

A scenic view of a river flowing through a landscape with hills and trees under a blue sky with clouds. The river is in the foreground, with a rocky bank on the right and a grassy bank on the left. The background shows a line of trees and a hill.

Floodplain 101

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Objectives

- ⌘ Federal, State and Local Roles
- ⌘ Basic Floodplain Regulation in relation to Wisconsin Administrative Code NR 116
- ⌘ Hydrologic and Hydraulic Analyses
- ⌘ Zone AE and Zone A Development Scenarios
- ⌘ Letters of Map Change (LOMC)
 - ⌘ LOMA, LOMR, LOMR-F, CLOMA, CLOMR, CLOMR-F
- ⌘ Legal Nonconforming Uses & Structures
- ⌘ Dam Failure Analyses



Floodplain Program 101

Purpose

The purpose of this handout is to provide local zoning officials with a basic understanding of how to administer their local floodplain ordinance. This document is something that was put together to assist zoning officials in some of their decisions. This document does not replace the adopted zoning ordinance of a community; it is a quick check document to make sure the local zoning authority is heading in the correct direction with a floodplain decision. Within this document are two flow charts, definitions, as well as some basic frequently asked questions. Keep in mind when using this document, each project in the floodplain is different, and may have something unique associated with it. If you need any assistance, contact your regional water management engineer.

Definitions

Alteration → An enhancement, upgrading or substantial change or modifications other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure.

Regional Flood Elevation (RFE) → The elevation associated with a flood determined to be representative of large floods to have occurred in Wisconsin or which may be expected to occur on a particular lake, river or stream once in every 100 years. Means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.

Basement → Any enclosed area of a building having its floor sub-grade, i.e. below ground level on all sides.

Development → Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.

Floodplain → That land which has been or may be covered by flood water during the regional flood. The floodplain includes the floodway, floodfringe, shallow depth flooding, flood storage, and coastal floodplain areas.

Floodway → The channel of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.

Floodfringe → That portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term, "floodfringe" is generally associated with standing water rather than flowing water.

Disclaimer

- ⌘ Not a Department of Natural Resources Publication
- ⌘ Must not replace regulations listed in Local Ordinances
- ⌘ Use as a guide to assist with Floodplain Regulation decisions
- ⌘ Updated version soon

Federal Role

- ⌘ Risk Identification (Map Production)
- ⌘ Review/approval of Letter of Map Change (LOMC)
- ⌘ Establish Minimum development/building protection standards (NFIP)
- ⌘ Provide affordable flood insurance rates using actuarial methods
- ⌘ Lending regulations/enforcement
- ⌘ Inform and educate the public
- ⌘ Provide technical assistance to local partners
- ⌘ Respond to congressional inquiries

State Role

- ⌘ Establish development/building protection standards and promulgate state regulations
- ⌘ Provide technical assistance including training to local community/agency partners
- ⌘ Under contract with FEMA, evaluate and document community/agency floodplain management activities
- ⌘ Inform and educate the public
- ⌘ Under FEMA contracts, provide mapping, engineering and contract management services for RiskMAP
- ⌘ Review/approve engineering studies for map revision projects
- ⌘ Respond to legislative inquiries

Local Role

- ⌘ Adopt local floodplain management regulations in compliance with appropriate Federal/State laws
- ⌘ Regulate development/building protection standards through permitting and inspection of construction activities to ensure compliance with adopted floodplain regulations
- ⌘ Maintain information records of floodplain development and mapping
- ⌘ Inform and educate the public

Flood Insurance Study

- ⌘ Developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates.
- ⌘ Detailed studied areas (Zone AE) and approximate (Zone A)
- ⌘ Contain principal flooding problems, regional flood discharges, regional flood elevations, and regional flood profiles

FLOOD INSURANCE STUDY



EAU CLAIRE COUNTY, WISCONSIN, AND INCORPORATED AREAS

Community Name	Community Number
Altoona, City of	550126
Augusta, City of	550127
Eau Claire County, Unincorporated Areas	555552
Eau Claire, City of	550128
Fairchild, Village of	550129
Fall Creek, Village of	550130

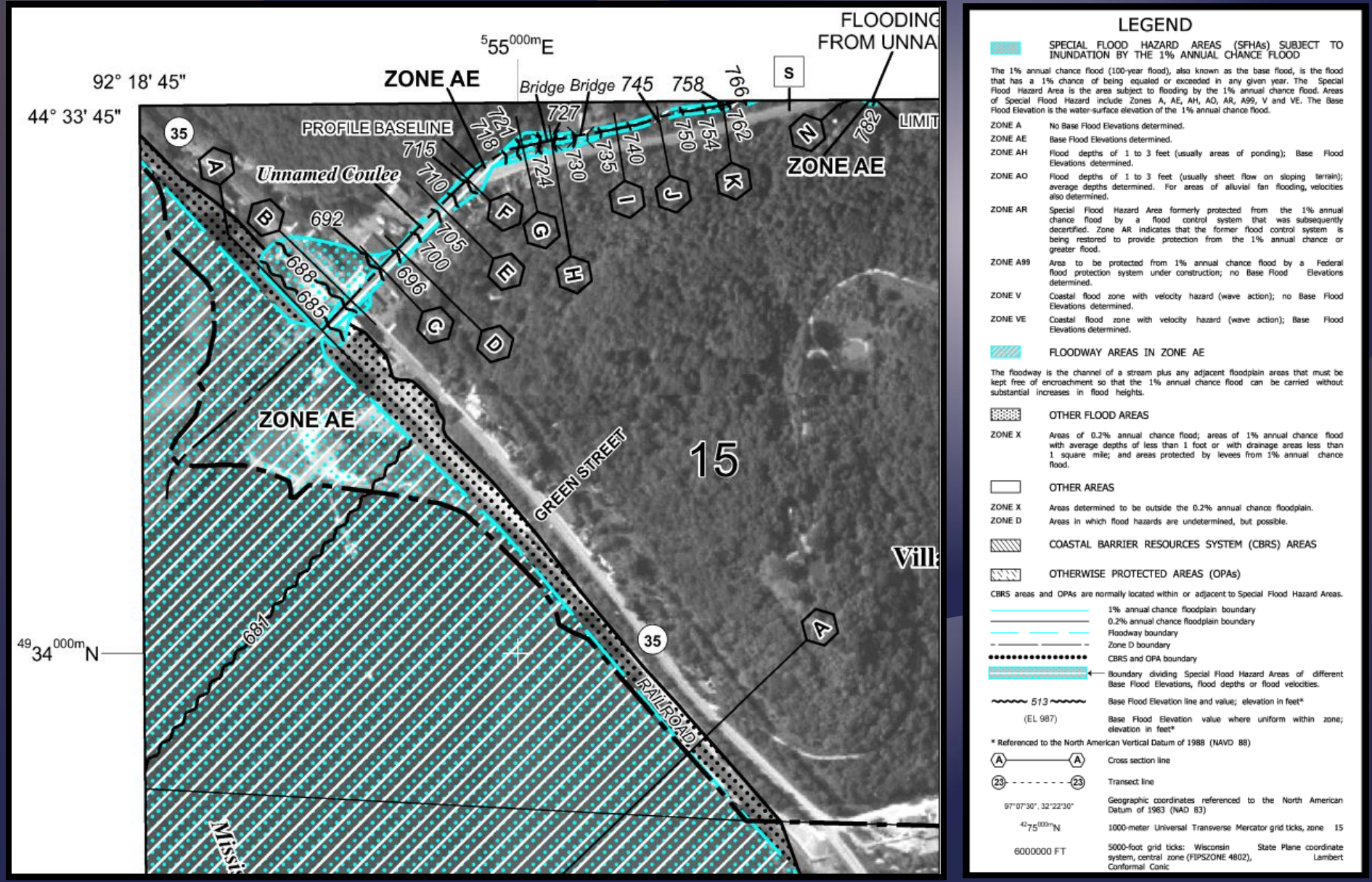


REVISED:
APRIL 16, 2014



Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
55035CV000B

Flood Insurance Rate Map



Applications of FIRM and FIS

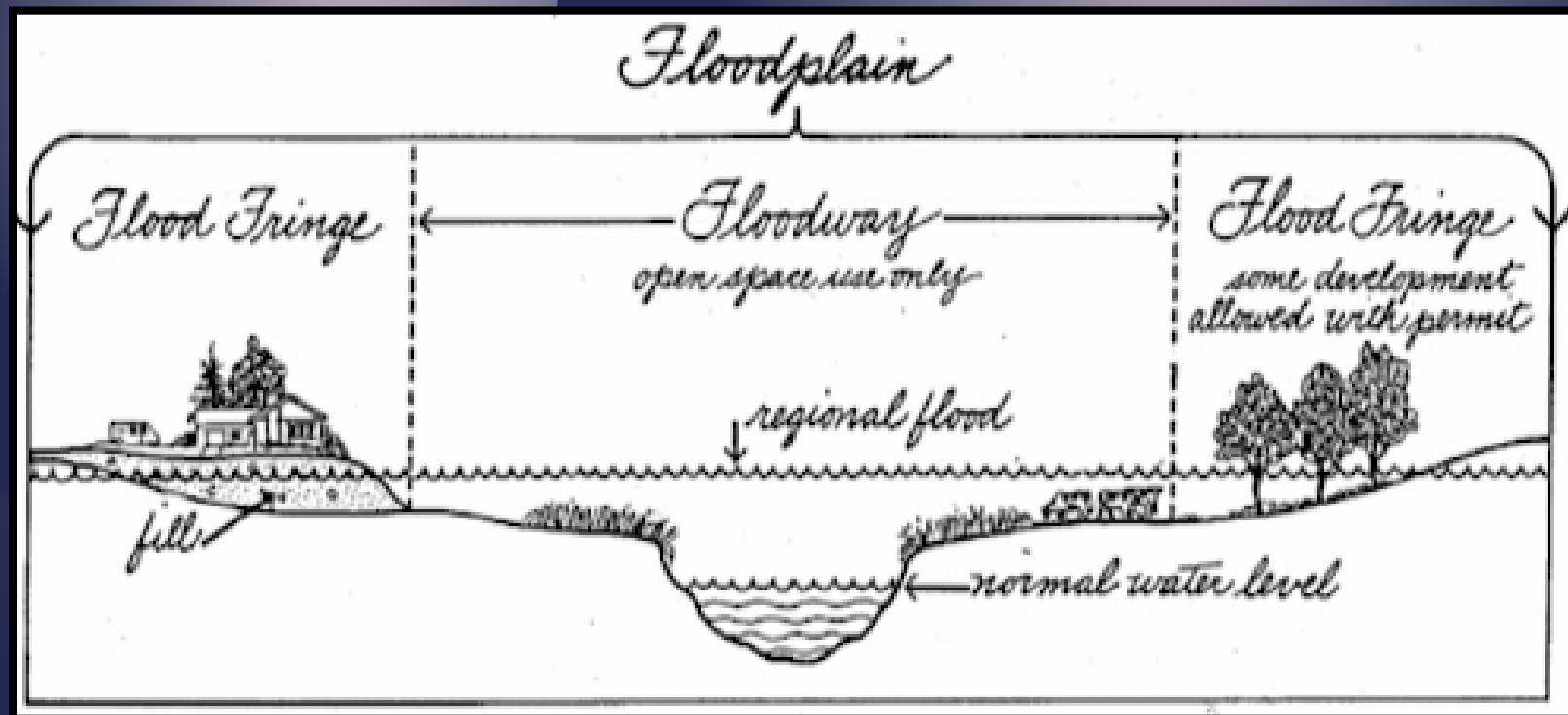
- ⌘ Identify Special Flood Hazard Areas (SFHA)
- ⌘ Identify the location of a specific property
- ⌘ Estimate a RFE at a specific site
 - ⌘ May need to use the regional flood profiles if the property is located between cross sections
- ⌘ Determine flood insurance zone at a specific site
- ⌘ Determine location of the regulatory floodway

Key Definitions

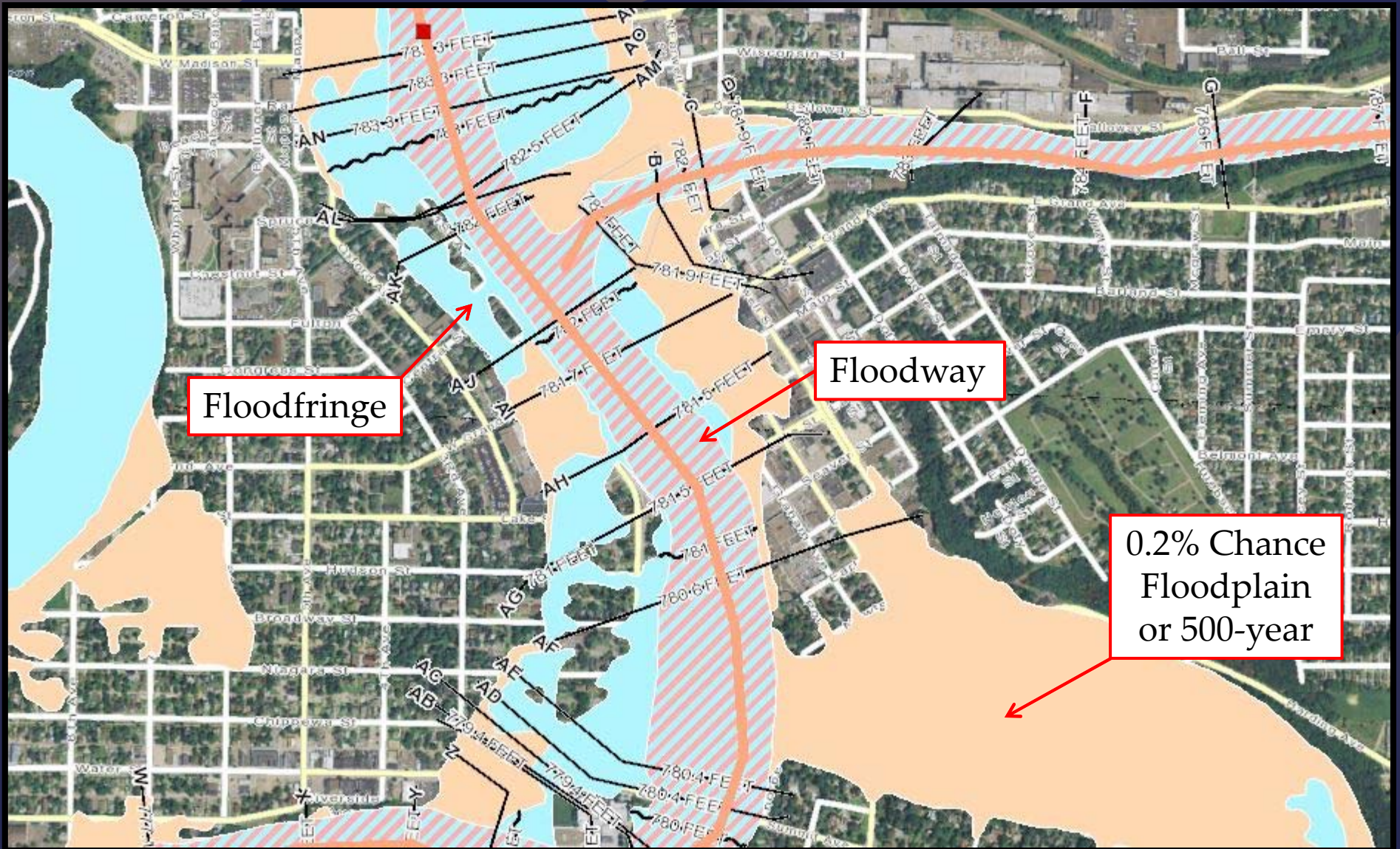
- ⌘ Floodway → The channel portion of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge
- ⌘ Floodfringe → That portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term, “floodfringe” is generally associated with standing water rather than flowing water
- ⌘ Zone AE → The base floodplain where RFEs are provided
- ⌘ Zone A → The base floodplains mapped by approximate methods, i.e., RFEs are not determined. Often called unnumbered A Zone or approximate A zone.

Regional Flood Elevation

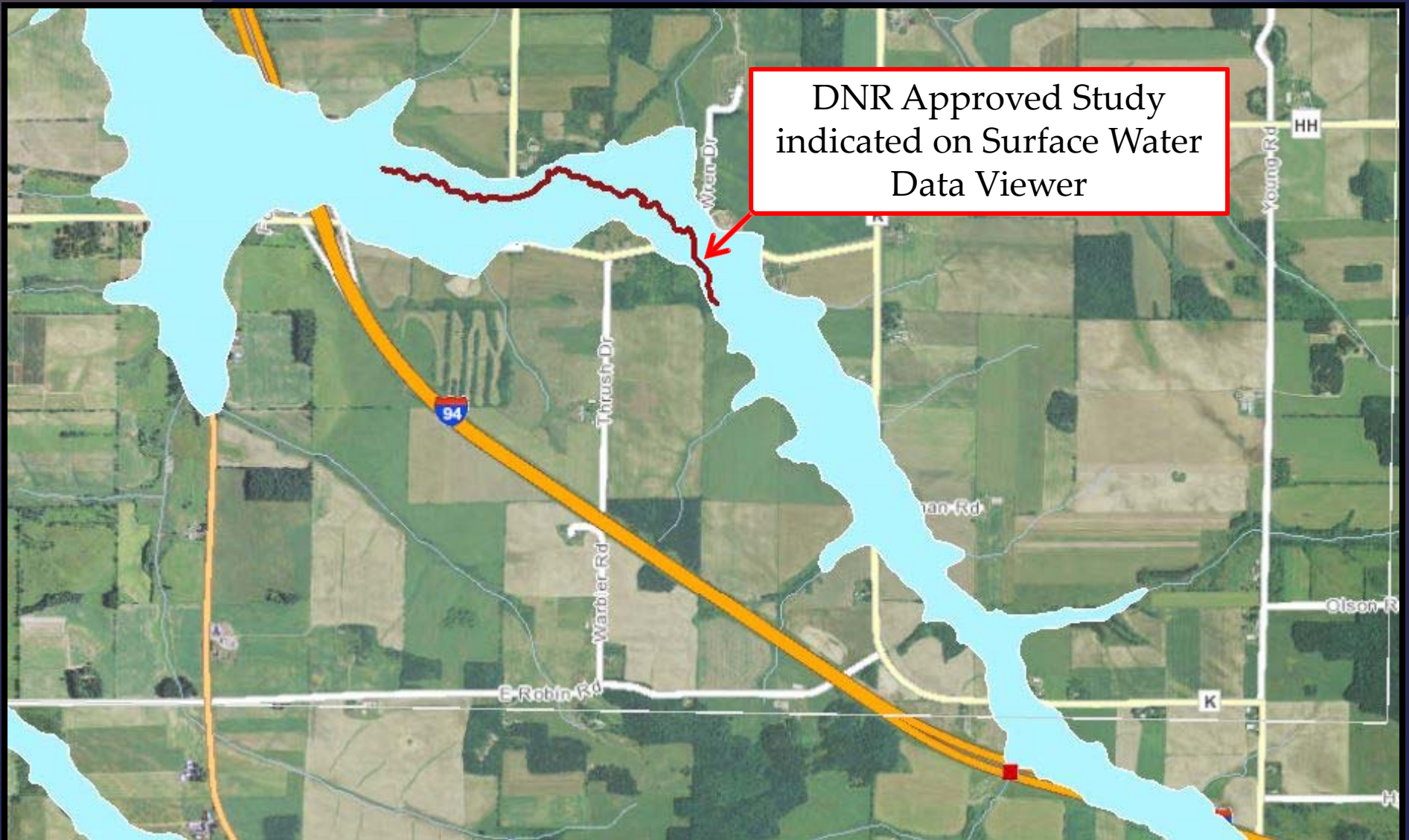
- ⌘ The elevation determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river, or stream at a frequency of 1 percent during any given year



Zone AE



Zone A



Wisconsin Minimum Standards

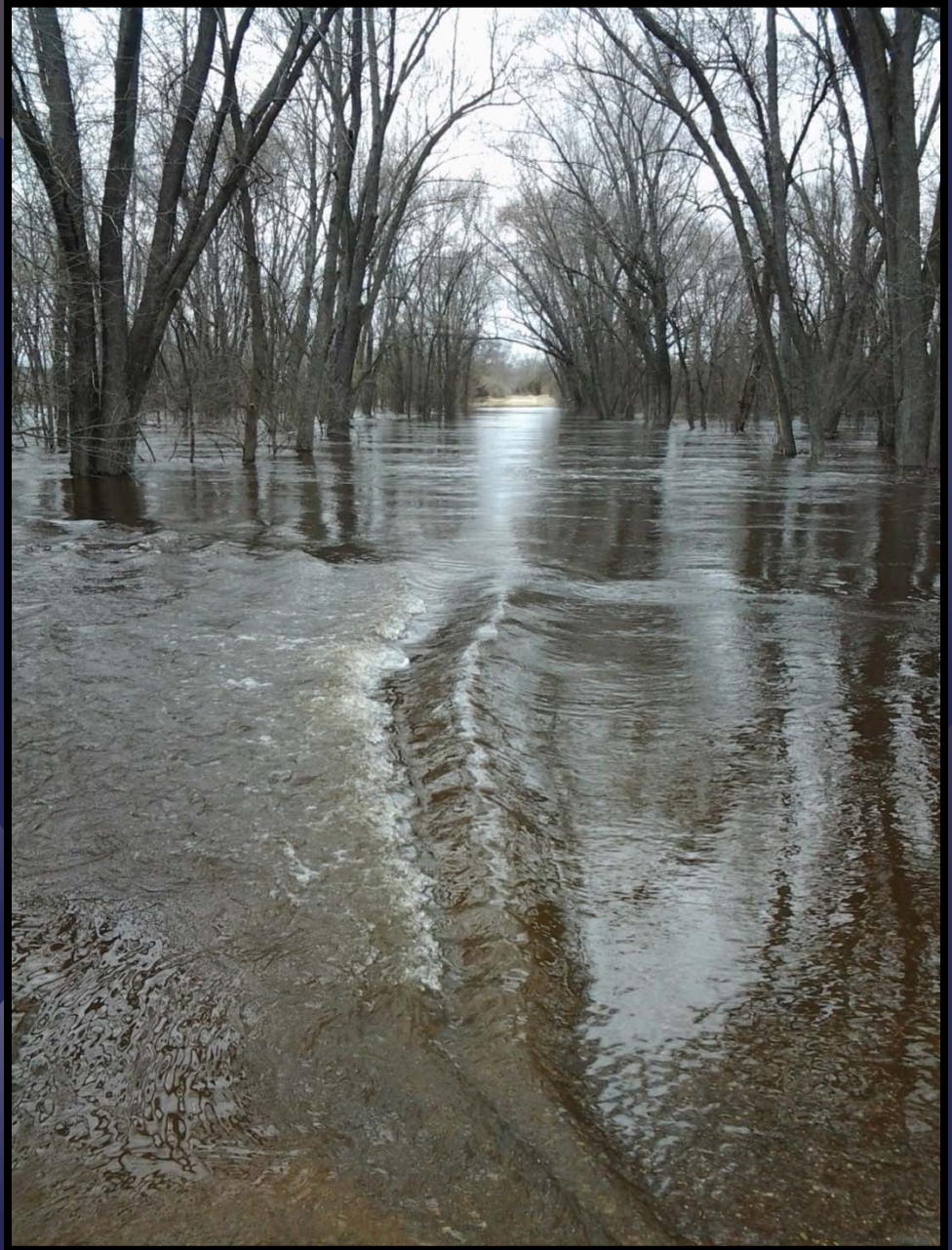
Chapter NR 116, Wisconsin Administrative Code Basic Overview

- ⌘ Exceeds NFIP minimum standards (Federal)
- ⌘ 2 feet of freeboard (Flood Protection Elevation = RFE + 2 feet)
- ⌘ Dry land access for new development
- ⌘ Prohibits most floodway development
- ⌘ Cumulative improvement standards (50% provision for legal non-conforming structures)
- ⌘ Zero rise mapping standard (i.e. project cannot cause an increase in the RFE)

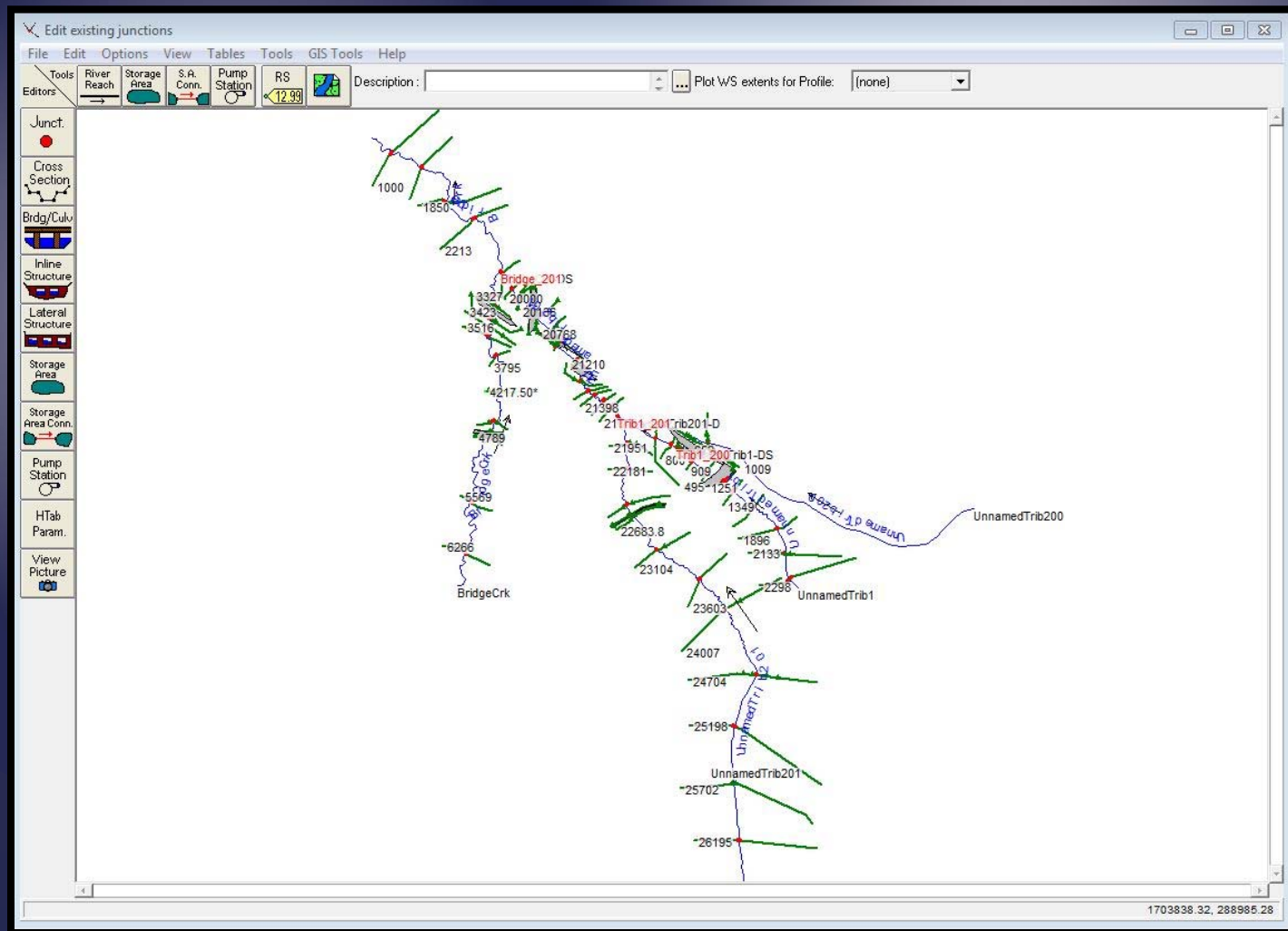
Wisconsin Minimum Standards

- ⌘ For new development in the floodfringe, the following are the minimum standards according to NR 116:
 - ⌘ Fill shall be not less than one foot above the regional flood elevation;
 - ⌘ Fill shall extend at such elevation at least 15 feet beyond the limits of any structure or building erected thereon; and
 - ⌘ Dryland access shall be provided
- ⌘ If existing streets or sewer lines are at elevations which make dryland access impractical, the municipality may permit new development and substantial improvement where access roads are at an elevation lower than the RFE provided:
 - ⌘ The municipality has an adequate natural disaster plan or
 - ⌘ The municipality has written assurance from the appropriate units of police, fire, and emergency services that rescue and relief can be provided by wheeled vehicles.

Emergency Access Example



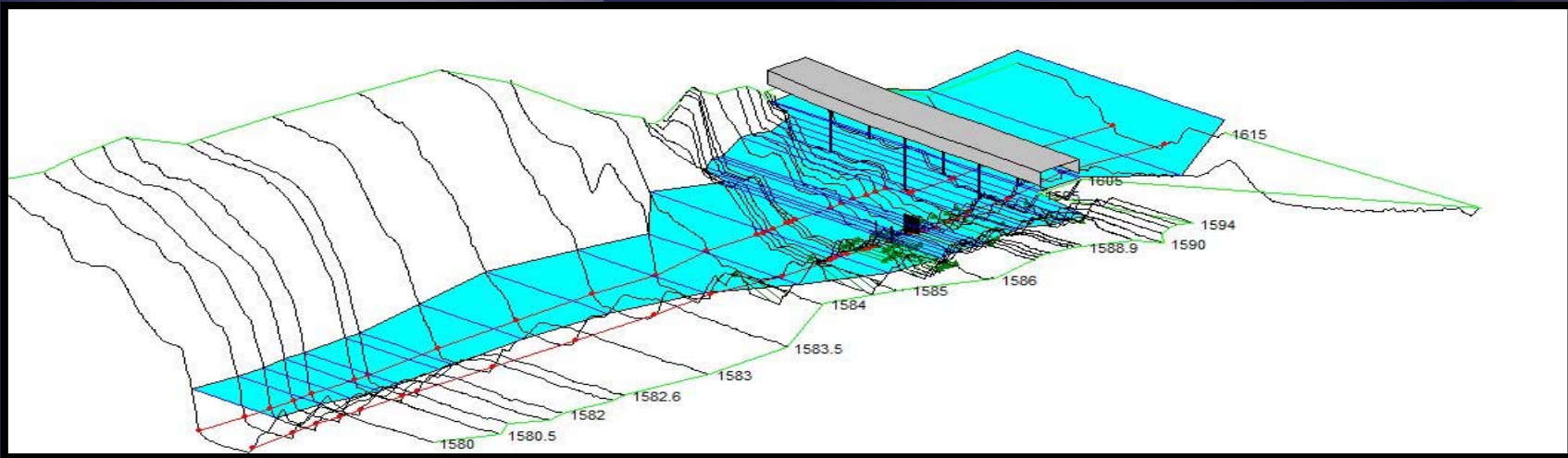
Hydrologic & Hydraulic Analyses



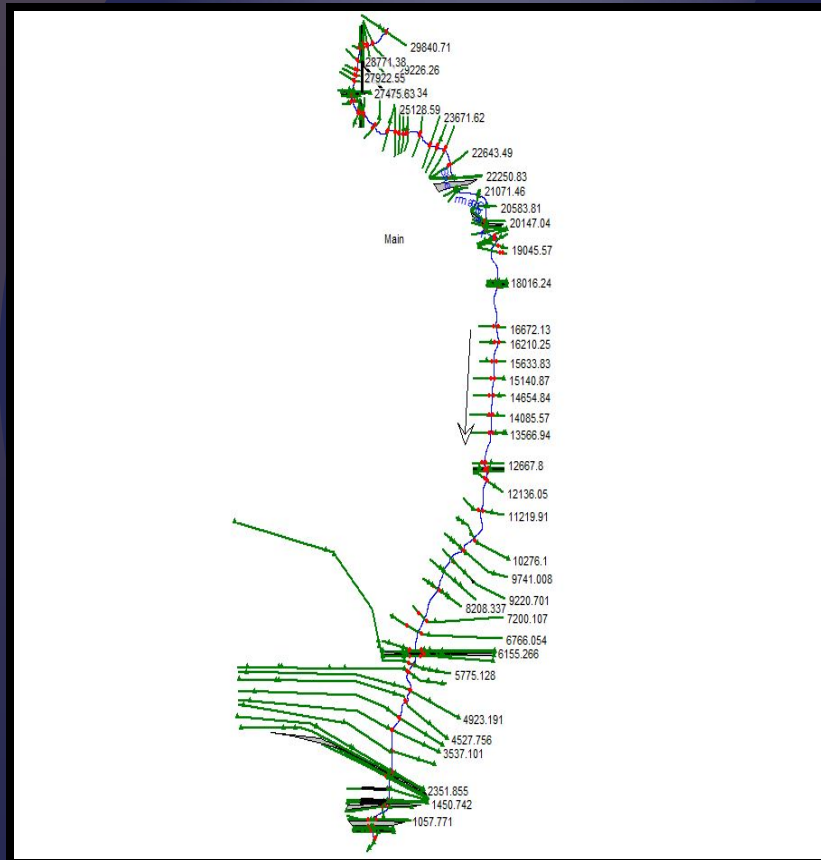
Hydrologic & Hydraulic Analyses

What exactly is an H&H?

- ⌘ When requested, the property owner will need to hire a P.E., to submit an H&H completed using the Army Corps of Engineer Hydrologic Engineering Centers River Analysis System (HEC-RAS)
- ⌘ The software is a step-backwater program that calculates RFE's based on approved regional flood discharges and elevation data.
- ⌘ Can also delineate between floodway and flood fringe.



Hydrologic & Hydraulic Analyses



- ⌘ Any encroachment, obstruction, or fill in the floodway must have a Hydrologic and Hydraulic (H&H) analysis completed to investigate impacts on the RFE.
 - ⌘ Zone A floodplains are considered floodway, until proven otherwise
- ⌘ NR 116 standard: The encroachment, obstruction, or fill cannot cause an increase to the RFE.
- ⌘ Do not be afraid to consult with your Regional Water Management Engineer (WME), that is what we are here for!

H&H Criteria

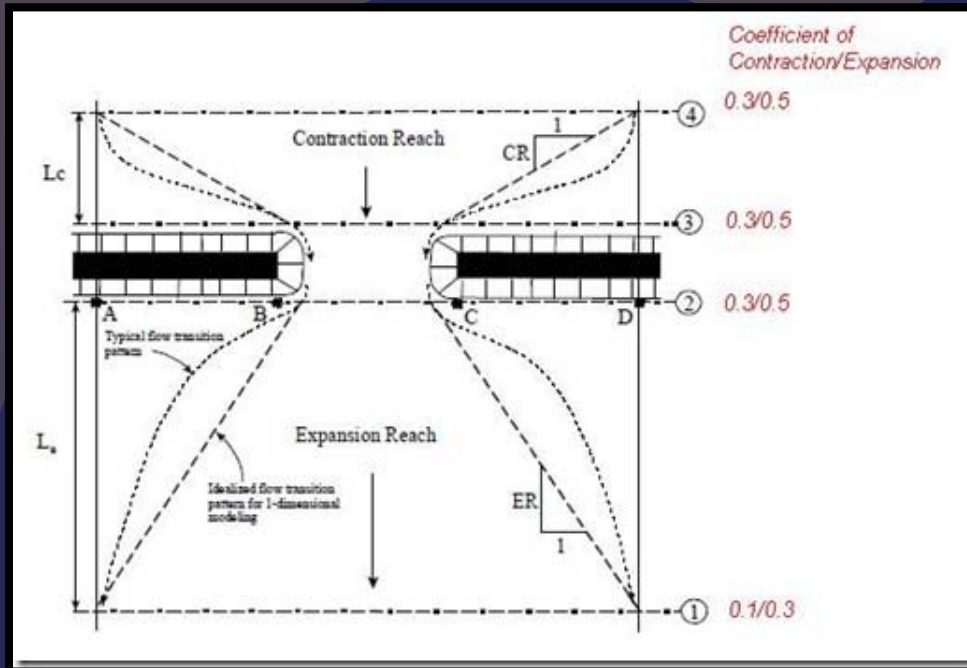
Administrative code-compliant engineering studies may not be required for projects which meet the following criteria:

- 1) The project will not significantly affect flood flows, flood elevations, or floodplain boundaries
- 2) Insurable structures will not be affected
- 3) Project is located in an undeveloped area (per NR 116 definition) and
- 4) The Department review concludes that only the applicant's property would be affected by the proposal.

If you are ever uncertain about requiring an H&H:

- ⌘ Request that an H&H be submitted. Place the responsibility on the property owner to demonstrate the impacts, as allowed under NR 116 and your ordinance.
- ⌘ Contact your WME. We are here to help!

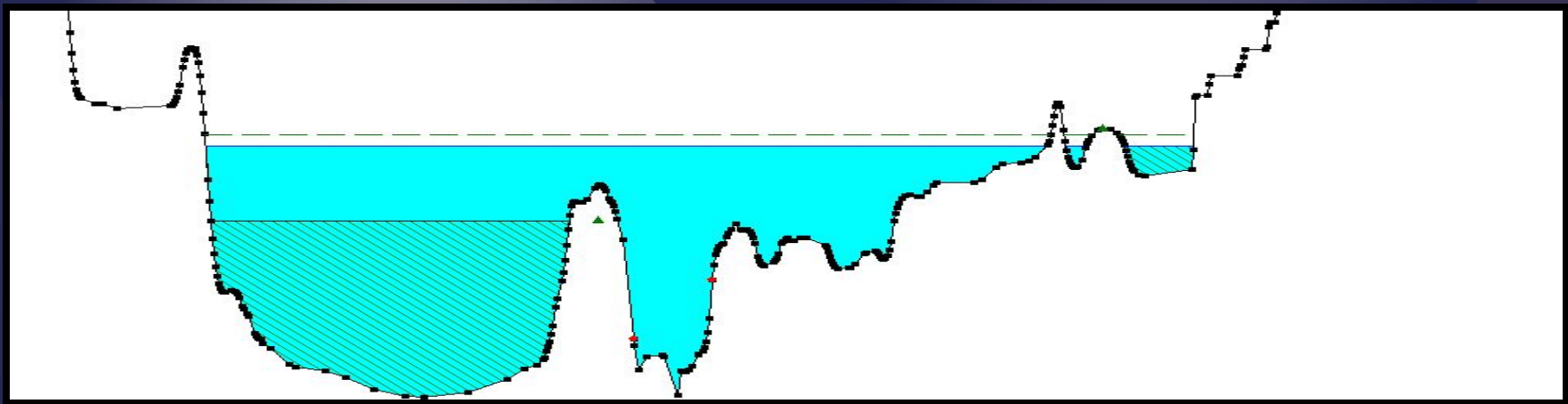
Floodfringe Determination



<http://hecramodel.blogspot.com/2012/02/coefficients-of-contractionexpansion-at.html>

Floodfringe, in the State of Wisconsin, is determined by the ineffective flow associated with topographic data, contraction and expansion from culverts, bridges, or based on other assumptions by a P.E.

A project in the floodfringe typically does not need an H&H, since it's conveyed as ineffective flow.



FAQ for H&H's

Who requests a H&H?

- ⌘ This is the ultimate responsibility of the local zoning official, since permitting is completed under the local ordinance. Do not be afraid to consult with your Regional Water Management Engineer (WME).

When is an H&H required?

- ⌘ Any encroachment, obstruction, or fill placed in the floodway of a mapped floodplain requires an analysis, completed by a professional engineer, to investigate impacts on the RFE.

Who reviews an H&H?

- ⌘ Once an H&H is submitted, either from the consultant or applicant, the local municipality must request a review from the WME if associated with a LOMC. If the municipality has qualified staff to review the model, then they may do so.

How long is the review period by the DNR?

- ⌘ It varies, depending on the submittal. Additional materials, engineering components, etc... may need to be submitted. Typically the WME will include the local zoning official on any request to the consultant/applicant.

How much does an H&H cost?

- ⌘ It varies, depending on the data available, consulting firm, and scope of the project.

Common H&H Inquiries

Snowmobile/ATV Bridges

- ⌘ Replacements in kind typically do not require an H&H
- ⌘ Modifications to existing structures typically require an H&H.
- ⌘ A new bridge, typically requires an H&H, unless it is a clear span bridge signed off by a P.E. (Consult your WME)

Bridges/Culverts

- ⌘ Replacements in kind typically do not require an H&H
- ⌘ Modifications to existing structures typically require an H&H.
- ⌘ New bridges and culverts typically require an H&H unless it meets previous criteria. (Consult your WME)

Fill for a structure in the floodway

- ⌘ Any fill in the floodway, requires an H&H. A LOMR-F, must be obtained before a structure can be built (covered later).

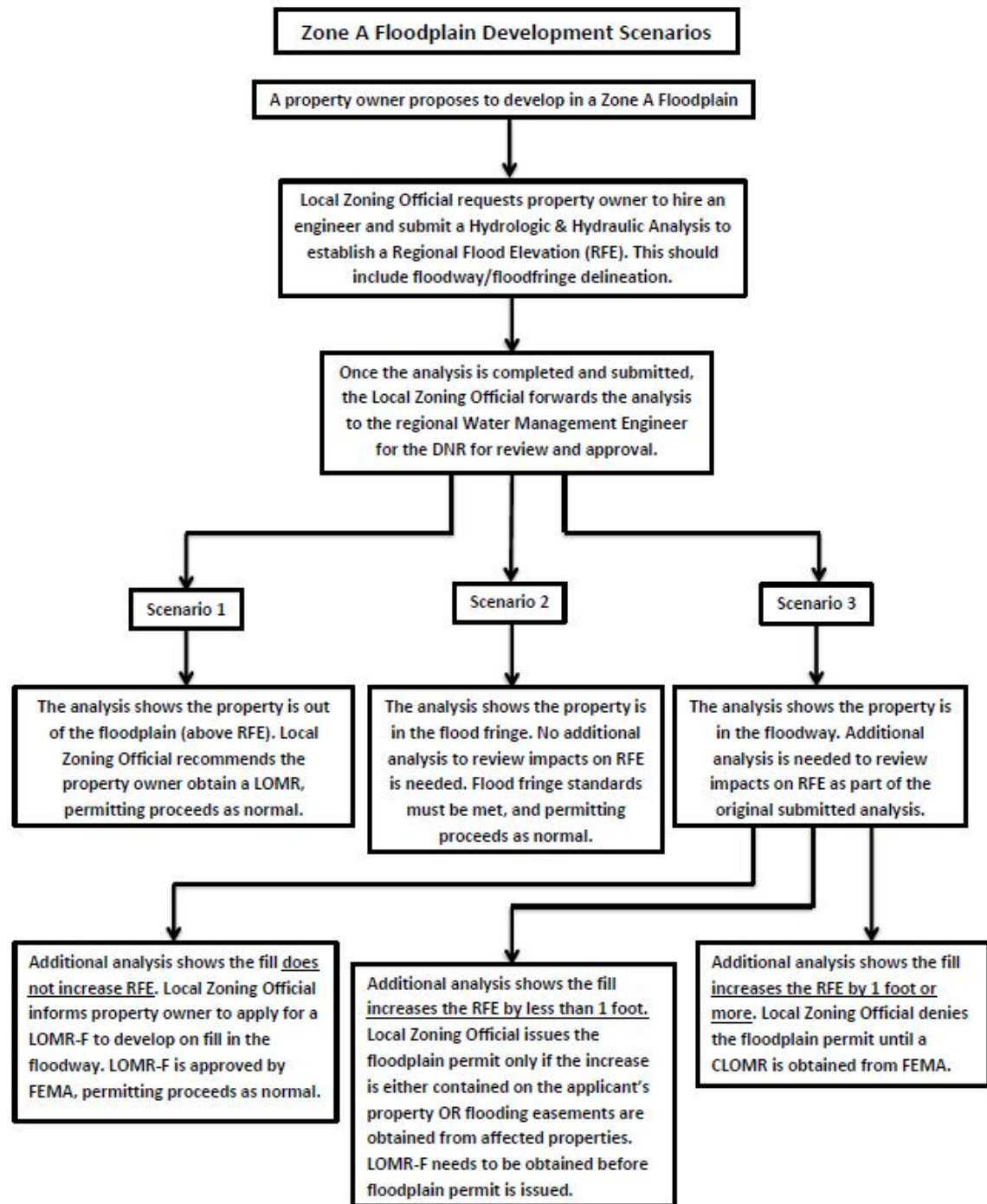
Stream Realignments

- ⌘ Most stream realignments in a mapped floodplain need an H&H. A CLOMR is also typically required if the floodway boundary changes. (Consult your WME).



Floodplain Development Scenarios

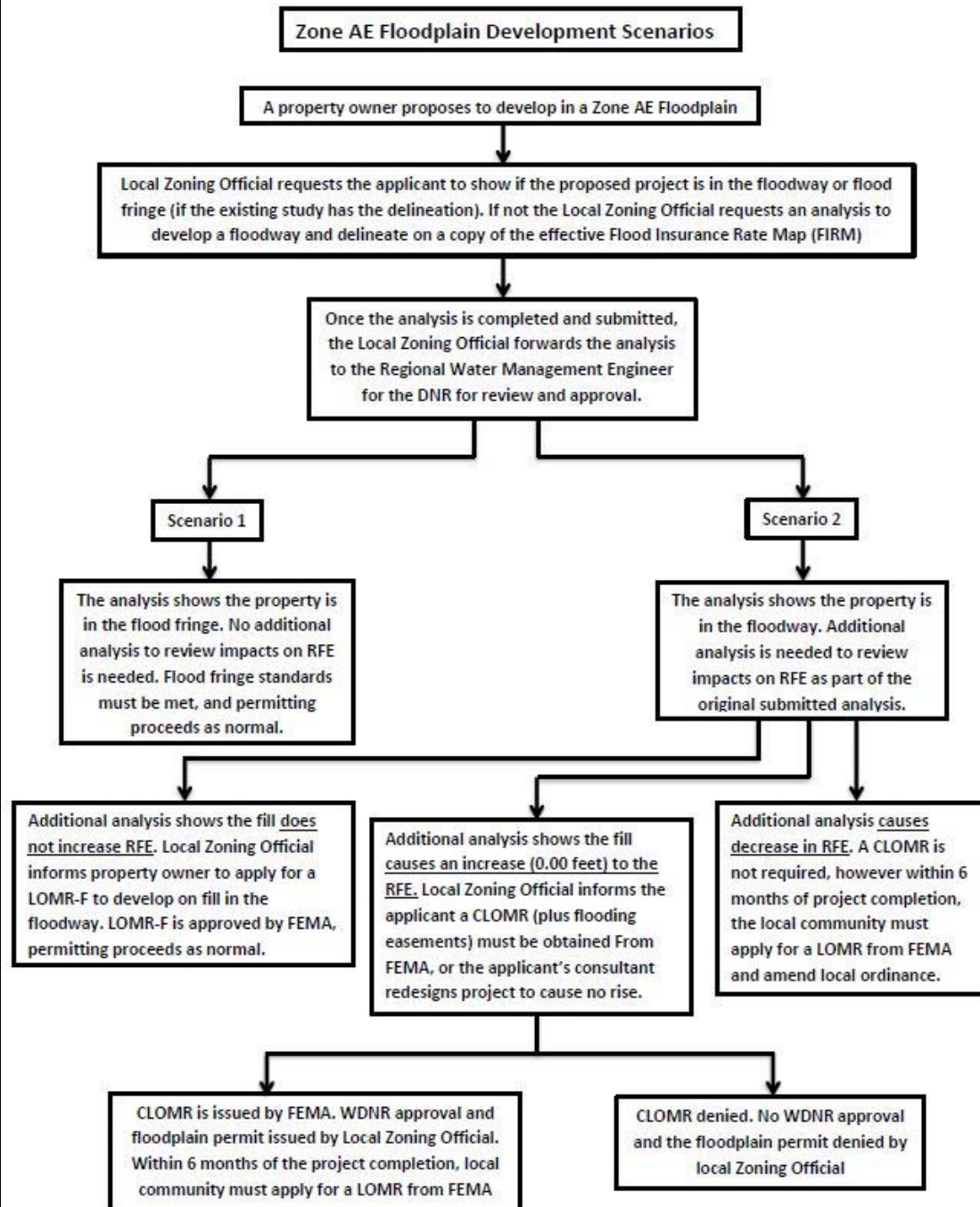
Zone A Scenario



Additional Notes: Zone A

- ⌘ Zone A floodplains are considered floodway until proven otherwise by a H&H
- ⌘ The project can cause an increase up to 1 foot in a Zone A, ONLY if the increase is either contained on the applicants property or proper legal arrangements are obtained.
 - ⌘ If increase is greater than 1 foot, a CLOMR needs to be obtained prior to permitting
- ⌘ If the proposed structure or other prohibited use is located in the floodway, a LOMR-F needs to be obtained prior to permitting
 - ⌘ NR 116.18 – Must be on FILL to the flood protection elevation (RFE + 2 ft.) and is contiguous to other lands lying outside the floodplain.

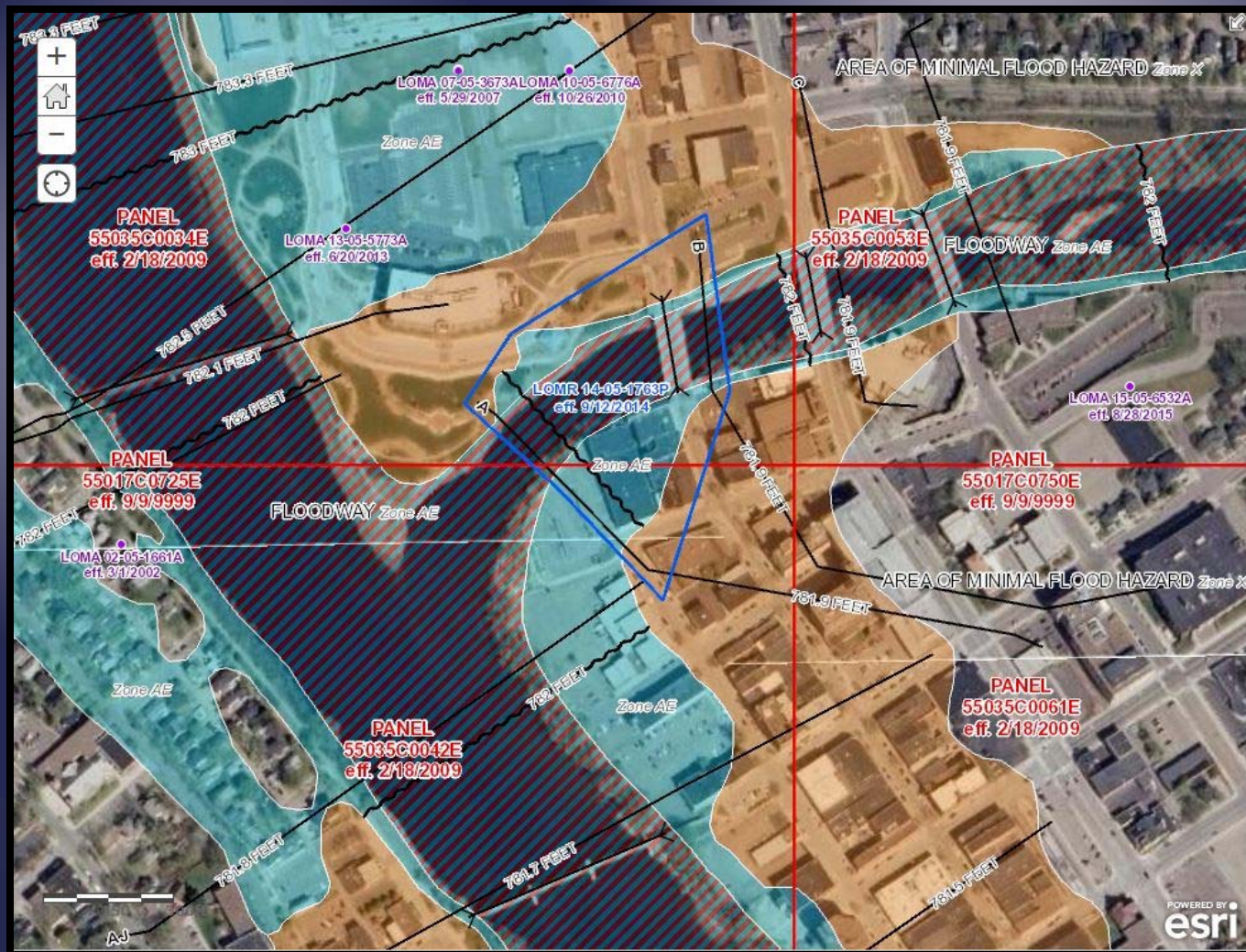
Zone AE Scenario



Additional Notes: Zone AE

- ⌘ If the project causes an increase, the applicant must obtain a CLOMR prior to permitting.
 - ⌘ Includes flooding easements, etc...
- ⌘ If the proposed structure or other prohibited use is located in the floodway, a LOMR-F needs to be obtained prior to permitting
 - ⌘ NR 116.18 – Must be on FILL to the flood protection elevation (RFE + 2 ft.) and is contiguous to other lands lying outside the floodplain.
- ⌘ If the parcel was incorrectly mapped in the floodplain, applicant should submit for a LOMA to show Lowest Adjacent Grade (LAG) is above the RFE.
 - ⌘ LOMA must be obtained prior to permitting from the community in a Zone AE

Letters of Map Change (LOMC)



LOMA

- ⌘ Letter of Map Amendment (LOMA)
- ⌘ Property owners typically inquire about LOMAs in order to either avoid a mandatory flood insurance purchase requirement or to avoid meeting development standards required by local ordinance.
- ⌘ Property owners can apply for a LOMA in Zone AE or A.
 - ⌘ In a Zone A, FEMA will estimate a RFE for the property. RFEs established by FEMA for a LOMA are for insurance purposes ONLY and cannot be used for permitting.
- ⌘ If property is located in Zone AE, the property owner submits a certified survey demonstrating their parcel was mapped incorrectly, a LOMA would be required before permitting.


LOMR/CLOMR

- ⌘ Letter of Map Revision (LOMR)
- ⌘ Difference between a CLOMR and LOMR?
 - ⌘ A CLOMR is obtained before the project starts, a LOMR is after it's finished.
- ⌘ When is a CLOMR required?
 - ⌘ If the proposed project causes an increase to the RFE of 1 foot or more, in a Zone A, the local zoning official should deny the permit until a CLOMR is obtained.
 - ⌘ If the proposed project causes any increase (0.00 ft.), change in mapped floodway more than 5% of map scale or 5% of total width (whichever is greater), or decrease, in a Zone AE, the applicant must obtain a CLOMR from FEMA.
 - ⌘ A stream realignment typically requires a CLOMR

LOMR/CLOMR

- ⌘ Once a CLOMR is issued by FEMA, the local zoning official can issue the permit.
- ⌘ Within 6 months of the project completion, the local community must apply for a LOMR from FEMA, verifying the project was completed as planned.
- ⌘ A LOMR must be adopted into the local community's floodplain ordinance.
 - ⌘ Includes a class II hearing notice.

Page 1 of 4	Issue Date: August 18, 2015	Effective Date: December 31, 2015	Case No.: 15-05-3405P	LOMR-APP
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Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of River Falls St. Croix County Wisconsin	CULVERT FILL	HYDRAULIC ANALYSIS NEW TOPOGRAPHIC DATA UPDATE
	COMMUNITY NO.: 560330		
IDENTIFIER	Sterling Ponds Corporate Park/ 5204-006	APPROXIMATE LATITUDE & LONGITUDE: 44.901, -92.644 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 55109C0340E DATE: March 16, 2009	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: March 16, 2009 PROFILE: 34P (NEW)	

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map

FLOODING SOURCE & REVISED REACH

Unnamed Stream - From just downstream of Newcastle Drive to approximately 2,900 feet upstream of Newcastle Drive.


SUMMARY OF REVISIONS				
Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Unnamed Stream	Zone A	Zone AE	YES	YES
	Zone X (unshaded)	Zone X (unshaded)	YES	YES
	No BFEs*	BFEs	YES	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 647 South Pickett Street, Alexandria, VA 22304-4905. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.


 Luis Rodriguez, P.E., Chief
 Engineering Management Branch
 Federal Insurance and Mitigation Administration

15-05-3405P
 102-4-A-C

LOMR-F

- ⌘ Letter of Map Revision based on Fill (LOMR-F)
- ⌘ Property owners typically inquire about LOMR-Fs in order to either avoid a mandatory flood insurance purchase requirement or to avoid meeting development standards required by local ordinance.
- ⌘ When is a LOMR-F required?
 - ⌘ Any structure or prohibited use in the floodway must first obtain a LOMR-F before permitting
 - ⌘ NR 116.18 must be met to obtain a LOMR-F:
 - ⌘ “No area in the floodplain may be removed from the floodplain unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside of the floodplain.”
 - ⌘ FILL must be RFE + 2 ft. (not just first floor), and must connect to land that is at a minimum at or above the RFE outside of the floodplain.
- ⌘ Within 6 months of issuance, local community must adopt the LOMR-F into their floodplain ordinance.

LOMC Adoption

- ⌘ LOMRs and LOMR-Fs must be adopted into the local ordinance
- ⌘ FEMA will send the local municipality a copy of the approved LOMC.
- ⌘ The adoption must include a class II public notice.
- ⌘ Once the public noticing period is complete the following must be submitted to the DNR for review:
 - ⌘ A certified copy of the ordinance
 - ⌘ A copy of the notice of public hearing
 - ⌘ Affidavit of Publication of the notice
- ⌘ Once the DNR has reviewed the amended ordinance, it will also need to get approved by FEMA.

LOMC Fees

LOMC Product	Pre-02/20/2015	Post-02/20/2015	On-line 02/20/2015
Single Lot/Single Structure			
Single lot/Single structure LOMA	Free	Free	Free
Single lot/single-structure CLOMA/CLOMR-F	\$500	\$600	\$500
Single lot/single structure LOMR-F	\$425	\$525	\$425
Single lot/single structure LOMR-F based on as-built information (CLOMR-F previously issued by FEMA)	\$325	\$425	\$325
Multiple Lots/Multiple Structures			
Multiple lot/multiple structure LOMA	Free	Free	Free
Multiple lot/multiple structure CLOMA	\$700	\$800	\$700
Multiple lot/multiple structure CLOMR-F/LOMR-F	\$800	\$900	\$800
Multiple lot/multiple structure LOMR-F based on as-built information (CLOMR-F previously issued by FEMA)	\$700	\$800	\$700
Letter of Determination Review	\$80	\$80	-
CLOMRs			
Based on new hydrology, bridge, culvert, channel or any combination thereof	\$4,400	\$6,750	\$6,500
Based on a levee, berm or other structural measure	\$6,050	\$7,250 (plus \$60/hr)	\$7,000 (plus \$60/hr)
Based on structural measures on alluvial fans	\$5,600 (plus \$60/hr)	\$7,250 (plus \$60/hr)	\$7,000 (plus \$60/hr)
LOMRs			
Based on new hydrology, bridge, culvert, channel or any combination thereof	\$5,300	\$8,250	\$8,000
Based on as-built information submitted as a follow-up to a CLOMR	\$5,000	\$8,250	\$8,000
Based on a levee, berm or other structural measure	\$7,150	\$9,250 (plus \$60/hr)	\$9,000 (plus \$60/hr)
Based on structural measures on alluvial fans	\$5,600	\$7,250	\$7,000

Legal Nonconforming Uses & Structures

Chapter NR 116

WISCONSIN'S FLOODPLAIN MANAGEMENT PROGRAM

NR 116.01	Purpose.	NR 116.14	Development standards in other floodplain areas.
NR 116.02	Applicability.	NR 116.15	Nonconforming uses and nonconforming buildings.
NR 116.03	Definitions.	NR 116.16	Floodproofing.
NR 116.05	Adoption and upgrading of floodplain zoning ordinances.	NR 116.17	Levees, floodwalls and channel improvements.
NR 116.06	Areas to be regulated.	NR 116.18	Procedures for changing floodplain, floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain district limits.
NR 116.07	Standards for hydrologic and hydraulic studies.	NR 116.19	Appointment and duties of zoning administrator, zoning agency and board of adjustment or appeals.
NR 116.08	Uses downstream of dams.	NR 116.20	Municipal responsibilities.
NR 116.09	Data required to be shown on floodplain zoning maps.	NR 116.21	Permits, special exceptions, conditional use, variance, appeals and amendments.
NR 116.10	Conflicts between water surface profiles and floodplain zoning maps.	NR 116.22	Department duties.
NR 116.11	Criteria for establishing and renaming floodplain districts.		
NR 116.12	Development standards in floodway areas.		
NR 116.13	Development standards in floodfringe areas.		

Note: Chapter NR 116 as it existed on February 28, 1966 was repealed and a new chapter NR 116 was created effective March 1, 1966.

NR 116.01 Purpose. (1) The Wisconsin legislature in enacting chapter 614, laws of 1965, recognized that floodplain zoning is a necessary tool to protect human life, health and to minimize property damages and economic losses. Municipalities are required by s. 97.30 (1), Stats., to adopt reasonable and effective floodplain zoning ordinances within their respective jurisdictions to regulate all floodplains where serious flood damage may occur within one year after hydraulic and engineering data adequate to formulate the ordinance becomes available. If a municipality has a floodplain zoning ordinance already in effect, the provisions in s. NR 116.05 shall apply.

(2) The purpose of these rules is to provide a uniform basis for the preparation and implementation of sound floodplain regulations for all Wisconsin municipalities, to:

- Protect life, health and property;
- Minimize expenditures of public monies for costly flood control projects;
- Minimize rescue and relief efforts, generally undertaken at the expense of the general public;
- Minimize business interruptions;
- Minimize damage to public facilities such as water mains, sewer lines, streets and bridges;
- Minimize the occurrence of future flood blight areas;
- Discourage the victimization of unwary land and home buyers; and

(b) Prevent increases in the regional flood from occurring which will increase flood damage and may result in conflict and litigation between landowners.

History: Cr. Register, February, 1966, No. 362, eff. 3-1-66.

NR 116.02 Applicability. The provisions of this chapter are applicable to all municipalities. Unless otherwise specifically exempted by law, all state agencies are required to obtain permits required by local zoning ordinances if s. 13.48 (13), Stats., applies.

Note: Copy of engineers' dredged material disposal activities which are submitted pursuant to s. 30.201 (2), Stats., are exempt from the requirements of this chapter.

History: Cr. Register, February, 1966, No. 362, eff. 3-1-66.

NR 116.03 Definitions. In this chapter:

(1) "Accessory structure or use" means any facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building.

(1a) "Campground" means any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.

(1s) "Camping unit" means any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck or tent.

(2) "Certificate of compliance" means a document that is issued to a property owner by a municipality certifying that the use of land or a building is in conformance with provisions of the floodplain zoning ordinance.

(3) "Channel" means a natural or artificial watercourse with definite bed and banks to confine and conduct the normal flow of water.

(4) "Coastal floodplain" means an area along the coast of Lake Michigan or Lake Superior which is inundated by the regional flood and which is also subject to additional hazards due to wave runoff.

(5) "Conditional use" or "special exception" means a use which is not allowed unless certain conditions specified in the zoning ordinance are met and a permit is granted by the board of adjustment or appeals or, where appropriate, the zoning agency.

(6) "Dam" as defined in s. NR 333.03 (2) means any artificial barrier, together with appurtenant works, built across a waterway and which has the primary purpose of impounding or diverting water.

(6m) "Deck" means an unenclosed exterior structure that has no roof or sides, but has a permeable floor which allows the infiltration of precipitation.

(7) "Department" means the Wisconsin department of natural resources.

(8) "Developed area" means an area within a floodplain designated by a municipality and approved by the department which contains a minimum of 20 potential residential lots or a minimum of 5 acres of land zoned commercial, industrial or institutional wherein existing structures constitute a minimum of 50% of the structures that could be accommodated by the respective zoning density. The limits of the developed area are defined by a line connecting the existing structures on the outer perimeter of the majority of the structures. Vacant lots within that boundary are treated the same as lots with existing structures.

(9) "Development" means any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or substantial improvements to buildings, structures or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations; and the storage, deposition or extraction of materials.

(10) "Dryland access" means a vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain.

be applicable in a coastal floodplain area, except that no development may be allowed which:

- Will be adversely affected by wave runoff along the shore of Lake Michigan or Lake Superior; or
- Is associated with a high flood damage potential.

History: Cr. Register, February, 1966, No. 362, eff. 3-1-66.

NR 116.15 Nonconforming uses and nonconforming buildings. (1) GENERAL. Insofar as the standards in this section are not inconsistent with the provisions of ss. 59.69 (10) and 62.23 (7) (b), Stats., they shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance. These standards apply to the modification of, or addition to, any building and to the use of any building or premises which was lawful before the passage of the ordinance. The existing lawful use of a building or its accessory use which is not in conformity with the provisions of a floodplain zoning ordinance may be continued subject to the following conditions:

- No extension of a nonconforming use, or modification or addition to any building with a nonconforming use or to any nonconforming building, may be permitted unless they are made in conformity with the provisions of this section. For the purposes of this section, the words "modification" and "addition" shall include, but not be limited to, any alteration, addition, modification, rebuilding or replacement of any existing building, accessory building or accessory use, except as provided in pars. (am) and (as).

(am) For the purposes of this section, ordinary maintenance repairs are not considered an extension, modification or addition; ordinary maintenance repairs include internal and external painting, decorating, repainting, the replacement of doors, windows and other nonstructural components; and the maintenance, repair or replacement of existing private sewage systems, water supply systems or connections to public utilities;

(as) For the purposes of this section, the construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification or addition. The roof of the principal structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.

(b) If a nonconforming use or the use of a nonconforming building is discontinued for 12 consecutive months, it is no longer permitted and any future use of the building shall conform with the appropriate provisions contained in ss. NR 116.12, 116.13 and 116.14.

(c) No modification or addition to any nonconforming building or any building with a nonconforming use, which over the life of the building would exceed 50% of its present equalized assessed value, may be allowed unless the entire building is permanently changed to a conforming building with a conforming use in compliance with the applicable requirements of this chapter. The costs of elevating a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50% provisions of this paragraph.

(d) If any nonconforming building or any building with a nonconforming use is destroyed or is so badly damaged that it cannot be practically restored, it cannot be replaced, reconstructed or rebuilt unless the provisions of ss. NR 116.12, 116.13 and 116.14 are met. For the purpose of this subsection, restoration is deemed impracticable where the total cost of such restoration would exceed 50% of the present equalized assessed value of the building.

(2) FLOODWAY AREAS. (a) No modifications or addition to any nonconforming building or any building with a nonconforming use in a floodway area may be allowed, unless such modification or addition has been granted by permit, special exception, conditional use or variance and meets all of the requirements of sub. (1) and the following criteria:

1. The modification or addition to a building may not increase the amount of obstruction to flood flows; and

2. Any addition to a building shall be floodproofed in accordance with the requirements of s. NR 116.16, by means other than the use of fill, to the flood protection elevation.

(b) No new private sewage system, or addition to an existing private sewage system, may be allowed in a floodway area. Any maintenance, repair or replacement of a private sewage system in a floodway area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(c) No new well, or modifications to an existing well, which is used to obtain water for ultimate human consumption may be allowed in a floodway area. Any maintenance, repair or replacement of an existing well in a floodway area shall meet the applicable requirements of all municipal ordinances and chs. NR 811 and 812.

(3) FLOODFRINGE AREAS. (a) Except as provided in par. (b) or (c), no modification or addition to any nonconforming building or any building with a nonconforming use in the floodfringe area may be allowed unless such modification or addition has been granted by permit, special exception, conditional use or variance and the modification or addition is placed on fill or is floodproofed in compliance with the applicable regulations contained in s. NR 116.13 (2).

(b) If compliance with the fill or floodproofing provisions of par. (a) would result in unnecessary hardship, and only if the building will not be used for human habitation and will not be associated with a high flood damage potential, the county board of adjustment or the city or village board of appeals, using the procedures established in s. NR 116.21 (4), may grant a variance for modifications or additions which are protected to elevations lower than the flood protection elevation if:

- Human lives will not be endangered;
- Water or private sewage systems will not be installed;
- Flood depths will not exceed 2 feet;
- Flood velocities will not exceed 2 feet per second; and
- The building will not be used for storage of materials described in s. NR 116.13 (6).

(c) An addition to an existing room in a nonconforming building or a building with a nonconforming use may be allowed in a floodfringe area on a one time basis only if:

- The addition has been granted by permit, special exception, conditional use or variance;
- The addition does not exceed 60 square feet in area; and
- The addition, in combination with other modifications or additions to the building, does not exceed 50% of the present equalized assessed value of the building.

(d) All new private sewage systems, or additions to, maintenance, repair or replacement of a private sewage system, in a floodfringe area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(e) All new wells, or additions to, replacement, repair or maintenance of a well, in a floodfringe area shall meet the applicable provisions of the floodplain zoning ordinance and chs. NR 811 and 812.

(4) SHALLOW DEPTH FLOODING AREA. No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a shallow depth flooding area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (1).

(5) FLOOD STORAGE AREA. No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a flood storage area

Applicability and General Provisions

- ⌘ NR 116.15(1) – “These standards apply to the modification of, or addition to, any building to the use of any building or premises which was lawful before the passage of the ordinance.”
- ⌘ NR 116.15(1)(c) – “No modification or addition to any nonconforming building or any building with a nonconforming use, which over the life of the building would exceed 50% of its present equalized assessed value, may be allowed unless the entire building is permanently changed to a conforming building with a conforming use in compliance with the applicable requirements of this chapter.”

Legal Nonconforming Structures & Substantial Improvement

⌘ What is a legal nonconforming structure?

- ⌘ A lawful structure that was in place prior to the passage of the ordinance.
- ⌘ Any structure built in the floodplain after the effective passage of the ordinance are not legal and may be in violation of the local floodplain ordinance.

⌘ Substantial Improvement

- ⌘ Any reconstruction, rehabilitation, addition or other improvements of a structure, the cost of which equals or exceed 50% of the equalized assessed valuation of the structure before the “start of construction” of the improvement.

Equalized Assessed Value & Improvements

- ⌘ The Equalized Assessed Value (EAV) is the product of the assessed value of the property (both land and improvements) and the State Equalization Factor.
- ⌘ Prior to applying for a permit, the applicant must present the EAV of the structure and the costs associated with the proposed improvements to the nonconforming structure.
 - ⌘ If the costs of the improvements exceed 50% of the EAV, then structure must become conforming with the ordinance.
 - ⌘ The application should include a set of detailed plans with the cost estimate including labor and materials.
- ⌘ The costs of improvements to a nonconforming structure are cumulative through the life of the structure.
 - ⌘ The local community must keep record of the improvements.
- ⌘ The cost to elevate or flood proof a structure does not count towards the 50% limit.

Maintenance vs. Alteration

- ⌘ Alteration – An enhancement, upgrading or substantial change or modifications other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure
- ⌘ Maintenance – The act or process of restoring original soundness, including redecorating, refinishing non-structural repairs, or the replacement of existing fixtures, systems or equipment with equivalent fixtures, systems or structures.
- ⌘ General Rule of Thumb
 - ⌘ If the proposed project is an alteration which if damaged would cost significantly more to replace than what was originally there, it is fair to assume that particular proposal should be considered a substantial improvement and count towards the 50% limit. Maintenance is generally a replacement in kind and does not count towards to the 50% limit.

Example Improvement Scenarios

- ⌘ Insulate the structure where it is not currently insulated
 - ⌘ This is an improvement and subject to the 50% limit.
- ⌘ New Windows
 - ⌘ Replacing the windows in kind is maintenance and not subject to the 50% limit. If the windows are substantially upgraded, like a double hung to a bay window, then it would be an improvement and count towards the 50% limit..
- ⌘ New Exterior Siding
 - ⌘ If the exterior is aluminum siding and being replaced by cedar shakes for example, then it may be an improvement and subject to the 50% limit. Replacement in kind is maintenance and not subject to the 50% limit.
- ⌘ Installation of new HVAC unit and Duct Work
 - ⌘ If the current HVAC unit is being replaced by a unit with the same capacity and no new duct work being run, it would be maintenance. If the new unit is a substantial upgrade and new duct work is being installed then it would be an improvement and subject to the 50% limit.

Dam Failure Analyses



DFA Adoption

- ⌘ All large dams in the State of Wisconsin require Dam Failure Analyses (DFA).
- ⌘ NR 116.08(3)(6)(b) – Developed areas downstream of compliant dams shall be zoned and regulated as follows:
 - ⌘ For high hazard dams, assuming that the dam is nonexistent during the regional flood.
 - ⌘ For significant or low hazard dams, assuming the dam fails during the regional flood.
 - ⌘ NR 116.08(3)(6)(c) – Undeveloped areas downstream of a compliant dam shall be zoned and regulated assuming that the dam fails during the regional flood.
- ⌘ NR 116.08(4)(b) – Both developed and undeveloped areas downstream of a noncompliant dam shall be zoned and regulated assuming that the dam failure occurs during the regional flood.

DFA Adoption

- ⌘ Once a DFA is approved, the Regional WME will send the local community an adoption notice as well as the appropriate profiles, maps, and data to adopt into the ordinance.
 - ⌘ The DFA must be adopted in the ordinance within 6 months of receiving the notice from the Department.
- ⌘ The same standards for adopting LOMCs apply for DFAs.
- ⌘ A floodplain appendix works great for communities with a number of dams.
 - ⌘ Eliminates the need for the public noticing requirement for each DFA.

****Wisconsin is one, if not the only, state in the U.S. that implements land use controls downstream of dams.****

Questions?

