to the community being suspended and within the area of declaration.

For nonparticipating communities failing to adopt the new studies and maps within the 12-month time frame, flood insurance would not be available, and neither would some disaster assistance programs. The MDEQ, with assistance from the State Attorney General's office, has developed a model map adoption ordinance and accompanying model resolution documents for communities to use that will comply with the enrollment and adoption criteria of the NFIP. To date, studies and map updates have been completed for Berrien, Macomb, and Oakland Counties. Assistance in this matter is available by contacting Les Thomas, NFIP Coordinator, MDEQ, Land and Water Management Division, [thomasl@michigan.gov](mailto:thomasl@michigan.gov), 517-335-3448.

## **2007 Severe Weather Poster Contest**

From: Emergency Management and Homeland Security Division  
Department of Michigan State Police

The Michigan Committee for Severe Weather Awareness, formed in 1991, works to improve the public's awareness of severe weather events in Michigan. It provides educational information through a variety of activities to foster increased preparedness and protection from the effects of severe weather.

One of the most successful activities of the committee is its poster contest for severe weather awareness. This contest is open to any Michigan student enrolled in fourth or fifth grade. Hundreds of entries are received each year. The artwork portrayed on this poster is a submittal from a previous year's contestant.

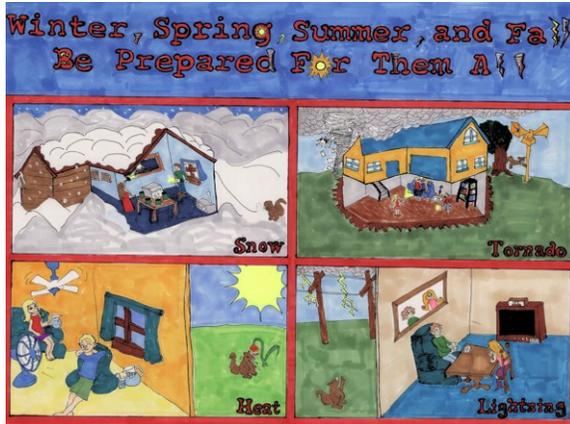
The committee is grateful for the continued support it receives from its member organizations, especially for the generous contributions of State Farm Insurance in supporting the development of this Severe Weather Awareness Week poster campaign. Their partnership and participation on the committee contribute significantly to accomplishing the committee's goal of increasing the public's awareness of severe weather.

Because of the committee's efforts in developing the severe weather poster contest and several hazard awareness campaigns to inform Michigan residents of the importance of being prepared for severe weather, the Michigan Committee for Severe Weather Awareness received the National Weather Association's Public Education Award for the year 2000. The NWA Public Education Award is presented annually to an individual, group, or organization providing significant contributions to increase the public's weather awareness.

The committee is comprised of the following organizations: The National Weather Service, Michigan State Police Emergency Management Division, Michigan Department of Environmental Quality, American Red Cross, Michigan Emergency Management Association, Michigan Association of Broadcasters, WDIV-TV, Michigan Insurance Information Association, State Farm Insurance, Michigan Earth Science Teachers Association, and the Office of Highway Safety Planning.

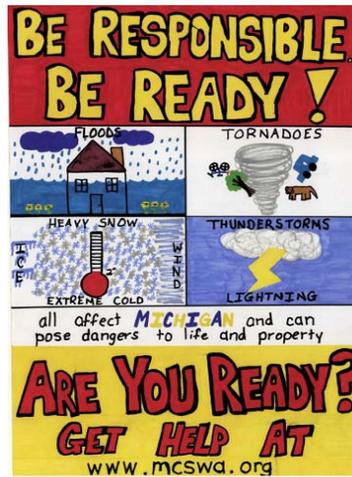
**Archived copies of this newsletter are located at: [www.michigan.gov/floodplainmanagement](http://www.michigan.gov/floodplainmanagement) under Newsletters and Guidebooks.**

## 2007 Contest Winners



1st Place

Upland Hills School  
Oxford, MI



2nd Place

Prevail Academy  
Mt. Clemens, MI



3rd Place

Susick Elementary  
Troy, MI



4th Place

Oakdale Christian School  
Grand Rapids, MI

## Flood Hazard Map/Flood Insurance Rate Map Flood Zones Defined

From: [floodsmart.gov](http://floodsmart.gov) website

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk.

These zones are depicted on a community's Flood Hazard Boundary Map or a Flood Insurance Rate Map (FIRM). Each zone reflects the severity or type of flooding in the area.

Below are brief definitions of the FEMA flood zones. For comprehensive flood zone definitions, visit the [NFIP Web site](#). If you'd like additional information, contact your agent or [find an agent serving your area](#).

#### *Moderate to Low Risk Areas*

In communities that participate in the NFIP, flood insurance is available to all property owners and renters with moderate to low risk.

#### *Zones B, C, and X*

Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

#### *High Risk Areas*

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all A zones.

#### *Zone A*

Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.

#### *Zone AE and A1-A30*

Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

#### *Zone AH*

Areas with a 1% annual chance of shallow flooding, usually in the form of standing or ponded water, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

#### *Zone AO*

River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.

#### *Zone AR*

Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.

#### *Zone A99*

Areas with a 1% annual chance of flooding that will be protected by a federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

#### *High Risk - Coastal Areas*

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all V zones.

### *Zone V*

Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.

### *Zone VE and V1 - 30*

Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

### **Undetermined Risk Areas**

### *Zone D*

Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

## **FEMA Seeking and Accepting Input from Local Communities**

As a community leader, do you know whether your community has any flood hazard risk areas; and if so, can you readily show your citizens where they are located? If your community is like many others in Michigan and across the nation, the answer may likely be no, or you are not sure. The next question: do you need to know where the flood hazards are in your community? If you ponder that question a bit, your understanding and recognition of responsibility as a community leader to your citizens tells you the most reasonable answer is yes.

Community land use ordinances requiring community reviews and approvals (floodplain development), can inherently subject the community to liability issues because of potential impacts to another person's property. Courts have held local governments liable for issuing permits and approving subdivisions which increase flood damages on other lands and for inadequate inspections. As an example: community approval is given for a development project under a local or state regulation without consideration to possible floodplain impacts on adjacent properties. If it can be demonstrated that the development has led to flooding impacts and they could have been reasonably avoided by considering where the flood hazard areas are, the community may be held liable for those impacts and be responsible for necessary mitigation.

Community partnering in the development of the FEMA flood hazard maps and the subsequent adoption of those maps provides flood risk notification to citizens and provides a reasonable

regulatory basis to reduce property loss risks and thereby reduce potential liability.

FEMA's map mod initiative is designed to produce updated flood maps with assistance from local community leaders. Community leaders are likely to have first hand knowledge of flood hazard prone areas and may have technical information and data that can be incorporated into the map updating effort. FEMA's map updating efforts begin with county-wide scoping meetings where each community within the county is invited to work with the FEMA to develop the new maps. Experience in participating in these county-wide scoping meetings has shown that many communities do not take advantage of the opportunity. Low community participation does not help produce the better quality flood hazard maps that could be produced with more input from all communities.

In those county-wide studies where local community involvement has occurred, local knowledge and available information of the landscape have provided additions and corrections to the maps that will be invaluable to those communities and their citizens. Their future efforts to manage floodplain development will be rewarded by having more accurately detailed and useful flood hazard maps.

More accurately detailed maps will support better community land use development approval actions which should lower the probability of adverse impacts to adjacent property owners and thus, lower the chance of legal actions against the community.

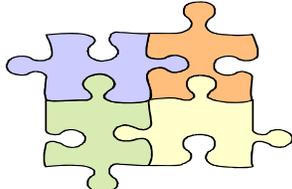
A community's decision to be actively involved in the flood hazard map updating efforts by FEMA's map mod process can prove to be a wise and responsible choice by community leaders. It can

be one that will in the end, be a big benefit to the community's effort to manage floodplain development resulting in reduced flood risks to its citizens.

**Be Part of**  
**FEMA's ..... Map ..... MOD**

**It All Fits Like a Puzzle**

**Better updated flood hazard maps = 's wiser effective management of floodplain development = 's lower flood risks exposure.**



**= 's less damage to residential, commercial, & business interests = 's greater public health, safety, and welfare!**

## Flood Map Modernization Affects Everyone – Know the Facts

By Bruce Bender, Bender Consulting Services, Inc. and  
Diane Little, Michael Baker Jr., Inc.

### ***Everyone needs flood insurance.***

Flooding is the number one natural disaster in the United States. While flooding due to hurricanes receives regular media coverage, it is important to understand that flooding is also caused by slow-moving storms, quickly melting snow, water backup due to inadequate or overloaded drainage systems, and dam or levee failure.

About one out of four claims filed with the National Flood Insurance Program (NFIP) occurs in the low and moderate risk areas. Everyone is potentially at risk, and you should know that financial protection

through the purchase of flood insurance is easily available through local insurance agents for properties located in high, moderate, or low risk areas. Homeowner's insurance policies do not provide coverage for flooding damage. The average NFIP premium is about \$500 per year, and there are currently 5.3 million NFIP flood insurance policies in force.

Flood insurance is required at a closing for all federally regulated loans when flood zone determination results indicate that the building is in a high-risk zone (known as a Special Flood Hazard

Area). An insurance agent or lender (or their servicer) utilizes one of FEMA's (Federal Emergency Management Agency's) flood hazard maps to identify flood risk associated with a given property.

***What's happening now in counties across the country as a result of Flood Map Modernization?***

Flood hazard maps, known as Flood Insurance Rate Maps (FIRMs), indicate areas at risk of flooding and are important tools in the effort to protect lives and properties across the United States. Many of these maps currently in use were developed in the early days of the NFIP and require updating. Due to land changes over time, a community's FIRM may not accurately portray the current flood risks.

Flood designations will change with the new flood maps, and this affects flood insurance requirements. It is important for community residents and business owners to stay informed throughout the mapping process.

***How to Stay Informed Through the Mapping Process.***

Public meetings provide an opportunity for citizens to learn about proposed changes to a flood hazard map, or FIRM. FEMA has provided community officials and residents with a period of time to allow for due process before and after preliminary

versions of new or revised FIRMs are issued. This period for "due process" includes the statutorily required 90-day appeal period and a compliance period. The compliance period, which is generally 6 months in duration, ends on the FIRM effective date. Once the new flood maps become effective, so do new flood insurance requirements. Citizens can stay informed by contacting community officials to learn of potential flood map changes in their area.

***Know Your Flood Risk.***

Property located in a high-risk area due to flood map changes may have lower cost options available through the NFIP's "grandfathering" rule, which recognizes policyholders who built in compliance with the flood map in place at the time of construction or who have maintained continuous coverage.

A building on a property remapped from a high-risk zone to low- or moderate-risk zone (noted as "X" on the flood maps), means flood risk is reduced **but not removed**. Property owners may qualify for lower-cost flood insurance policies, known as preferred risk policies, with premiums starting at \$112 a year for building and contents coverage.

Residents and business owners should contact their insurance agents to view their insurance options.

***Further Information***

For more information about Flood Map Modernization and flood insurance:

FEMA Web site on Mapping: <https://www.fema.gov/national-flood-insurance-program/flood-map-information>

For general information about flood insurance: [www.FloodSmart.gov](http://www.FloodSmart.gov)

Specific mapping questions: FEMA Mapping Assistance Center 1-877-FEMA-MAP

Visit FEMA's Map Service Center's website at [www.msc.fema.gov](http://www.msc.fema.gov) or call 1-800-358-9616

**[Floodsmart.gov](http://www.floodsmart.gov)**

***is a great source for flood insurance information***



## Are You Ready for a Flood or a Flash Flood?

Here's what you can do to prepare for such emergencies

### Know what to expect

- ✓ Know your area's flood risk—if unsure, call your local Red Cross chapter, emergency management office, or planning and zoning department.
- ✓ If it has been raining hard for several hours, or steadily raining for several days, be alert to the possibility of a flood.
- ✓ Listen to local radio or TV stations for flood information.

### Reduce potential flood damage by—

- ✓ Raising your furnace, water heater, and electric panel if they are in areas of your home that may be flooded.
- ✓ Consult with a professional for further information if this and other damage reduction measures can be taken.

### Floods can take several hours to days to develop—

- ✓ A flood WATCH means a flood is possible in your area.
- ✓ A flood WARNING means flooding is already occurring or will occur soon in your area.

### Flash floods can take only a few minutes to a few hours to develop—

- ✓ A flash flood WATCH means flash flooding is possible in your area.
- ✓ A flash flood WARNING means a flash flood is occurring or will occur very soon.

### Prepare a Family Disaster Plan

- ✓ Check to see if you have insurance that covers flooding. If not, find out how to get flood insurance.
- ✓ Keep insurance policies, documents, and other valuables in a safe-deposit box.

### Assemble a Disaster Supplies Kit containing—

- ✓ First aid kit and essential medications.
- ✓ Canned food and can opener.
- ✓ At least three gallons of water per person.
- ✓ Protective clothing, rainwear, and bedding or sleeping bags.
- ✓ Battery-powered radio, flashlight, and extra batteries.
- ✓ Special items for infant, elderly, or disabled family members.
- ✓ Written instructions for how to turn off electricity, gas, and water if authorities advise you to do so. (Remember, you'll need a professional to turn natural gas service back on.)

Identify where you could go if told to evacuate. Choose several places . . . a friend's home in another town, a motel, or a shelter.

### When a flood WATCH is issued—

- ✓ Move your furniture and valuables to higher floors of your home.
- ✓ Fill your car's gas tank, in case an evacuation notice is issued.

### When a flood WARNING is issued—

- ✓ Listen to local radio and TV stations for information and advice. If told to evacuate, do so as soon as possible.

### When a flash flood WATCH is issued—

- ✓ Be alert to signs of flash flooding and be ready to evacuate on a moment's notice.

### When a flash flood WARNING is issued—

- ✓ Or if you think it has already started, evacuate immediately. You may have only seconds to escape. Act quickly!
- ✓ Move to higher ground away from rivers, streams, creeks, and storm drains. Do not drive around barricades . . . they are there for your safety.
- ✓ If your car stalls in rapidly rising waters, abandon it immediately and climb to higher ground.

Your local contact is:

# Are You Ready for a Flood or a Flash Flood?



Prolonged rainfall over several days or an ice jam can cause a river or stream to overflow and flood the surrounding area. A flash flood from a broken dam or levee or after intense rainfall of one inch (or more) per hour often catches people unprepared.

Regardless, the rule for being safe is simple: head for the high ground and stay away from the water. Even a shallow depth of fast-moving flood water produces more force than most people imagine. The most dangerous thing you can do is to try walking, swimming, or driving through such swift water.

Still, you can take steps to prepare for these types of emergencies. Have various members of the family do each of the items on the checklist below. Then hold a family meeting to discuss and finalize your Home Flood Plan.

\_\_\_\_\_ **Determine whether you're in a flood area.**

Flood area:  Yes  No

\_\_\_\_\_ **If in a flood area, is flooding covered under your homeowner's or renter's insurance policy? (Most insurance policies specifically exclude flooding from rising water.)**

Flood insurance:  Yes  No

\_\_\_\_\_ **If flooding is not covered under your homeowner's or renter's policy, obtain separate flood insurance.**

Insurance company: \_\_\_\_\_

\_\_\_\_\_ **Keep current copies of all important papers or valuables in a safe-deposit box.**

Location of safe-deposit box: \_\_\_\_\_

\_\_\_\_\_ **Put together a Disaster Supplies Kit in a clearly labeled, easy-to-grab box.**

Location of Disaster Supplies Kit: \_\_\_\_\_

\_\_\_\_\_ **Write instructions on how and when to turn off your utilities—electricity, gas, and water.**

Instructions written: \_\_\_\_\_  
(date)

\_\_\_\_\_ **Decide where your family would go in case you must evacuate. Clear your plan with the relatives or friends you plan to stay with—or go to a Red Cross shelter. Also, get an extra map and mark two alternate ways to reach that destination. Add the map to your Disaster Supplies Kit.**

Evacuation plan completed: \_\_\_\_\_  
(date)

And remember . . . when a flood, tornado, earthquake, fire, or other emergency happens in your community, you can count on your local American Red Cross chapter to be there to help you and your family. Your Red Cross is not a government agency and depends on contributions of your time, money, and blood.

For more information, contact your local Red Cross chapter, National Weather Service office, or emergency management agency. You can also visit these Web sites:

American Red Cross: [www.redcross.org](http://www.redcross.org)

National Weather Service: [www.nws.noaa.gov](http://www.nws.noaa.gov)

Federal Emergency Management Agency: [www.fema.gov](http://www.fema.gov)

# CHAPTER MEMBERSHIP MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION MEMBERSHIP FORM

Name \_\_\_\_\_ Representing \_\_\_\_\_  
 Address \_\_\_\_\_ City/State/Zip \_\_\_\_\_  
 Telephone (    ) \_\_\_\_\_ E-mail \_\_\_\_\_ New \_\_\_\_ Renewal \_\_\_\_

**MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION CHAPTER RENEWAL = \$35.00 per calendar year.**  
 Please complete this portion for state association membership. The state association has no provision for accepting credit cards. Questions may be directed to Roger S. Clark, MSFA Treasurer, 517-335-3184 or msfatreas@hotmail.com . Please mail this form and your check to P.O. Box 14265, Lansing, MI 48901-4265.

<p>Editor: Les Thomas          Articles are by the Editor unless noted otherwise.</p> <p>For questions, comments, or information, contact:</p> <p>Les Thomas          MDEQ          LWMD          P.O. Box 30458          Lansing, MI 48909-7958          Telephone: 517-335-3448          Fax: 517-373-6917          e-mail: thomasl@michigan.gov</p>	<p>The MDEQ will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to:</p> <p>MDEQ          Office of Personnel Services          P.O. Box 30473          Lansing, MI 48909</p>	<p>This newsletter is supported by funding under a Cooperative Agreement with the Federal Emergency Management Agency. The substance and findings are dedicated to the public. The MDEQ, LWMD, is solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the federal government.</p>	<p>Printed by Authority of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.</p> <p>Total Number of Copies          Printed: 2,800          Cost Per Copy: \$ .58          Total Cost: \$1,620.93</p> <p style="text-align: right;"><b>EQC2760</b></p>
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**Department of Environmental Quality  
Land and Water Management Division  
P.O. Box 30458  
Lansing, MI 48909-7958**

## **Flood News for Michigan Floodplain Managers**

**A Newsletter of the  
Land and Water Management Division  
Michigan Department of Environmental Quality**