

## **Floodplains: Flood Hazard Management**

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A river, stream, lake, or drain may on occasion overflow their banks and inundate adjacent land areas. The land that is inundated by water is defined as a floodplain. In Michigan, and nationally, the term floodplain has come to mean the land area that will be inundated by the overflow of water resulting from a 100-year flood (a flood which has a 1% chance of occurring any given year). It is estimated that about 6% of Michigan's land is flood-prone, including about 200,000 buildings.

Floods are a natural process, which occur wherever there is a waterbody. However, the damage that results from a flood is dependent on what type of development has occurred in and near an area that is flood-prone. One of the goals of the Water Management Section of the Geological and Land Management Division is to ensure that development which occurs within the 100-year floodplain is reasonably safe from flooding and does not increase flood damage potential.

The State of Michigan's Floodplain Regulatory Authority, found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, requires that a permit be obtained prior to any alteration or occupation of the 100-year floodplain of a river, stream or drain.

The floodplain is divided into two parts, the floodway which carries most of the flow during a flood event, and the floodway fringe which is an area of very slow moving water or "slack water". Floodways are the channel of a river or stream and those portions of the floodplain adjoining the channel which are reasonably required to carry and discharge the 100 year flood; these are high hazard areas of rapidly moving water during times of flood. The purpose of Part 31 is to assure that the flow carrying capacity of a watercourse is not harmfully obstructed, and that the floodway portion of the floodplain is not used for residential construction.

The Floodplain Regulatory Authority deals with the floodplains of rivers, streams, or drains which have a drainage area that is 2 square miles or greater. A permit is not required from the MDEQ, under Part 31, for alterations within the floodplains of the Great Lakes, inland lakes, or watercourses which have a drainage area less than 2 square miles. However, reviews may still be necessary under other State statutes found in NREPA such as:

Part 301 (Inland Lakes and Streams)

Part 303 (Wetlands Protection)

Part 315 (Dam Safety)

Part 323 (Shorelands Protection and Management)

Part 325 (Great lakes Submerged Lands)

Part 353 (Sand dune Protection and Management)  
Part 91 (Soil Erosion and Sedimentation Control)

In general, construction and fill may be permitted in the portions of the floodplain that are not floodway, if local ordinance and building standards are met, and compensating excavation is provided equal to the volume of fill placed in the floodplain. New residential construction is specifically prohibited in the floodway. The minimum standard for residential construction within the 100-year floodplain requires that the lowest floor of a structure be elevated one-foot above the 100-year flood elevation. Some communities and counties may have a higher standard relating to elevation requirements. A floor of a structure that is below grade on all sides is considered a basement and must be at or above the 100-year flood elevation.

**The floodplain permitting review is done by the District floodplain engineer responsible for that portion of the state. For Van Buren County the engineer is Matt Occhipinti, 616-356-0207, (email: occhipim@michigan.gov) Floodplain Permitting for the Grand Rapids & Kalamazoo regions of Michigan.**