National Flood Insurance Program & Flood Hazard Management Websites

A Zone Manual – Manual for determining flood depths in unnumbered A Zones – http://www.fema.gov/pdf/fhm/frm_zna.pdf

Answers to Questions About the NFIP - http://www.fema.gov/business/nfip/qanda.shtm

ASFPM Certified Floodplain Manager (CFM) Program – select Certification on ASFPM's homepage
http://www.floods.org

Basements on Fill – See Technical Bulletin 10-01 -
http://www.fema.gov/plan/prevent/floodplain/techbul.shtm

Benchmarks

NOAA - NGS Benchmarks

By County - http://www.ngs.noaa.gov/cgi-bin/ds_county.prl
By Map - http://www.ngs.noaa.gov/ims/NgsMap2/default.htm
By PID - http://www.ngs.noaa.gov/cgi-bin/ds_pid.prl
By Quad - http://www.ngs.noaa.gov/cgi-bin/ds_quads.prl
By Radius - http://www.ngs.noaa.gov/cgi-bin/ds_radius.prl
By Station Name - http://www.ngs.noaa.gov/cgi-bin/ds_desig.prl
VERTCON - North American Vertical Datum Conversion –
NGVD 29/NAVD 88 conversion program -
http://www.ngs.noaa.gov/TOOLS/Vertcon/vertcon.html

Base Flood Elevation (BFE)

Developing and obtaining BFEs for unnumbered A Zones (1.64 mb document)
http://www.fema.gov/pdf/fhm/frm_zna.pdf

Definition - http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/base_flood_elevation.shtm

Requesting a BFE on-line (Michigan)
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-86635--,00.html

Where to obtain a BFE (Michigan) –
http://www.michigan.gov/documents/deq/lwm-floodplain-information_202948_7.pdf

CLOMAs/CLOMRs – see LOMAs/LOMRs

Community Status Book – Lists NFIP participating and non-participating communities -
http://www.fema.gov/fema/csb.shtm

Contacts (MDEQ)

Floodplain General – www.michigan.gov/deqfloodplainmanagement
Floodplain Staff - http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-9381--,00.html
Floodplain Information Request –
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-86635--,00.html
Flood Flows Request –
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3724-168812--,00.html
Hydrology – www.michigan.gov/deqhydrology
Low Flows Request
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3724-168812--,00.html
Subdivisions Floodplains –
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3727---,00.html

Definitions

NFIP Insurance Definitions - http://www.fema.gov/business/nfip/19def2.shtm

Elevation Certificate

Elevation Certificate Form – see also Forms - http://www.fema.gov/business/nfip/elvinst.shtm
see also – Online Tutorials - Surveyor's Guide to the Elevation Certificate
see also – Floodplain Management Bulletins, FEMA 467-1 Elevation Certificate (Bulletin)

Elevating

Elevating on Fill – See Technical Bulletin 10-01
http://www.fema.gov/plan/prevent/floodplain/techbul.shtm

e-LOMA -web-based LOMA application, for licensed surveyors & engineers.
http://www.fema.gov/business/nfip/info_surv.shtm

Enclosures

http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/enclosure.shtm

Engineering Principles and Practices for Retrofitting Flood Prone Residential Buildings –
FEMA Publication 259 - http://www.fema.gov/rebuild/recover/community_build_safer.shtm

FIRMs - Definition - http://www.fema.gov/plan/prevent/floodplain/nfipkeywords
Order or view on-line - http://msc.fema.gov
Tutorial (How Read a FIRM) - http://www.fema.gov/plan/prevent/fhm/ot_main.shtm

Flood Hazard Determination Form – see Forms, Flood Hazard Determination Form

Flood Insurance

Flood Insurance Manual - http://www.fema.gov/business/nfip/manual.shtm
FloodSmart.gov – flood insurance information for individuals - http://www.floodsmart.gov
Flood Insurance Questions http://www.fema.gov/library/viewRecord.do?id=1404
Grandfathering rules - http://www.fema.gov/plan/prevent/fhm/st_ins.shtm
Preferred Risk Policy -
http://www.floodsmart.gov/floodsmart/pages/flood_policies/preferred_risk_policies.jsp

Flood Insurance Study

Flood Insurance Study – Definition - - http://www.fema.gov/plan/prevent/floodplain/nfipkeywords
Order – Map Service Center - - http://msc.fema.gov
http://msc.fema.gov/webapp/wcs/stores/servlet/StoreCatalogDisplay?storeId=10001&catalogId=10001&langId=-1&userType=G

Floodplain "Act/Law" – Michigan's Floodplain Regulatory Authority – Part 31 –
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-122783--,00.html

Floodplain Information

Requesting floodplain information on-line (Michigan)
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-86635--,00.html

Where to obtain a BFE (Michigan) –
http://www.michigan.gov/documents/deq/lwm-floodplain-information_202948_7.pdf

Floodplain Management

Guidebooks & Newsletters (MDEQ) -
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-9441--,00.html
MDEQ website – www.michigan.gov/deqfloodplainmanagement

Quickguide for Michigan – (3.43 mb PDF document) – http://www.michigan.gov/documents/deq/lwm-quickguide_202673_7.pdf
Requirements for the NFIP - http://www.fema.gov/library/viewRecord.do?id=3065

Floodplain Permit Application (Michigan) – www.michigan.gov/jointpermit

Floodplain Questions (Michigan) -
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-11281--,00.html

Floodproofing

Corps of Engineers Flood Proofing Regulations – EP 1165-2-314 (USACE) -
https://www.nwo.usace.army.mil/nfpc/fpreg/ace6.htm

Floodproofing Certificate
http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/floodproofing_certificate.shtm

Floodways

Definition - - http://www.fema.gov/plan/prevent/floodplain/nfipkeywords
MDEQ link - http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-11281--,00.html
Floodway Revisions - http://www.fema.gov/business/nfip/fhamr.shtm

Flood Zone Determination Companies - http://www.fema.gov/business/nfip/fzone1.shtm

Forms

Elevation Certificate - http://www.fema.gov/business/nfip/elvinst.shtm
Floodproofing Certificate - http://www.fema.gov/library/viewRecord.do?id=1600
MT-1 Forms (Multiple Lot LOMAs & LOMR-Fs) -
http://www.fema.gov/plan/prevent/fhm/dl_mt-1.shtm

MT-2 Forms (LOMRs and Physical Map Revisions) -
http://www.fema.gov/plan/prevent/fhm/dl_mt-2.shtm

MT-EZ Form (Single Residential Lot or Structure LOMAs & LOMR-Fs)
http://www.fema.gov/plan/prevent/fhm/dl_mt-ez.shtm

NFIP- Forms (links to a variety of forms, including those listed above)
http://www.fema.gov/business/nfip/forms.shtm

Frequently Asked Questions (NFIP): http://www.fema.gov/faq/faqSearchResults.do

Geographic Information System (GIS) Shapes Files

Michigan Center for Geographic Information (Including Q3 maps if available)
http://www.mcgi.state.mi.us/mgdl/?action=ext

FEMA – Q-3 Maps & DFIRMs data base - http://msc.fema.gov

Great Lakes Floodplain Elevations –
https://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-134063--,00.html

Hydraulics

FEMA Software – includes Check-2 Check-RAS, FISPLOT, NFF, Quick-2, RASPLOT
http://www.fema.gov/plan/prevent/fhm/frm_soft.shtm

Hydrologic Engineering Center (HEC) Homepage - contains hyperlinks to HEC's software including HEC-RAS, HEC-GeoRAS, HEC-2, and HMS
http://www.hec.usace.army.mil/

HEC-RAS Procedures for HEC-2 Modelers – http://www.fema.gov/plan/prevent/fhm/dl_fpmm.shtm

HY-8 – FHWA culvert analysis program -
http://www.fhwa.dot.gov/engineering/hydraulics/software.cfm

Introduction to HEC-RAS – course by NRCS –
http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools_Models/Ras.html

Quick-2, Version 2.0 – computer program for computing BFEs in unnumbered A zones
http://www.fema.gov/plan/prevent/fhm/dl_qck22.shtm

WRAS - HEC-RAS Conversion Program – NRCS program that converts WSP2 data sets to HEC-RAS format. http://www.fema.gov/plan/prevent/fhm/frm_wras.shtm

Hydrology

Effects of Urban Development on Floods – USGS Fact Sheet 076-03
http://pubs.usgs.gov/fs/fs07603/

Flood flows from MDEQ – Request form
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3724-168812--,00.html

Flood flow data base (MDEQ) – list of computed flood flows in MDEQ data base
http://www.deq.state.mi.us/flow/

Flood Flow Frequency Guidelines Bulletin 17B
http://www.fema.gov/library/viewRecord.do?id=2360

HEC's Homepage – contains hyperlinks to HEC's software including HEC-HMS, HEC-GeoHMS, & HEC-1 http://www.hec.usace.army.mil/

Rainfall Frequency Atlas of the Midwest Bulletin 71(includes Michigan) – (3.82 MB PDF file)
http://www.isws.illinois.edu/pubdoc/B/ISWSB-71.pdf

The 100-year Flood – USGS Fact Sheet 229-96 - http://pubs.usgs.gov/fs/FS-229-96/

TR-55 for Windows – Windows version of NRCS's TR-55 hydrology program "Urban Hydrology for Small Watersheds"
http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools_Models/WinTR55.html

USGS—Real-time Water Resources for Michigan - http://waterdata.usgs.gov/mi/nwis/rt

Laws & Regulations

44 CFR Ch. I (10-1-99 Edition) – Parts 59-78 pertain to the NFIP
http://www.access.gpo.gov/nara/cfr/waisidx_99/44cfrv1_99.html

Executive Order 11988 -- Floodplain Management -
http://www.fema.gov/plan/ehp/ehplaws/eo11988.shtm

Floodplain "Act/Law" – Michigan's Floodplain Regulatory Authority – Part 31 –
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-122783--,00.html

National Flood Insurance Act of 1968 & Flood Disaster Protection Act of 1973
http://www.fema.gov/pdf/nfip/floodact.pdf

National Flood Insurance Reform Act of 1994 http://www.fema.gov/pdf/nfip/riegle.pdf

Levees

Certification Requirements - http://www.fema.gov/library/viewRecord.do?id=2741

Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix H
http://www.fema.gov/pdf/fhm/frm_gsah02.pdf

LODR – Letter of Determination Review - http://www.fema.gov/business/nfip/19def2.shtm#L

Flood Insurance Information for Prospective Buyers – What if I disagree with my lender's determination that I am in a flood zone?
http://www.fema.gov/faq/faqDetails.do?action=Init&faqId=1010

LOMAs/LOMRs

Applying for a LOMA or LOMR -http://www.fema.gov/plan/prevent/fhm/fmc_loma.shtm

CLOMRs - http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/clomr.shtm (clomr)

Elevation Certificate - http://www.fema.gov/business/nfip/elvinst.shtm

e-LOMA -web-based LOMA application, for licensed surveyors & engineers.
http://www.fema.gov/business/nfip/info_surv.shtm

Floodproofing Certificate
http://www.fema.gov/plan/prevent/floodplain/nfipkeywords/floodproofing_certificate.shtm
LOMA/LOMR-F Tutorials - http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm

MT-1 Forms (Multiple Lot LOMAs & LOMR-Fs) -
http://www.fema.gov/plan/prevent/fhm/dl_mt-1.shtm

MT-2 Forms (LOMRs and Physical Map Revisions) -
http://www.fema.gov/plan/prevent/fhm/dl_mt-2.shtm

MT-EZ Form (Single Residential Lot or Structure LOMAs)
http://www.fema.gov/plan/prevent/fhm/dl_mt-ez.shtm

Reasonably safe from flooding (Technical bulletin 10-01)
http://www.fema.gov/plan/prevent/floodplain/techbul.shtm

Mandatory Purchase of Flood Insurance Guidelines -
(Guidance to lenders on Flood Insurance Purchase requirements)
http://www.fema.gov/library/viewRecord.do?id=2954

Maps

Flood Map Revisions – see Revisions, Flood Map revision Process

FEMA Flood Map Service Center – view and purchase flood maps - http://msc.fema.gov

FIRM tutorial (how to read a FIRM) - http://www.fema.gov/media/fhm/firm/ot_firm.htm

FIS Tutorial (how to read an FIS) - http://www.fema.gov/plan/prevent/fhm/ot_fisr.shtm

Map Modernization – FEMA's plan for converting to digital FIRMs - http://www.fema.gov/plan/prevent/fhm/mm_main.shtm

MT-2 Forms (Physical Map Revisions) - http://www.fema.gov/plan/prevent/fhm/dl_mt-2.shtm

TerraServer V5.0 Homepage – Topographic maps & Aerial Photos - http://terraserver-usa.com/

USGS topographic maps - http://topomaps.usgs.gov/

Map Adoption in Michigan – Sample Ordinances for adopting flood insurance rate maps
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-122959--,00.html

MDEQ Floodplain Contacts http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-9381--,00.html

Models

HEC-RAS - http://www.hec.usace.army.mil/
Numerical Models Accepted by FEMA for NFIP Usage - http://www.fema.gov/plan/prevent/fhm/en_modl.shtm

NFIP – Information for

Consumers - http://www.fema.gov/plan/prevent/floodins/infocon.shtm
Insurance Professionals http://www.fema.gov/business/nfip/infoa.shtm
Lenders - http://www.fema.gov/business/nfip/infol.shtm
State & Local Officials - http://www.fema.gov/business/nfip/infosl.shtm
Surveyor's Guide to the Elevation Certificate - http://training.nfipstat.com/ecsurveyor/

Ordinances – Sample MDEQ Ordinances for NFIP Map Adoption
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-122959--,00.html

Ordering Technical and Administrative Support Data for Flood Insurance Studies/Restudies and Map Revisions - http://www.fema.gov/plan/prevent/fhm/st_order.shtm

Phone Numbers

FEMA contacts http://www.fema.gov/about/contact/index.shtm
Flood Map Assistance Center - 1-877-336-2627
Flood Insurance Questions – 1-800-638-6620
Map Service Center (order Maps) – 1-800-358-9616
FEMA Region V – 312-408-5500

MDEQ contacts http://www.michigan.gov/documents/deq/lwm-floodplains-staffmap_202692_7.pdf
http://www.michigan.gov/deq/0,1607,7-135-3313_3684_3725-9381--,00.html

Revisions

Flood Map Revision Processes - http://www.fema.gov/plan/prevent/fhm/fmc_fmrp.shtm

Frequently Asked Questions on Conditional Map Revisions - http://www.fema.gov/faq/faqDetails.do?action=Init&faqId=1106

Frequently Asked Questions on Flood Insurance Rate Map Revisions - http://www.fema.gov/plan/prevent/fhm/fq_genen.shtm

Frequently Asked Questions on Revisions by Homeowners -
http://www.fema.gov/plan/prevent/fhm/fq_genhm.shtm

Riverine Flooding Analyses –(Guidelines & Specifications for Flood Hazard Mapping Partners, Appendix C)
http://www.fema.gov/library/viewRecord.do?id=2206

Software

FEMA Software – developed by FEMA to support the NFIP -
http://www.fema.gov/plan/prevent/fhm/frm_soft.shtm

Hydrologic Engineering Center's HomePage – contains H&H Software -
http://www.hec.usace.army.mil/

Numerical Models Accepted by FEMA - http://www.fema.gov/plan/prevent/fhm/en_modl.shtm

Study Contractor Guidelines & Specifications - http://www.fema.gov/library/viewRecord.do?id=2206

Subdivision Final Plats – Michigan Department of Energy, Labor and Economic Growth
http://www.dleg.state.mi.us/platmaps/sr_subs.asp

Surface-Water Data for Michigan

Historic Stream-flow Data for Michigan from USGS
http://waterdata.usgs.gov/mi/nwis/sw

Real-time Stream-flow Data for Michigan from USGS
http://waterdata.usgs.gov/mi/nwis/rt

Technical Bulletins - http://www.fema.gov/plan/prevent/floodplain/techbul.shtm

TB - 01 User's Guide to Technical Bulletins
TB 1-93 - Openings in Foundation Walls
TB 2-93 - Flood Resistant Materials Requirements
TB 3-93 - Non-Residential Floodproofing Requirements and Certification
TB 4-93 - Elevator Installation
TB 5-93 - Free-of-Obstructions Requirements – for buildings located in V zones
TB 6-93 - Below-Grade Parking Requirements
TB 7-93 - Wet Floodproofing Requirements
TB 8-96 - Corrosion Protection for Metal Connectors in Coastal Areas
TB 9-99 - Design and Construction Guidance for Breakaway Walls Below Elevated Coastal Buildings
TB 10-01 - Ensuring That Structures Built In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding
TB 11-01 - Crawlspace Construction for Buildings Located in Special Flood Hazard Areas

Technical Support Data (Ordering FIS support data, such HEC-2/HEC-RAS data from FEMA library)
- http://www.fema.gov/plan/prevent/fhm/st_order.shtm

Utilities

Protecting Building Utilities From Flood Damage: Principles and Practices for the Design and Construction of Flood Resistant Utility Systems -
http://www.fema.gov/hazard/flood/pubs/pbuffd.shtm