



10405 Merrill Road ♦ P.O. Box 157
Hamburg, MI 48139
Phone: 810.231.1000 ♦ Fax: 810.231.4295
www.hamburg.mi.us

FLOODING ISSUES IN HAMBURG TOWNSHIP Review of Applicable Sections of The 2007 Hazard Mitigation Plan of Livingston County, Michigan

The “2007 Hazard Mitigation Plan of Livingston County, Michigan,” prepared by the Livingston County Department of Planning in collaboration with Livingston County Emergency Management, which was funded by a Hazard Mitigation Grant from the Federal Emergency Management Agency (FEMA), and which was ratified and adopted by Hamburg in 2007, discusses flooding mitigation issues in a number of sections.

While Hamburg Township does not presently have a Floodplain Management Plan of its own in place, the Livingston County Hazard Mitigation Plan does contain a significant amount of planning that addresses flooding and related issues in Hamburg Township and in Green Oak Township communities, including areas of Ore Lake and along the Huron River.

The following are the applicable excerpts from this Plan which have been included here for ease of reference. The entire Plan is available from Livingston County Department of Planning.

=====

“Risks of Floods” in Livingston County on Pages 57ff.

This section identifies the areas of the Huron River in the vicinity of Ore Lake in the Hamburg/Green Oak Townships areas in its discussion of Livingston County floods.

- “The type of Governor’s Declaration for the 2004 flooding was State of Disaster which directs state agencies to maximize their efforts to assist the affect jurisdictions and to utilize all resource at their availability pursuant to the Michigan Emergency Management Plan. A Presidential declaration of Major

Disaster was later declared for 2004 flooding incident.” (Source: 2007 Livingston County Hazard Mitigation Plan – p. 58)

- “Location Risk: U.S. Flood Hazard Areas have been mapped through a partnership between FEMA and the Environmental Systems Research Institute, Inc. (ESRI) The resulting FEMA Digital Q3 Flood Data is developed by scanning Flood Insurance Rate Maps and capturing a thematic overlay of flood risks. The mapping endeavor reveals areas within the four quadrants of Livingston County that are designated as 100-year or base floodplain areas particularly at risk for flooding. The areas are depicted in the Livingston County Floodplain and Flood Hazard Areas Map on the following page, and they can be described as follows:

.....**Southeast Quadrant:** The Huron River extending from Kent Lake in the northeast Green Oak Township (Section 1) southwest through Island Lake State Park to large flood hazard areas surrounding Ore Lake and the Huron Meadow Metropark Pond in eastern Hamburg Township to areas surrounding a chain of 12 lakes that include: Oneida, Zukey, Sunset, Strawberry, Lake Shan Gri La, Bass, Gallagher, Long, Whiteford (sic; should be Whitewood), Mohican, Tamarack and Base Line Lakes. The Huron River connects to Strawberry Lake and then on the west side of the lake it splits into Gallagher and Long Lakes and continues westward from Gallagher to Whiteford(sic; should be Whitewood) Lake to Base Line Lake at the Livingston/Washtenaw County Line in Section 31 of Hamburg Township. (Source: 2007 Livingston County Hazard Mitigation Plan – pages 59-60.)”

- “When the historical occurrences of flooding in Livingston County are cross referenced with FEMA Digital Q3 Flood Data and MIRIS floodplain data, several vulnerable areas of Livingston County are identified. These locational risk areas include:
 - ...the Huron River through Green Oak and Hamburg Townships..
 - The area surrounding Ore Lake... (Source: 2007 Livingston County Hazard Mitigation Plan – Page 61.)
- “Collateral risks: The Livingston County Hazard Profile Evaluation ranks the Collateral Damage or possibility of flooding causing secondary damage, as High (the highest ranking). Property damage is an obvious collateral vulnerability associated with flooding events, however, there are many other risks that can be triggered by floods including the following:
 - Contamination of drinking water – if flood waters cover well heads, the well water is considered contaminated and is no longer safe for human consumption.
 - Wastewater treatment plant overflows.
 - Grinder pump/septic overflows.
 - Storm sewer overflows.
 - Broken sewer lines causing water supply pollution
 -stream bank failure.
 - Silt dispersion that may reduce the capacity of the river or stream to carry water.
 - Debris dispersion such as rocks, fallen trees and other debris that can be carried downstream to act as battering rams to structures...(Source: 2007 Livingston County Hazard Mitigation Plan – Pages 70-71.)

In the section “Vulnerability To Floods,” the Livingston County Hazard Mitigation Plan evaluates population vulnerabilities and impacts (2007 Livingston County Hazard Mitigation Plan – Pages 151-152.) It states:

- “The Livingston County Hazard Profile Evaluation ranks the Population Impact of flooding as Low with 1-5 casualties as a possible result of this type of hazard...Hamburg Township’s estimated May 2005 housing units was 8,423 with an estimated May 2005 population of 22,770....Hamburg Township is the most populated community in the county...It is like that a flooding occurrence in any of these five communities would not impact the entire population and housing of the municipality. Therefore, the potential population vulnerabilities and impacts on these five communities can be further analyzed by examining the Census Tracts that most closely align with the flood hazard areas that have historically experienced flooding; the primary data limitation with this form of analysis that the census figures are dated because they come from the 2000 Census...Hamburg Census Tracts 7439, 7438, 7437, 7436, and 7433 – 2000 Census Housing Units – 5,993; 2000 Census Pop. 15,531.” (Page 151)
- “Economic vulnerabilities and impacts: The Livingston County Hazard Profile Evaluation ranks the Economic Effects or possible monetary losses incurred as a result of flooding as Significant (the highest ranking). Specific business and industry facilities that may contribute to or intensify the effects of flooding include:...well and septic systems – any business and industry facilities that rely on well or septic service may experience operational problems that force closure of the facility. If flood waters cover well heads, the well water is considered contaminated and is no longer safe for human consumption. If grinder pumps in septic systems are inundated with flood waters, the septic may overflow....**By way of example, the public damage/economic impacts in Hamburg Township incurred as a result of the May 2004 flooding of Ore Lake and the Huron River are estimated at \$345,000.”** (P. 152)

In Chapter 7, Hazard Mitigation Goals and Objectives, (beginning at Page 199) The Livingston County Hazard Mitigation Plan lists the following among its Goals and Objectives regarding flooding issues in Hamburg Township:

| | |
|--|---|
| <p>Goal #1: Reduce property damage and create disaster resistant structures by encouraging the integration of hazard mitigation considerations into land use planning and management, and land development processes. (p. 199)</p> | <p>Objectives:</p> <ul style="list-style-type: none"> • ...Encourage Livingston County communities to adopt zoning ordinance and comprehensive plan language that limits impervious surfaces to 10% or less on each parcel of property. • Encourage Livingston County communities to adopt natural river/watercourse zoning ordinance and comprehensive plan language that prohibits certain types of development within close proximity of a watercourses, establishes a minimum set back requirement between development and a watercourse and encourages natural vegetative buffers between development and watercourses. • Encourage Livingston County communities to practice flood plain management practices by adopting zoning ordinance and comprehensive plan language that prohibits new development in flood plain areas and classifies current development in flood plains as nonconforming uses that will eventually be eliminated.... |
| <p>Goal #5: Build partnerships between public safety agencies and organizations to enhance and improve the safety and well-being of all Livingston County communities. (Page 201)</p> | <ul style="list-style-type: none"> • ...Encourage Livingston County communities to participate in the National Flood Insurance Program (NFIP). (Page 201) • Encourage Livingston County communities to participate in watershed management issues through local watershed councils. (Page 201).... |

In Chapter 8: Existing Hazard Mitigation Strategies, a number of currently active mitigation strategies are detailed. (Page 203) Included among items in this section under the Local Government (Page 208ff) area are:

| | |
|--|-------------------------------|
| Local Government: Some of Livingston County’s twenty | Zoning Ordinances: (Page 208) |
|--|-------------------------------|

| | |
|--|---|
| <p>local units of government have integrated hazard mitigation strategies into their local zoning ordinances or comprehensive (master) plans. The strategies listed below represent a sample, and are not inclusive of all Livingston County local government examples. These strategies represent some of the more innovative local initiatives that can be replicated by other Livingston county communities that do not have hazard mitigation language in their zoning or plan documents. (Page 208)</p> | <p>Natural Rivers Overlay Zone or Zoning District – A Flood Mitigation Strategy –</p> <p>Green Oak and Hamburg Townships have established either a Natural River District or overlay zone. This zoning language reinforces the Natural Rivers Act (Part 305 of Act. No. 451 of the Public Acts of 1994).</p> <p>These river strategies aid flood hazard mitigation by:</p> <ul style="list-style-type: none"> • Stabilizing the riverbank so that erosion and other sediment does not fill the waterway and alter or impede the course of the river water. • Protecting the natural flood water storage capacity of the river flood plain • Preventing flood damages and associated public relief expenditures created by improper construction of structures in the floodplain • Keeping nutrients such as fertilizers out of the waterway so that unnatural vegetation growth does not congest the course of river waters • Protecting individuals from investing funds in structures proposed for location on lands unsuitable for development because of high ground water, erosion or vulnerability to flood damage • Regulating the cutting and removal of vegetation along the river so that the natural vegetation continues to provide a natural filter for storm water and sediment runoff..... (Page 209) <p>...Hamburg Township Natural River Zoning District:</p> <ul style="list-style-type: none"> • Hamburg Township established a Natural River zoning district along both sides of the Huron River. • Minimum river front lot width: 150 feet. • Septic system setback: 125 feet from the ordinary high water mark of the Huron River. • Building setback from river: 125 feet from the ordinary high water mark. • Other required building setbacks: 100 feet from the top of a bluff, and no building on land that is in a floodway, wetland, or floodplain • Other required regulations: No new electric transmission lines shall be located in the district or cross the Huron River without permission from the Michigan Department of Natural Resources. Cutting or filling for building on the floodplain is prohibited. • A natural vegetative strip: A natural vegetative strip of 100 feet horizontal from and perpendicular to the river's edge. A detailed plan for cutting and removal of river vegetation shall be submitted to the township for review and approval or denial. The use of pesticides, herbicides or fertilizers is not allowed in the natural vegetative strip.....(Page 209) |
| <p>Environmental Review Boards - A Flood and General Environmental Mitigation Strategy</p> <p>Hamburg Township Environmental Review Board (HERB): Hamburg Township established the Hamburg Environmental Review Board (HERB) for review of any land use permit, site plan, subdivision, condominium or land division application that may pose significant impacts of the human and natural environment. HERB reviews specific applications at the request of the Hamburg Township Zoning Administrator or the Planning Commission. (Page 210)</p> | |
| <p>Environmental Provisions Articles – A General Environmental Mitigation Strategy (Page 211)</p> <p>Some local governments in Livingston County have drafted</p> | <p>Hamburg Township Environmental Provisions Article 9.00</p> <ul style="list-style-type: none"> • ...provisions regarding floodplain areas: Hamburg |

| | |
|---|---|
| <p>an environmental provisions article for their zoning ordinance. These articles contain protective regulations for resources such as floodplains, wetlands, watercourses, natural topography and vegetation. (Page 211)</p> | <p>Township has delineated floodplain areas on the Zoning District Map of Hamburg Township. Land use in floodplain areas must adhere to the standards and regulations of the underlying zoning district and to the additional standards and regulations of these floodplain provisions... (Page 211)</p> |
| <p>Schedules of Zoning District Regulations – A Flooding Mitigation Strategy (Page 212)</p> | <p>Hamburg Township Schedule of Area, Height, and Bulk Regulations – In an effort to control the amount of impervious surfaces in Hamburg Township, and thereby reduce the potential for area flooding, the township planning commission has added more detailed lot coverage regulations to the Schedule of Area, Height, and Bulk Regulations in their zoning ordinance. A column of this regulation table stipulates maximum percent lot coverage for buildings and a maximum percent of impervious surface for each zoning district.</p> <p>The township defines maximum lot coverage as the total footprint of buildings, parking, paved and gravel storage yards, driveways, streets, roads and sidewalks divided by the size of the site, excluding water bodies and wetlands. Single family or two family residential lots may have up to an additional 10 percent lot coverage after approval of a grading and drainage plan, prepared by a registered engineer or a registered landscape architect and approved by the Township Engineer. For many of the zoning districts, the percentages are 35% maximum lot coverage for buildings and 40% maximum impervious surface..... (Page 212)</p> |
| <p>Flood Insurance Rating (Page 213)</p> | <p>Hamburg Township Flood Insurance Rating – In 1998, Hamburg Township completed the process of raising their insurance class rating from a Class 10 to a Class 9.... (Page 214) (This is under the NFIP/CRS Program)</p> |

In Chapter 9: Potential Hazard Mitigation Strategies, the Livingston County Hazard Mitigation Plan, under the section Proposed Flooding Mitigation (Page 223), includes the following strategies:

| | |
|---|--|
| <p>Proposed Flooding Mitigation Strategies:</p> <p><i>Mitigative Potential:</i> The Livingston County Hazard Profile Evaluation ranks the ease with which flooding can be mitigated against as <u>Difficult</u>. (Page 223)</p> | <p>Proposed Flooding Mitigation Strategies (P. 223-ff)</p> <p>Prevention:</p> <ul style="list-style-type: none"> • Adopt, administer and enforce best floodplain management practices... • Establish development requirements for small watercourses... • Emergency plans and requirements for development downstream of a dam... • Participation in the Natural Rivers Program... • Participation in the MDEQ/FEMA initiative to update Livingston County floodplain maps.... • Disclosure... • Participation in the Huron River Watershed Council <p>Property Protection:</p> <ul style="list-style-type: none"> • Encourage community participation in the National Flood Insurance Program... • Community upgrade of Community Rating System (CRS) classification... • Relocation of homes in flood prone areas... • Relocation of Utilities... • Relocation of uses that are environmentally hazardous out of the floodplain... • Elevation of structures... • Floodproofing... <p>Public Education and Awareness:</p> <ul style="list-style-type: none"> • Encourage county homeowners to purchase flood insurance... |
|---|--|

| | |
|--|--|
| | <ul style="list-style-type: none"> • Increase awareness of public health and environmental health concerns... • Homeowner lawn care education... • Training for private dam operators... <p>Natural Resource Protection:</p> <ul style="list-style-type: none"> • Establishment of parks in the floodplain... • River, lake and stream management... • Drainage management... • Erosion control during building processes... • Watershed management... • Storm sewer management... • Storm water management... <p>Emergency Services:</p> <ul style="list-style-type: none"> • Sandbags and sandbag filling machines... • Devices that warn of dam failure... <p>Structural Projects:</p> <ul style="list-style-type: none"> • River and stream bank stabilization... • Dam repair or replacement... • Creation of drainage systems... • Retrofits of transportation infrastructure... • Separation of storm drainage systems from sanitary sewage systems... |
|--|--|

Chapter 10: Prioritized Hazard Mitigation Strategies, Implementation Strategy and Plan Maintenance (beginning at page 237), include, *in order of priority*, the following:

| | |
|---|--|
| Distribute County Board adopted Hazard Mitigation Plan, Livingston County, Michigan to each local municipality with an explanation of plan components, in order to facilitate the local adoption of the plan... | |
| Assist with the removal of invasive weeds that contribute the flooding of Ore Lake and the Huron River. (Page 238)... | <p>The Implementation Strategy Table on P. 242 for this strategy states:</p> <p>Strategy: Assist with the removal of invasive weeds that contribute to the flooding of Ore Lake and the Huron River in Green Oak and Hamburg Township.</p> <p>Responsibility/In Partnership With: Hamburg Township, Green Oak Township/Livingston County Drain Commissioner, Michigan Department of Natural Resources</p> <p>Funding and Other Resources: Local government sources of funding; HMGP funds; Michigan Department of Natural Resources; Hamburg and Green Oak Township Government</p> <p>Time Frame: 2005 and possible annually thereafter</p> <p>Hazard and FEMA Mitigation Strategy that Project Addresses: Flooding; Natural Resource Protection</p> |
| Assist the MDEQ/FEMA initiative to update Livingston County floodplain maps.... | <p>The Implementation Strategy Table on P. 242 for this strategy states:</p> <p>Strategy: Assist the MDEQ/FEMA initiative to update Livingston County floodplain maps (reference page 61)</p> <p>Responsibility/In partnership with: Livingston County Emergency Management, Livingston County Geographic Information Services department and Livingston County Department of Planning.</p> <p>Funding and Other Resources: No cost; Digital ortho photos of county; Various county departments such as Drain Commission and Environmental Health</p> <p>Time Frame: 2005-2010.</p> <p>Hazard and FEMA Mitigation Strategy That Project Addresses: Flooding; Prevention</p> |

| | | |
|--|--|--|
| | | |
|--|--|--|