

LAKE COUNTY Community Consultation Officers (CCO) Meeting

December 11, 2019





TODAY'S AGENDA

Reviewing the Updated Flood Risk Data for Your County

Next Steps in the Map Adoption Process

Understanding Floodplain Management Ordinance Requirements

Understanding Flood Insurance

Hazard Mitigation Planning

The National Flood Insurance Program

The National Flood
Insurance Program, or NFIP,
balances three related areas
that must support each
other.



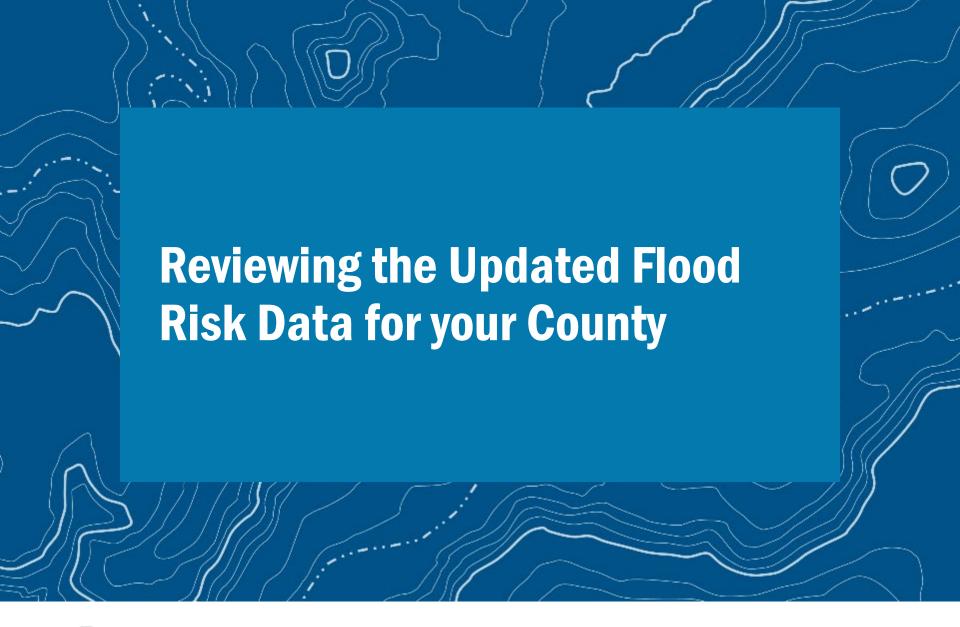




The Status of this Study

Lakewide Storm Surge and Waves Study County-Based Overland Analyses Workmap Production Flood Risk Review Meeting **Comment Period Last Time We Met** Floodplain Management Workshop **FIRM Production Preliminary FIRM Now We Are Here Community Coordination Meeting and Open House Comment and Appeal Periods Letter of Final Determination Effective FIRM**









Why is FEMA Updating Your Flood Maps?

The Great Lakes Coastal Flood Study provides updated flood risk information for areas around each of the Great Lakes using uniform methodology, updated terrain data, and modern wave modeling techniques.

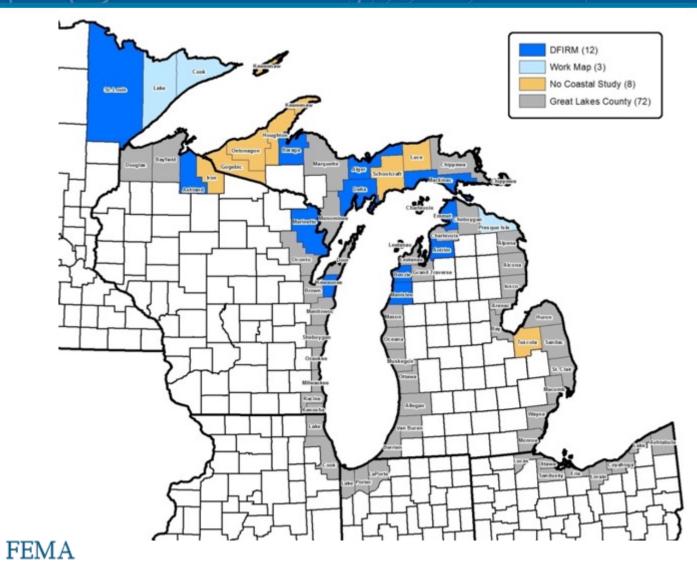
Many factors contribute to flood map revisions:

- Population growth and increased development
- Movement in rivers and shorelines
- Changing technology and improved modeling techniques and data





Program Goals and Status



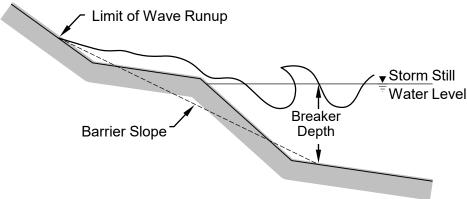


The Great Lakes Coastal Flood Study Approach

Regional Study Approach

- Lakewide water level and wave analysis
 - 150 storms from 1960 to 2009
 - Modeling conducted by STARR in 2017
- Greater consistency in assumptions
- Reduces number of boundary conditions





Wave Runup Schematic from FEMA Great Lakes Coastal Guidelines "D.3" Update

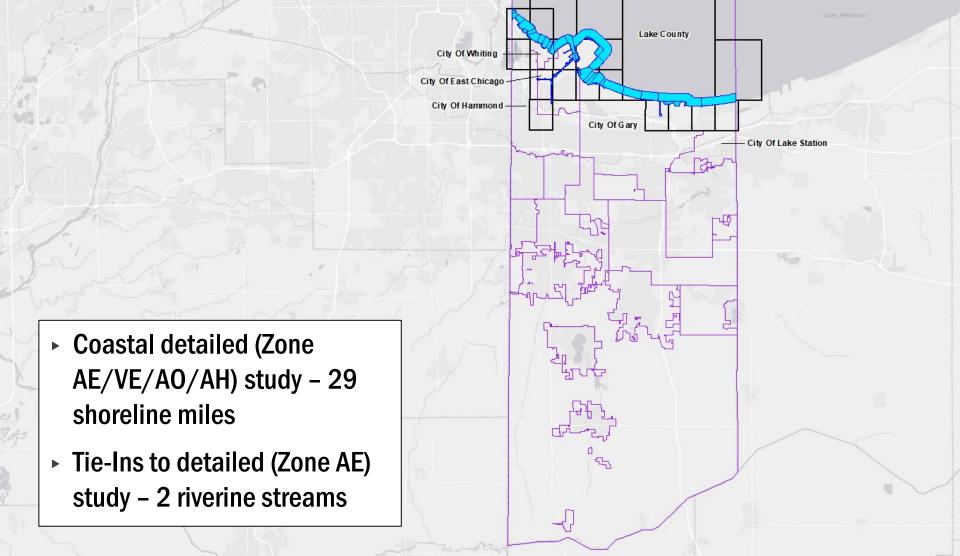
Local/County-Level Activities

- Mapping tasks performed at the county level
- Nearshore wave transformations
- Episodic erosion
- Wave setup and runup
- Overland wave propagation





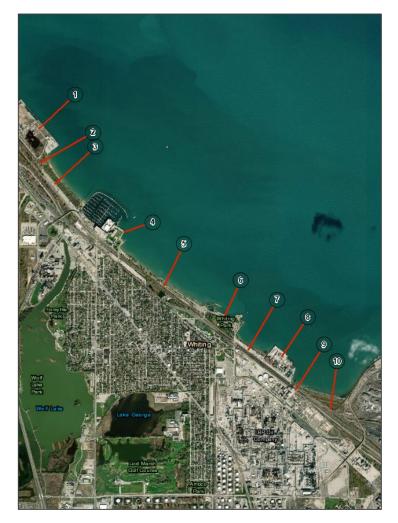
Flood Study Overview - Lake County



The Great Lakes Coastal Flood Study in Lake County

Lake County Coastal Flood Hazard Analysis:

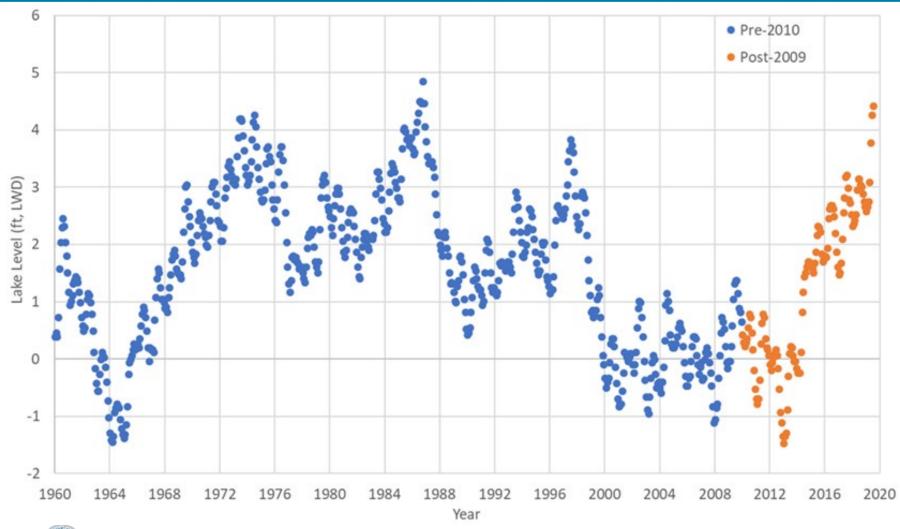
- 29 miles of coastline
- 35 coastal transects
- Transects placed at representative shoreline reaches based on:
 - Topography
 - Exposure
 - Shoreline material
 - Upland development
- Integration of riverine-coastal Special Flood Hazard Areas
- Topography
 - 2012 U.S. Army Corps of Engineers LiDAR







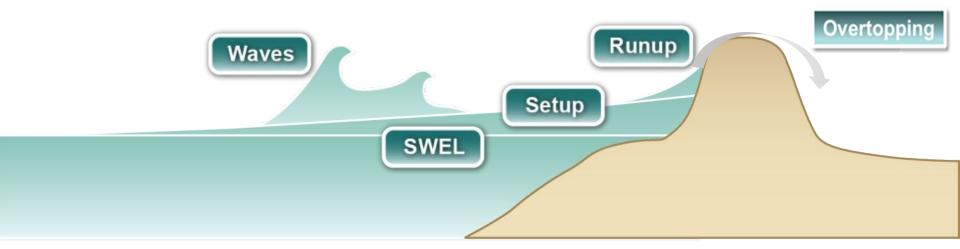
Lake Michigan Water Levels







Measuring Coastal Base Flood Elevations



SWEL = Stillwater Elevation (storm surge level)

TWEL = Total Water Elevation (SWEL + wave effects)





Special Flood Hazard Areas (SFHAs)

Zone VE

- Coastal high-hazard zone, where wave action and/or high-velocity water can cause structural damage during the 1-percent-annual-chance flood
- Wave heights or wave runup >= 3 feet
- Subdivided into elevation zones, and BFEs are assigned

Zone AE

- Applied in areas subject to lower wave energy or inundation by the 1-percent-annual-chance flood
- Wave heights or wave runup < 3 feet
- Subdivided into elevation zones, and BFEs are assigned

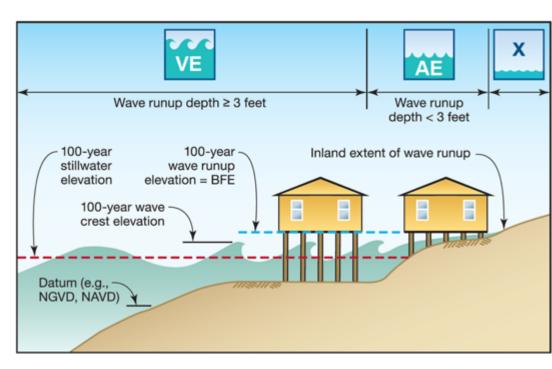
Zone AO

- Applied in areas of sheet-flow and shallow flooding
- Given an associated depth instead of a BFE

Zone AH

- Applied in areas of ponding
- Assigned a BFE







Wave Runup Mapping

- Wave runup is very sensitive to shoreline characteristics, especially slope
- Single Base Flood Elevation (BFE)
- Gutters perpendicular to the shore divide the BFEs
- Transitional zones capture changes in shoreline characteristics between transects









Wave Overtopping



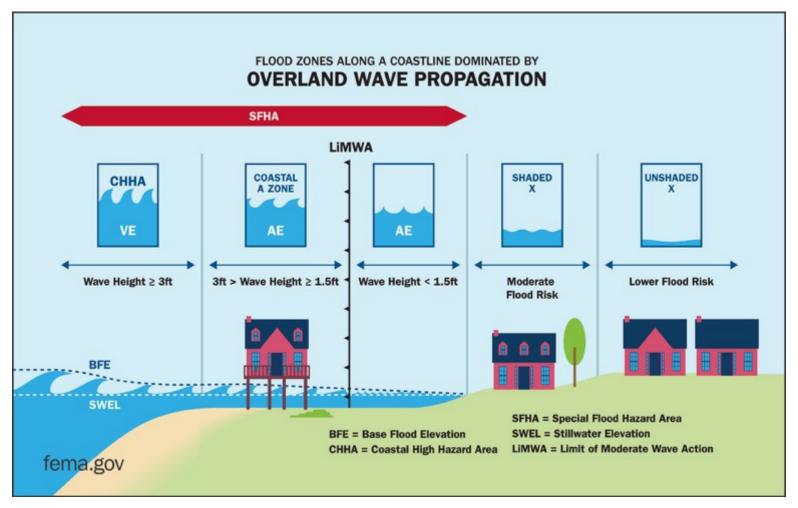


- Wave overtopping occurs when the wave runup elevation exceeds the barrier's crest elevation
- When overtopping occurs, the zone behind the barrier is designated as:
 - AE if the landward slope is positive
 - BFE established based on runup elevation
 - AO if the landward slope is negative
 - Sheet flow depth established
 - AH if the landward slope is negative and flow is trapped behind a barrier
 - BFE established
- The overtopping rate determines VE splash zones and sheet flow depths





Overland Wave Propagation Mapping







Overland Wave Propagation Mapping

- Represents overland wave decay or regeneration over inundated inland areas
- BFEs are defined by the wave crest elevation
- Internal gutters are placed where BFEs change after moving onshore
- Transitional zones capture changes in shoreline characteristics between transects
- Landward extent of mapping defined by the 1-percent SWEL



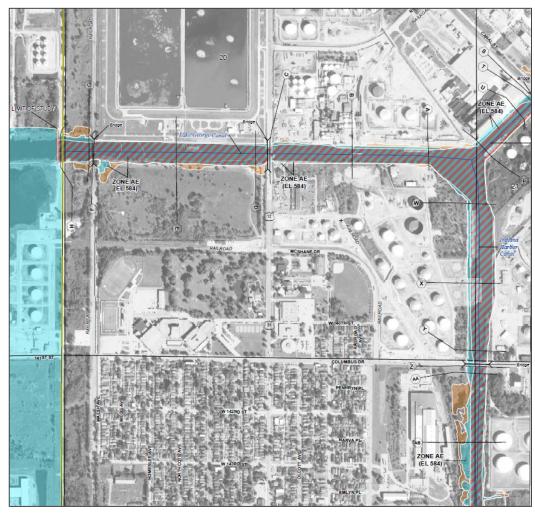




Scope of Work: Riverine-Coastal SFHA Integration

LAKE COUNTY

- Zone AE
 - Indiana Harbor Canal
 - Lake George Canal

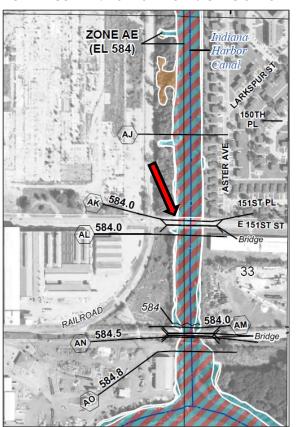




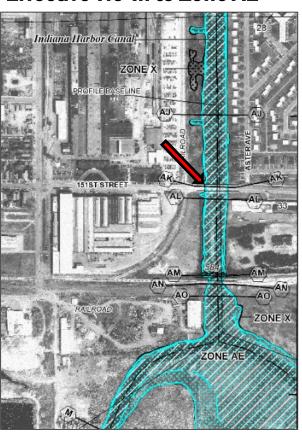


Scope of Work: Integrating Riverine and Coastal Data

Updated Tie-In to Indiana Harbor Canal Zone AE



Effective Tie-In to Zone AE



Limits of coastal flood effects from Lake Michigan are shown on the FIRM (white line)





Summary of Letters of Map Change (LOMCs) for Lake County

Community: LAKE COUNTY

Community No: 180126

2B. LOMCs on Unrevised Panels

| 2B. LOMCs on Unrevised Panels | | | | | |
|-------------------------------|-------------|----------------|--|-------------------|----------------------------|
| LOMC | Case No. | Date Issued | Project Identifier | Original Panel | Current Panel |
| LOMA | 92-05-121B | 03/27/1992 | LOT 13 DEEP CREEK TRAILS | 18089C0120B | 18089C0267E |
| LOMA | 93-05-0215W | 11/02/1993 | 6420 E. 197TH AVENUE | 1801260170B | 18089C0375E |
| LOMA | 94-05-1294A | 12/14/1994 | 3329 EAST 109TH AVENUE | 1801260120B | 18089C0266E |
| LOMR-F | 95-05-1416A | 05/30/1995 | 493 LAKEVIEW COURT | 1801260135B | 18089C0334E |
| LOMR-F | 98-05-1892A | 07/26/1996 | 245 ISLAND DRIVE | 1801260135B | 18089C0333E |
| LOMA | 98-05-1002A | 08/05/1996 | 442 LAKEVIEW COURT | 1801260135B | 18089C0333E 18089C0334E |
| LOMA | 97-05-172A | 03/31/1997 | LOT 10 - WESTRIDGE ESTATES - 17588 MAPLEWOOD | 1801260130B | 18089C0320E |
| LOMA | 97-05-5062A | 11/17/1997 | DALE CARLIA SUBDIVISION - LOTS 39 & 40, BLOCK 15 - 1033 N. LAKEVIEW | 1801260135B | 18089C0334E |
| LOMA | 99-05-7052A | 10/15/1999 | 10336 W. 219TH AVENUE | 1801260200B | 18089C0430E |
| LOMA | 00-05-2846A | 06/28/2000 | GREEN RANCHES ANNEX 2, LOT 21; 10620 PORTER STREET | 1801260115B | 18089C0242E |
| LOMR-F | 00-05-6048A | 02/16/2001 | PORTION OF SECTION 31, T 35 N, R 8 W; WHITE HAWK COUNTRY CLUB | 1801260105B | 18089C0234E |
| LOMA | 01-05-2680A | 07/11/2001 | ASPEN TRAIL, LOTS 17, 19, AND 31 | 1801260080B | 18089C0226E |
| LOMA | 01-05-2446A | 07/18/2001 | PORTION OF SECTION 30, T 34 N, R 8 W; 4315 WEST 133RD AVENUE | 1801260115B | 18089C0244E |
| LOMA | 01-05-2497A | 07/27/2001 | 4321 WEST 133 AVENUE | 1801260115B | 18089C0332E |
| LOMA | 02-05-1775A | 04/17/2002 | PART OF SECTION 30, TOWNSHIP 32 NORTH, RANGE 8 WEST; 3460 WEST 231ST AVENUE | 1801260225B | 18089C0435E |
| LOMA | 02-05-3177A | 07/03/2002 | SE 1/4 OF SW 1/4 OF SECTION 31, T35N, R9W; 13540 W 101ST AVENUE | 1801260080B | 18089C0236E |
| LOMA | 03-05-1766A | 02/14/2003 | TREES, UNIT NO. 4, LOT 51; 5872 EAST 105TH PLACE | 1801260120B | 18089C0267E |

All LOMCs were addressed in the preliminary Summary of Map Actions (SOMA) and placed into one of four categories:

- 1. Incorporated
- 2. Not incorporated (validated)
 - LOMCs on revised panels
 - LOMCs on unrevised panels
- 3. Superseded
- 4. To be redetermined

Be sure to review the preliminary SOMA for completeness

If you notice a LOMC is missing from the list, submit the omission with your comments



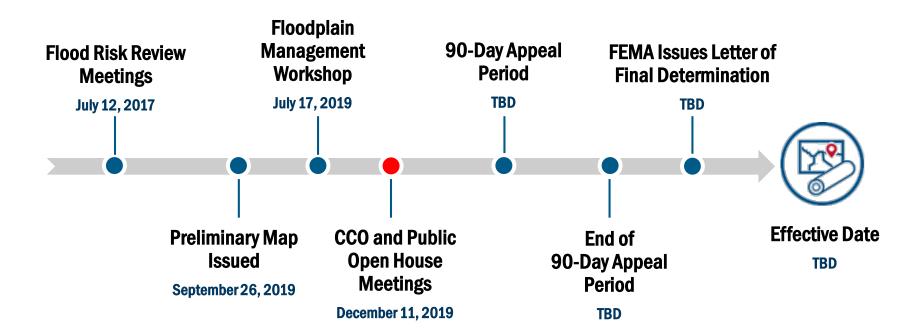








Timeline for Lake County Coastal Update







4-Step Pre-Adoption Process



Inform the Community



Gather Comments and Additional Data



Appeal Process



LFD Issued





#1: Inform the Community – Today's Open House

- Viewing via paper maps or map viewer
- Opportunity to share program information with property owners
- Comment sheets collected
- Attendees notified as process moves forward







#2: Gather Community Comments

- Homeowners may choose to submit comments through community officials
- FEMA requests that community officials forward the initial round of comments to FEMA no later than January 13, 2020







#3: Appeal Process

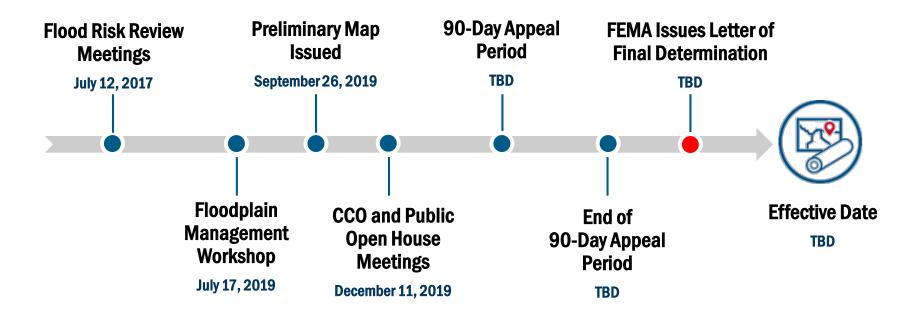
- Appeal Period is 90 days
- Publication of notice in Federal Register
 - Notification to communities by letter, including local newspaper publications
- All are welcome to submit information
 - FEMA recommends directing comments through local community officials to provide a consolidated picture
- Appeals should be submitted to STARR II or FEMA Region V
 - Additional instructions will be provided to community CEOs
- FEMA will evaluate all appeals and comments for resolution after the appeal period





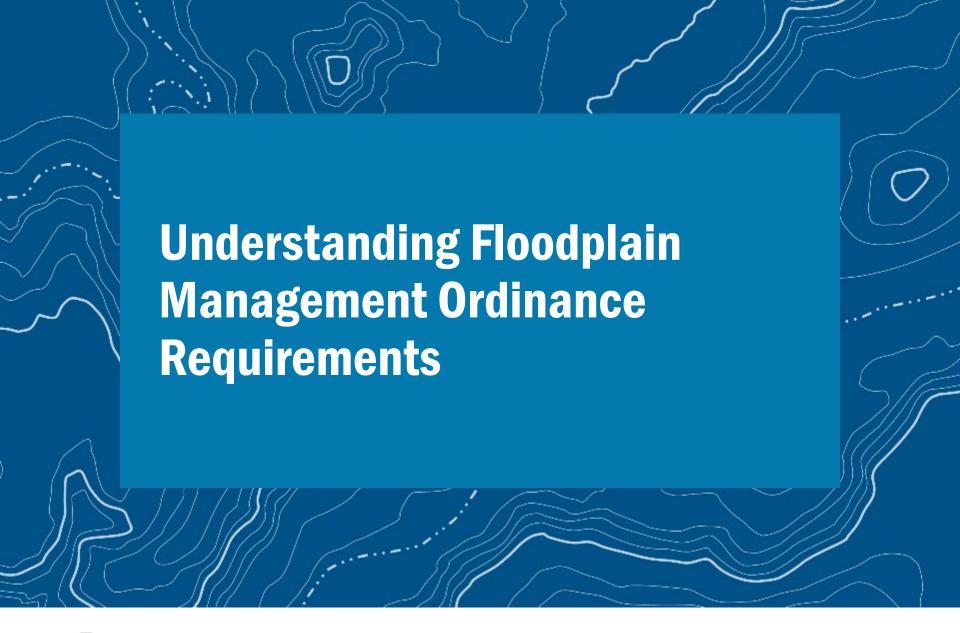


#4: Issuing the Letter of Final Determination













Participation in the National Flood Insurance Program

- ► The NFIP is a voluntary program.
- Participation requires that communities adopt and enforce floodplain management regulations.
- The floodplain management regulations need to be based on the risk data provided by FEMA (the FIRM and FIS report).
- Participation in the NFIP makes Federal flood insurance available to insure buildings and personal property inside buildings within your communities.
- Federally regulated lenders require flood insurance coverage for buildings in the SFHA that secure loans; insurance is also required as a condition of receiving Federal financial assistance to purchase, repair, improve, or rehabilitate buildings within the SFHA.
- Many forms of disaster assistance are either a type of Federal loan or other Federal financial assistance.





Ordinance Adoption During Map Updates

Timeline prior to effective date

- 6 months prior: FEMA 6-month LFD mailing
- 4 months prior: draft ordinance (suggested)
- 3 months prior: FEMA 90-day reminder letter
- 1 month prior: FEMA 30-day reminder letter

Community must update its ordinance to reference the effective date of the FIRM and FIS report <u>before</u> the end of the 6-month period (or community may be suspended from NFIP).







Where to Find Minimum NFIP Requirements

- NFIP Minimum Floodplain Management Standards are found in Part 60 of Title 44, Code of Federal Regulations
- Coastal-specific standards are found in Part 60.3(e)





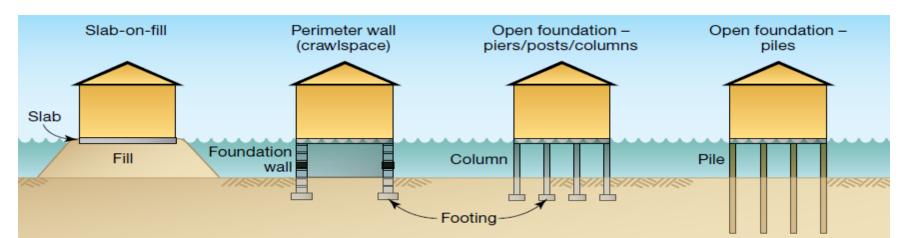
Differences in Development Requirements

A Zones

- Fill is allowed outside the floodway, or if it can be shown not to cause a rise in the BFE.
- Fully enclosed foundation walls (flood openings required) are allowed.
- The lowest floor must be elevated to or above the BFE.
- An as-built lowest floor elevation is required to be on file with the permit records.

VE Zones (and AE zones on the water side of a LiMWA)

- Fill is not allowed for structural support of buildings.
- Only open foundations on columns or piles, free of obstructions, or breakaway walls are allowed below the BFE.
- Bottom of lowest horizontal structural member must be at or above BFE, with an as-built elevation on file.
- A Professional Engineer or Architect must certify the design of the structure, including wind loading, and that must be on file with the permit records.



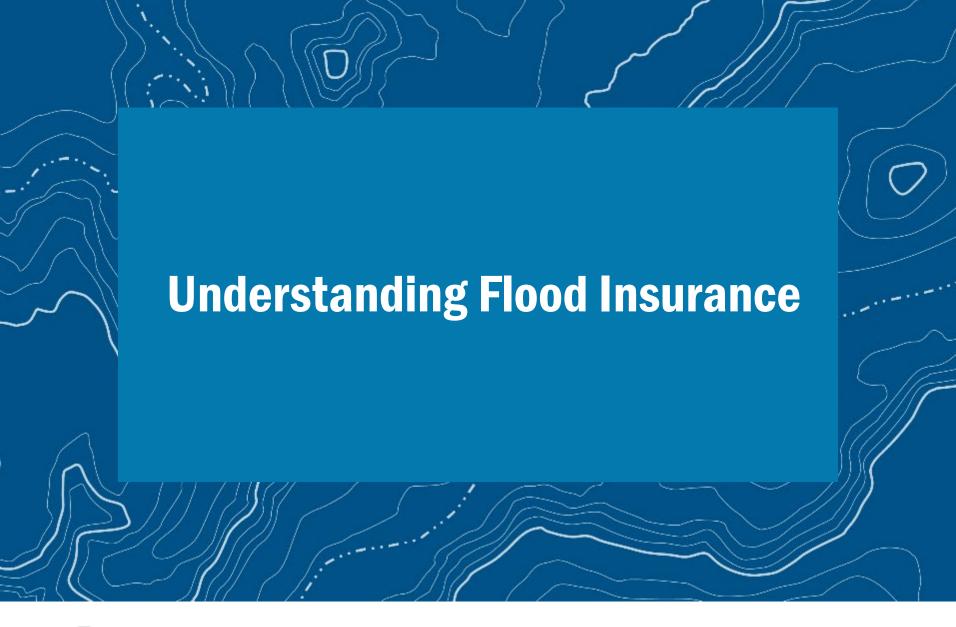
LiMWA (Limit of Moderate Wave Action) on the Map

- ► The Community Rating System (CRS) benefits communities requiring VE zone construction standards in areas defined by the LiMWA or areas subject to waves greater than 1.5 feet.
- There is currently no distinction for insurance purposes between Zone AE and a "coastal" Zone AE on the water side of the LiMWA.













Flood Insurance Basic Concepts

 Structures built on or before December 31, 1974, or before the effective date of the initial FIRM of the community, whichever is later. Structures built after December 31, 1974, OR on or after the effective date of the initial FIRM of the community, whichever is later.

Pre-FIRM

Post-FIRM





Flood Insurance Basic Concepts

Pre-FIRM (subsidized) rates

- For structures built before the first maps of the community
- Do not reflect the structure's true risk, negatively or positively
- Based on building type and occupancy
- Subsidies are being phased out, with some categories increasing toward full risk more quickly

Post-FIRM (actuarial) rates

- Uses the structure's elevation information to determine risk
- Based on the difference between the BFE and elevation of the lowest floor
- Required for Post-FIRM structures, and optional for Pre-FIRM structures with an elevation certificate





Effects of New Flood Zones on Flood Insurance

- ► The new FIRM may:
 - Map a property into the SFHA for the first time
 - Lender may require the owner to get an insurance policy
 - Remove a property from the SFHA
 - Lender may drop the insurance requirement
 - Change the flood zone affecting the property
 - From an A zone to a VE zone (or from Zone AE to Zone AO, etc.)
 - Rating will not change unless the policy is allowed to lapse or the building is substantially improved
 - If the new zone results in a less costly premium, the policy can be endorsed to revise the rate to the new zone with a prorated refund for the difference for the remainder of the policy year. Insured needs to ask the AGENT to do this!





Insurance Rating and Product Possibilities

- Newly Mapped (Zone A, AE, AO, and AH)
 - Pricing starts at Preferred Risk Rates bundled standard Preferred Risk Policy for the first year
 - Multiplier added after the first year
 - Must be newly mapped into an SFHA from zone on the previous FIRM
 - Must have two or fewer losses paid by NFIP or disaster assistance

- Grandfathering
 - Keeps lower rate zone and/or BFE
- Two Ways
 - Continuous coverage (pre- and post-FIRM)
 - Coverage obtained prior to and through a map change
 - Built in compliance
 - Post-FIRM ONLY
 - Built in compliance with the map at the time
 - Not substantially improved later





Risk Rating Redesign

To stay up-to-date with Risk Rating 2.0, and for the latest details, please visit www.fema.gov/nfiptransformation.





Insurance Rating and Product Possibilities

- Newly Mapped
- Exceptions
 - Can't be community's first FIRM
 - Multi-unit buildings insured under the RCBAP
 - Policy can't be first purchased more than 12 months after the effective date of the FIRM
 - Building can't be altered or substantially improved

- Grandfathering (Standard)
- Exceptions
 - Can't have a lapse in coverage
 - Building can't be altered or substantially improved





Resources for Insurance

- Floodsmart.gov
- FEMA.gov



- Grandfathering
- Newly Mapped PRP
- Flood Insurance Reform

Flood Insurance Manual

- https://www.fema.gov/flood-insurancemanual
- General Rules
- Newly Mapped
- Rating
- Flood Insurance Rate Maps
 - msc.fema.gov





NFIP Floodplain Management and Insurance

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Indiana DNR
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What is Hazard Mitigation?

Any sustained action taken to reduce long-term risk to people and property from hazards and their effects.

Mitigation actions include:

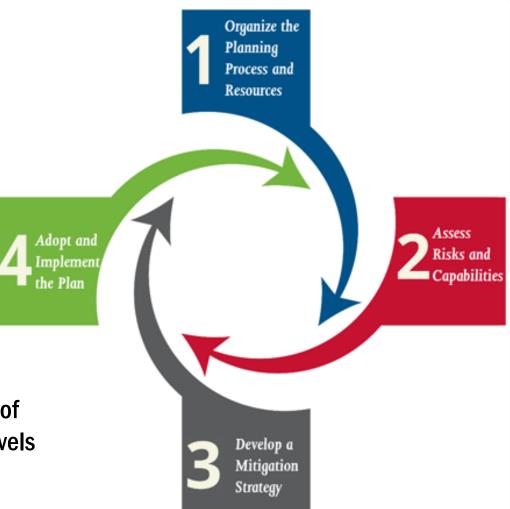
- Removing existing structures from floodprone areas
- Elevating or floodproofing structures
- Stormwater management
- Floodwater storage and diversion
- Flood insurance
- Building, zoning, and floodplain management codes
- Wetland and riparian area protection
- Water/Sanitary sewer system protective measures





Benefits of Hazard Mitigation Planning

- Increases public awareness and understanding of risk areas and vulnerabilities by engaging the whole community
- Provides eligibility for certain FEMA programs
- Builds partnerships with diverse stakeholders
- Identifies potential risk reduction measures
- Improves communication and sharing of risk data and related products at all levels of government and with the public







Federal Planning Regulations

The Disaster Mitigation Act of 2000

- Establishes eligibility for FEMA Hazard Mitigation Assistance (HMA) programs
 - Plan approval is a precondition for receiving HMA grants
- Requires local governments to submit a plan to their State and FEMA for review

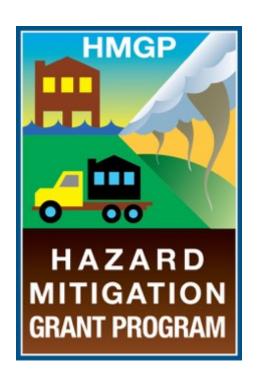
Title 44 Code of Federal Regulations (CFR) 201.6

Publishes requirements for approval of local mitigation plans





Hazard Mitigation Assistance







Contact your State Hazard Mitigation Officer (SHMO) to learn more about the application process.





IDHS Mitigation Contacts and More Information

Web: https://www.in.gov/dhs/4197.htm

Phone: (317) 232-2222

Torrey Glover
State Hazard Mitigation Officer
(317) 234-6556

tglover@dhs.in.gov

Want More Information?

Hazard Mitigation Planning: https://www.fema.gov/hazard-mitigation-planning

Hazard Mitigation Assistance (HMA): https://www.fema.gov/hazard-mitigation-assistance

Mitigation Planning Resources: https://www.fema.gov/hazard-mitigation-planning-resources





FEMA Engineering Library Data Requests

Requests must be sent in writing to:

FEMA Engineering Library 3601 Eisenhower Ave., Ste. 500 Alexandria, VA 22304-6426

Or Fax: (703) 202-4090

Request must include:

FIS Data Request Form
Applicable Fees
Payment Information Form

 Once the research has been completed, an information specialist will contact you to discuss the path forward.





Federal Emergency Management Agency

Washington, D.C. 20472

Flood Insurance Study (FIS) Data Requests

The Federal Emergency Management Agency (FEMA) has identified seven categories into which requests for Flood Insurance Study (FIS) backup (i.e., technical and administrative support) are separated. These categories and their associated fees are below:

| December Con File of Lawrence on Bardons | |
|---|--|
| Requests for Flood Insurance Backup Data | Fee |
| | |
| 1. Portable Document Format (PDF) or | \$300, plus a \$93 per-case surcharge fee to recover the cost of |
| Diskettes of hydrologic and hydraulic | library maintenance and archiving. For larger requests that |
| backup data for current or historical | require more than 4 hours of research, additional hours will be |
| FISs | charged at \$40 per hour. |
| 2. PDF or Mylar copies of topographic | \$300, plus a \$93 per-case surcharge fee to recover the cost of |
| mapping developed during FIS process | library maintenance and archiving. For larger requests that |
| | require more than 4 hours of research, additional hours will be |
| | charged at \$40 per hour. |
| 3. PDF of survey notes developed during | \$300, plus a \$93 per-case surcharge fee to recover the cost of |
| FIS process | library maintenance and archiving. For larger requests that |
| | require more than 4 hours of research, additional hours will be |
| | charged at \$40 per hour. |
| 4. PDF of individual Letters of Map | \$40 for first letter; \$10 for each additional letter in the same |
| Change (LOMCs) | request. Requesters will be notified about availability of the |
| | data and the fees associated with the requested data. |
| 5. PDF of preliminary map panels | \$35 for first panel; \$2 for each additional panel in the same |
| | request. Requesters will be notified about availability of the |
| | data and the fees associated with the requested data. |
| 6. DVDs of Digital Line Graph files, | \$150 per county or Digital LOMR attachment shape file. |
| FIRM files or Digital LOMR | Requesters will be notified about availability of the data and |
| attachment files | the fees associated with the requested data. |
| 7. Computer diskettes and user manuals | \$25 per copy. Requesters will be notified about availability of |
| for FEMA computer programs | the data and the fees associated with the requested data. |

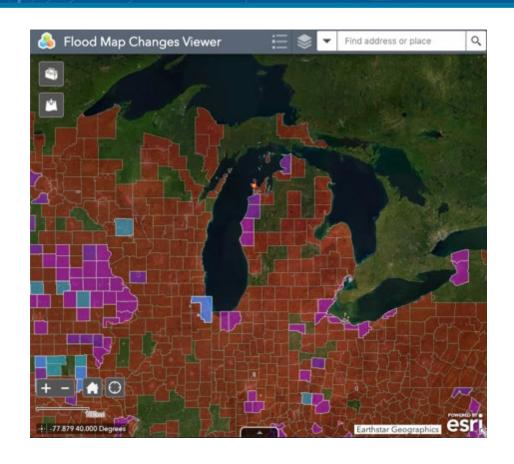
As shown in the table above, for Categories 1-3, an initial fee of \$300 is required to initiate the request and required before the requested data will be provided. If the data requested are available and the request is not cancelled, the final fee is calculated as a sum of the standard per-product charge plus a per-case surcharge of \$93, to help recover library maintenance and archiving costs. The total costs of processing requests in Categories 1-3 will vary based on the complexity of the research involved in retrieving the data and the volume and medium of the data to be reproduced and distributed. The initial flat fee will be applied against the total costs to process the request, and FEMA will invoice the requester for the balance plus the per-case surcharge before the data are provided. No data will be provided to a requester until all required fees have been paid.

For Categories 4-7, there is no initial fee to initiate a request for data. Requesters will be notified about the availability of, and the fees associated with, the requested data.

1

Mapping Resources

- ➤ FEMA Flood Map Changes Viewer <u>msc.fema.gov/fmcv</u>
- Preliminary Flood Hazard Data
 <u>www.fema.gov/view-your-communitys-preliminary-flood-hazard-data</u>
- Steady State Program <u>msc.fema.gov</u>







Questions and Additional Information

Visit:

www.greatlakescoast.org

www.fema.gov/preliminaryfloodha zarddata

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