

RiskMAP
Increasing Resilience Together



SANILAC COUNTY Community Consultation Officers (CCO) Meeting

NOVEMBER 14, 2019



FEMA



TODAY'S AGENDA

Reviewing the Updated Flood Risk Data for Your County

Next Steps in the Map Adoption Process

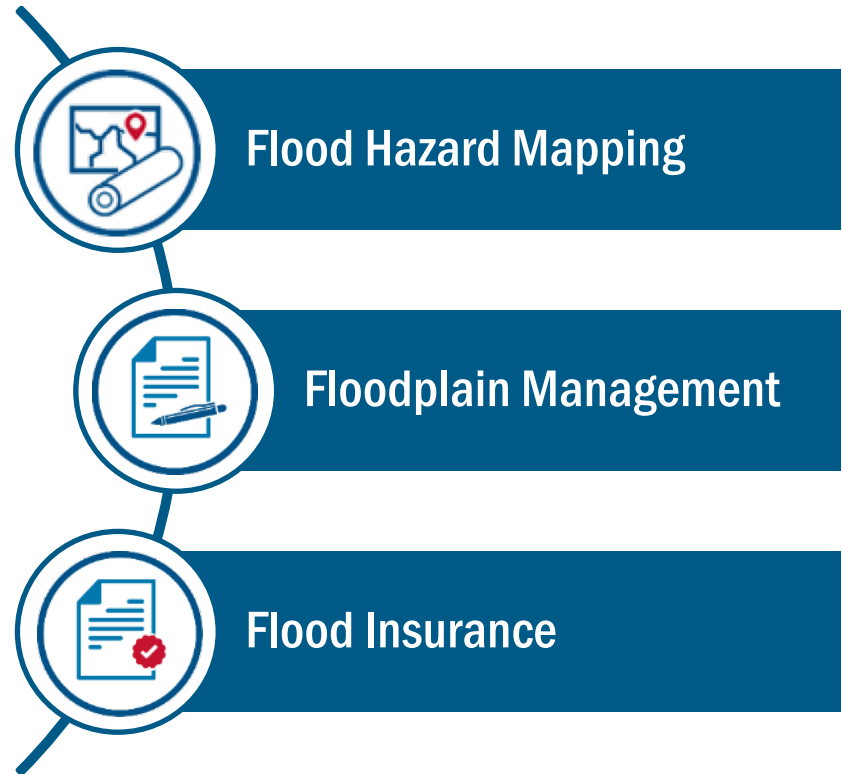
Understanding Floodplain Management Ordinance Requirements

Understanding Flood Insurance

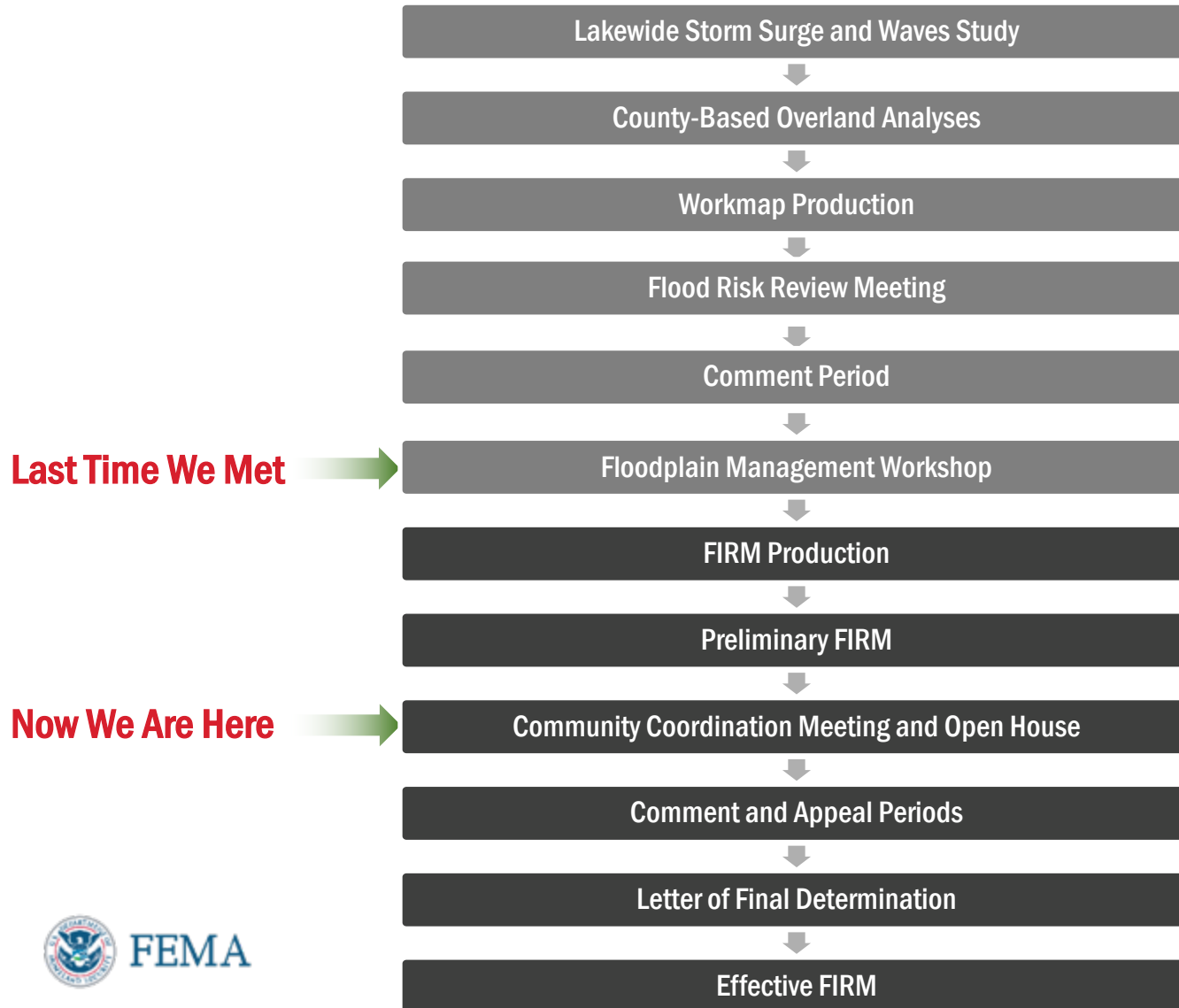
Hazard Mitigation Planning

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



Reviewing the Updated Flood Risk Data for your County



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Why is FEMA Updating Your Flood Maps?

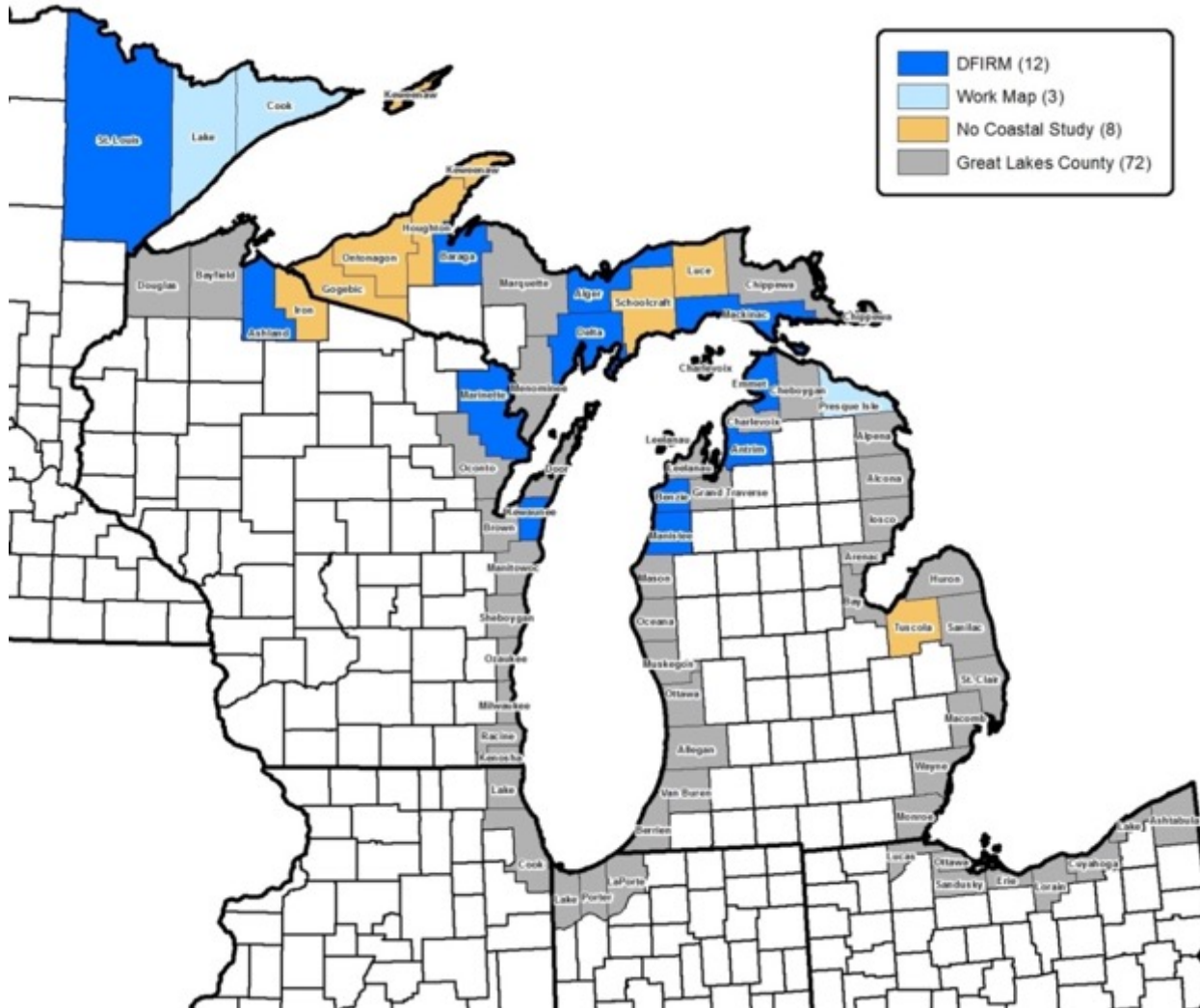
The Great Lakes Coastal Flood Study provides updated flood risk information for areas around each of the Great Lakes using uniform methodology, updated terrain data, and modern wave modeling techniques.

Many factors contribute to flood map revisions:

- ▶ **Population growth and increased development**
- ▶ **Movement of rivers and shorelines**
- ▶ **Changing technology and improved modeling techniques and data**



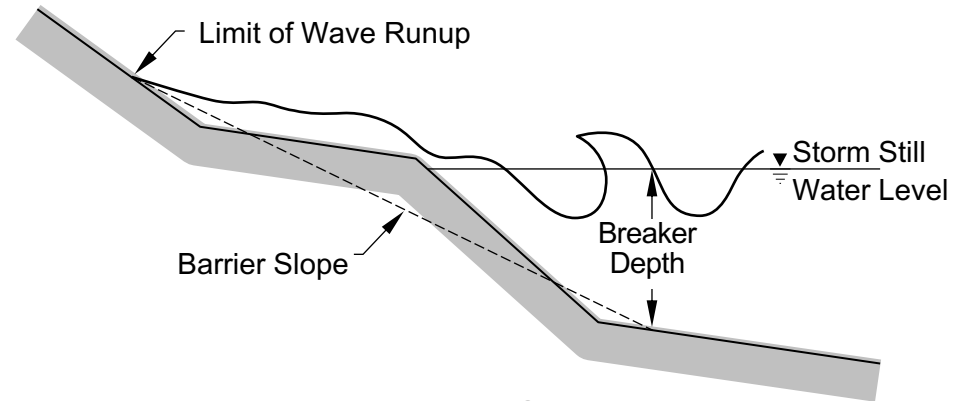
Program Goals and Status



The Great Lakes Coastal Flood Study Approach

Regional Study Approach

- Lake-wide water level and wave analysis
 - 151 storms from 1960 to 2009
 - Modeling conducted by STARR in 2015
- Greater consistency in assumptions
- Reduces number of boundary conditions



Wave Runup Schematic

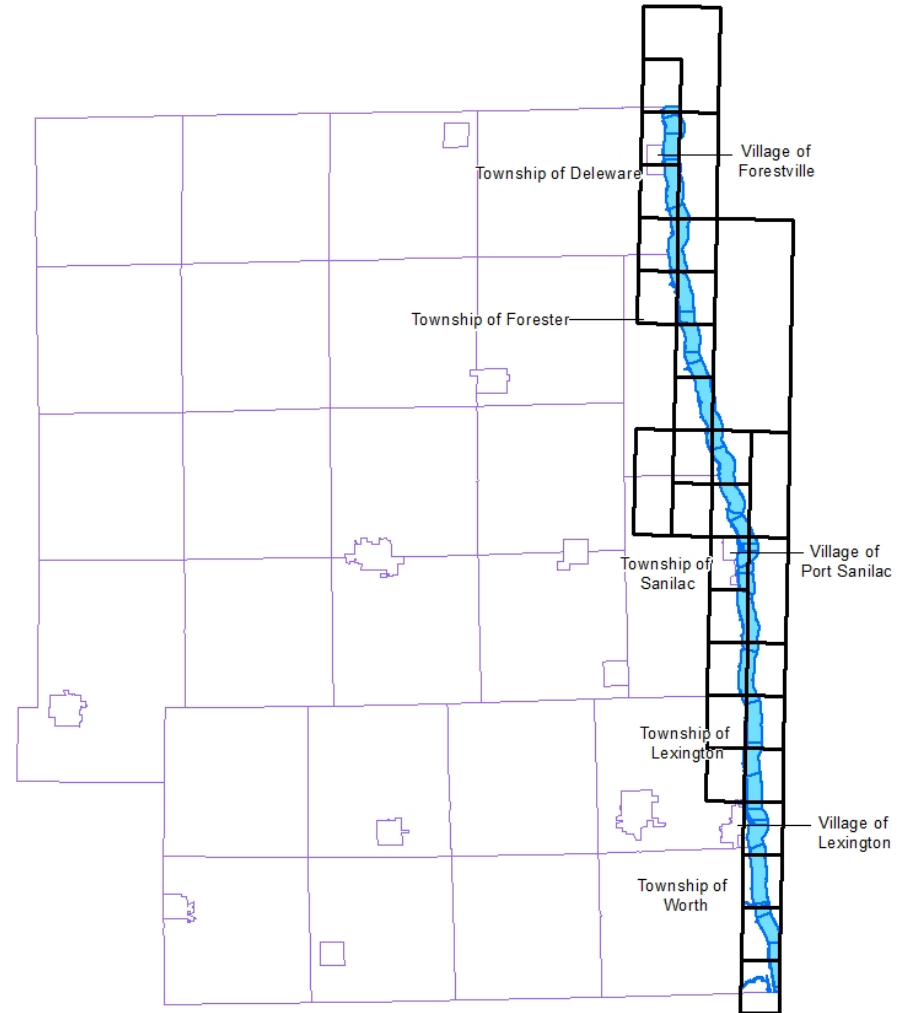
from FEMA Great Lakes Coastal Guidelines "D.3" Update

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– Sanilac County (Lake Huron)

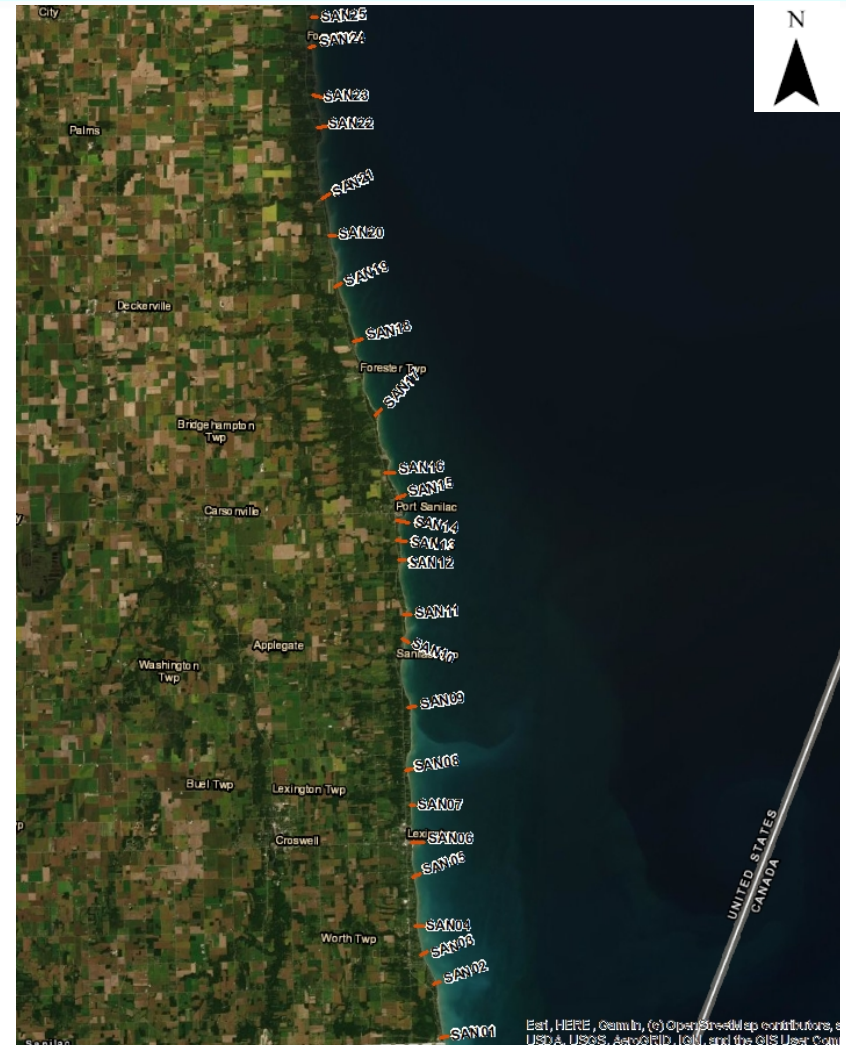
- ▶ Coastal detailed (Zone AE/VE/AO/AH) study – 39 shoreline miles
- ▶ Tie-Ins to approximate (Zone A) study – 1 Riverine Stream



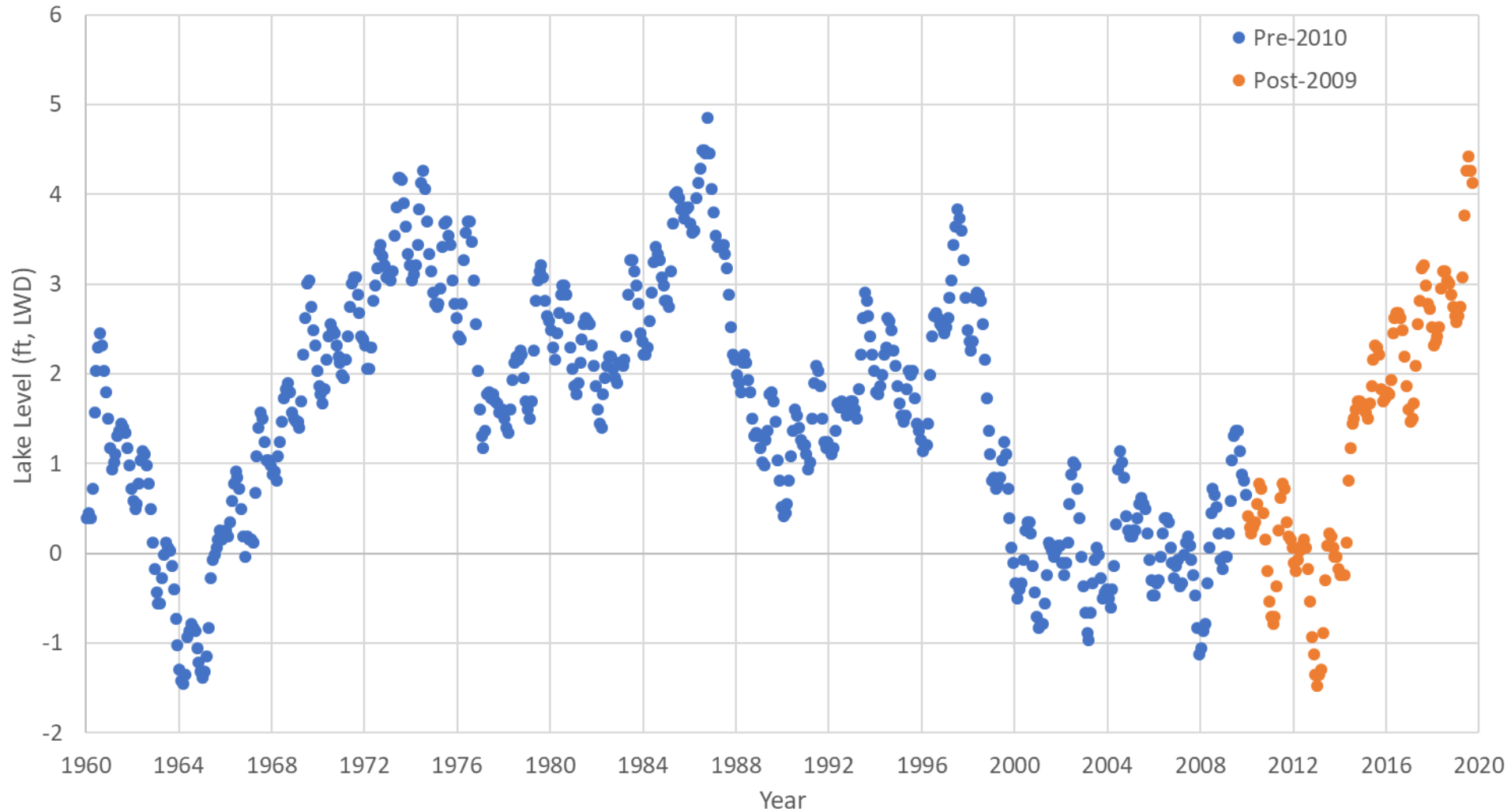
The Great Lakes Coastal Flood Study in Sanilac County (Lake Huron)

Sanilac County Coastal Flood Hazard Analysis on Lake Huron:

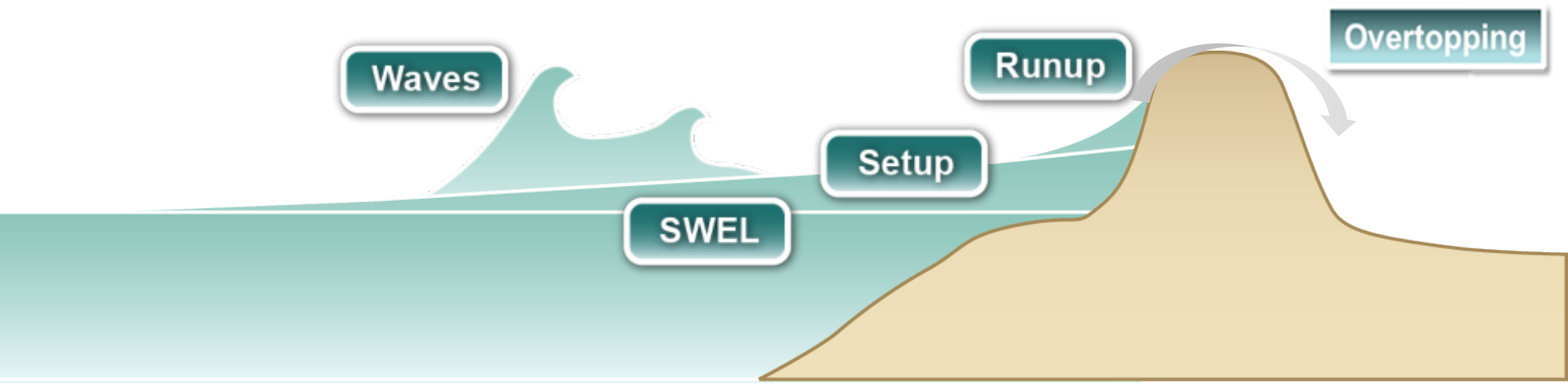
- 39 miles of coastline
- 25 coastal transects
- Transects placed at representative shoreline reaches based on:
 - Topography
 - Exposure
 - Shoreline material
 - Upland development
- Integration of riverine and coastal Special Flood Hazard Areas
- Topography
 - 2012 U.S. Army Corps of Engineers LiDAR



Lake Huron Water Levels



Measuring Coastal Base Flood Elevations



SWEL = Stillwater Elevation (storm surge level)

TWEL = Total Water Elevation (SWEL + wave effects)

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
 - Plateau method applied where appropriate
 - AO if the landward slope is negative
 - Sheet flow depth established
- The overtopping rate determines Zone VE splash zones and sheet flow depths

Special Flood Hazard Areas (SFHAs)

Zone VE

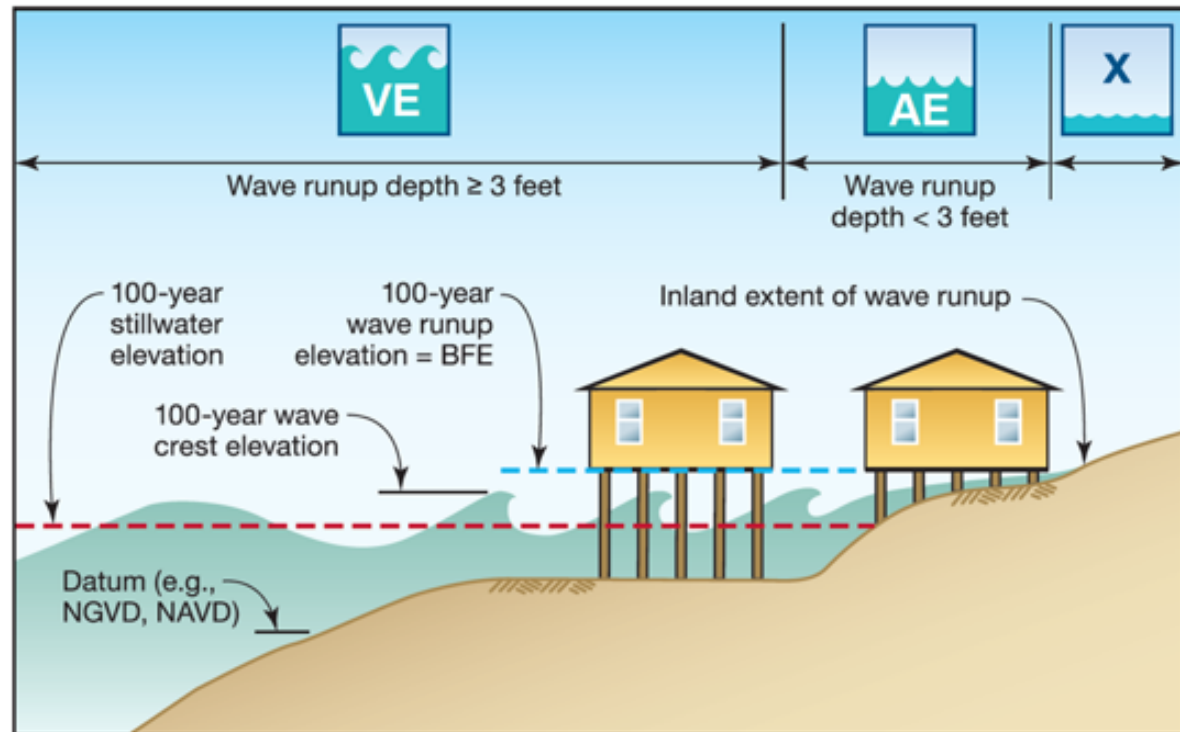
- Coastal high-hazard zone, where wave action and/or high-velocity water can cause structural damage during the 1-percent-annual-chance flood
- Wave heights or wave runup greater than or equal to 3 feet
- May be subdivided into elevation zones, and BFEs are assigned

Zone AE

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

Zone AO

- Applied in areas of sheet flow and shallow flooding
- Assigned an associated depth instead of 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



Scope of Work: Riverine-Coastal SFHA Integration

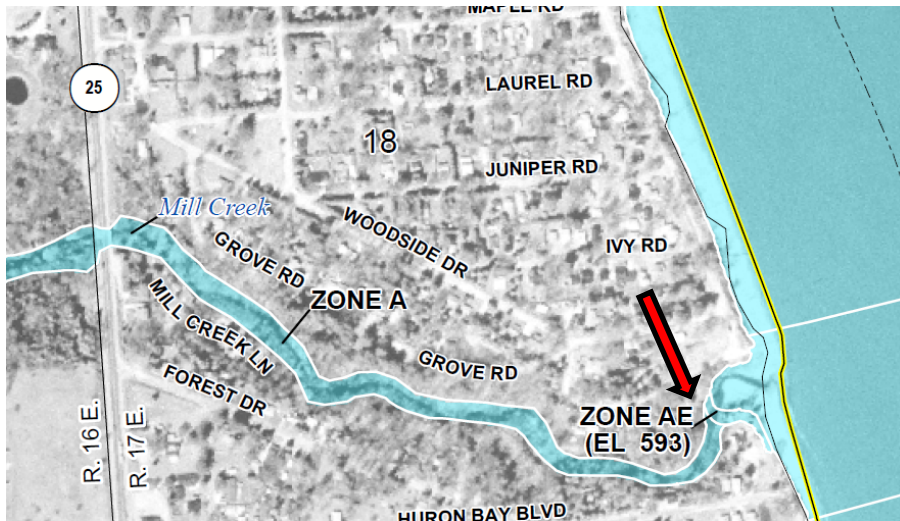
SANILAC COUNTY (Lake Huron)

- **Approximate Zone A**
 - Mill Creek



Scope of Work: Integrating Riverine and Coastal Data

Updated Tie-In to Mill Creek Zone A



Effective Tie-In



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

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

Community: WORTH, TOWNSHIP OF

Community No: 260296

2A. LOMCs on Revised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	97-05-2100A	03/18/1997	GREAT LAKES BEACH - LOTS 925-929 & 935-936 -- 7348 LAKEVIEW	2602960006A	26151C0592C
LOMA	04-05-0425A	01/09/2004	HURONIA HEIGHTS BEACH, LOT 386 -- 7509 LAKEVIEW	2602960006A	26151C0584C
LOMA	06-05-BN18A	06/28/2006	GOODSON & BOLES SUBDIVISION LOT 9 -- 7901 LAKEVIEW (MI)	2602960009A	26151C0584C
LOMA	07-05-0421A	11/21/2006	HURONIA HEIGHTS, LOT 385 -- 7507 LAKEVIEW (MI)	2602960006A	26151C0584C
LOMA	07-05-0422A	12/14/2006	HURONIA HEIGHTS BEACH, LOT 461 -- 7526 ELMWOOD (MI)	2602960006A	26151C0584C
LOMA	09-05-0435A	11/25/2008	BOLLES SUBDIV OF ORCHARD BEACH, BLOCK A, LOT 1 -- 8629 LAKEVIEW AVENUE	2602960009A	26151C0592C
LOMA	09-05-0502A	12/04/2008	BOLLES FIRST ADDITION TO BIRCH BEACH FARM, BLOCK G, LOT 4 -- 7891 LAKEVIEW	2602960006A	26151C0584C
LOMA	10-05-0829A	01/21/2010	LOTS 31, 32, 33, 34, GOODSON AND BOLLES -- 7787 LAKEVIEW DRIVE	2602960009A	26151C0584C
LOMA	10-05-4888A	08/08/2010	LOTS 1325-1329 AND A PORTION OF LOT 1324, GREAT LAKES BEACH SUBDIVISION -- 7308 LAKEVIEW DRIVE	2602960006A	26151C0584C
LOMA	10-05-5973A	10/05/2010	LOT 15, GOODSON & BOLLES SUBDIVISION OF BIRCH BEACH FARM -- 7873 LAKEVIEW DRIVE	2602960009A	26151C0592C
LOMA	11-05-8101A	09/13/2011	LOT 3, EDEN BEACH SUBDIVISION -- 8961 LAKE COURT ROAD	2602960012A	26151C0592C
LOMA	18-05-2509A	04/11/2018	CEDAR HAVEN SUBDIVISION, LOT 1 -- 7384 CEDAR HAVEN LANE	26151C0582B	26151C0582C

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

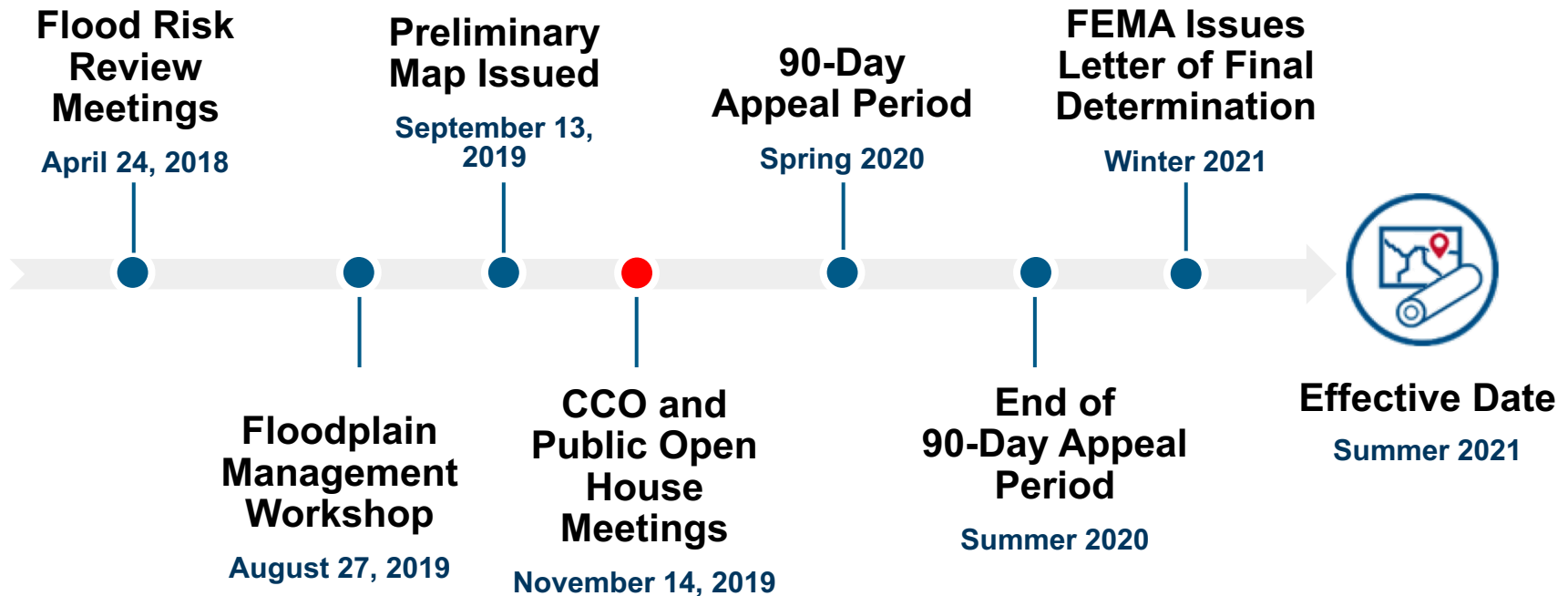
Next Steps in the Map Adoption Process



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Timeline for Sanilac 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 December 13, 2019**

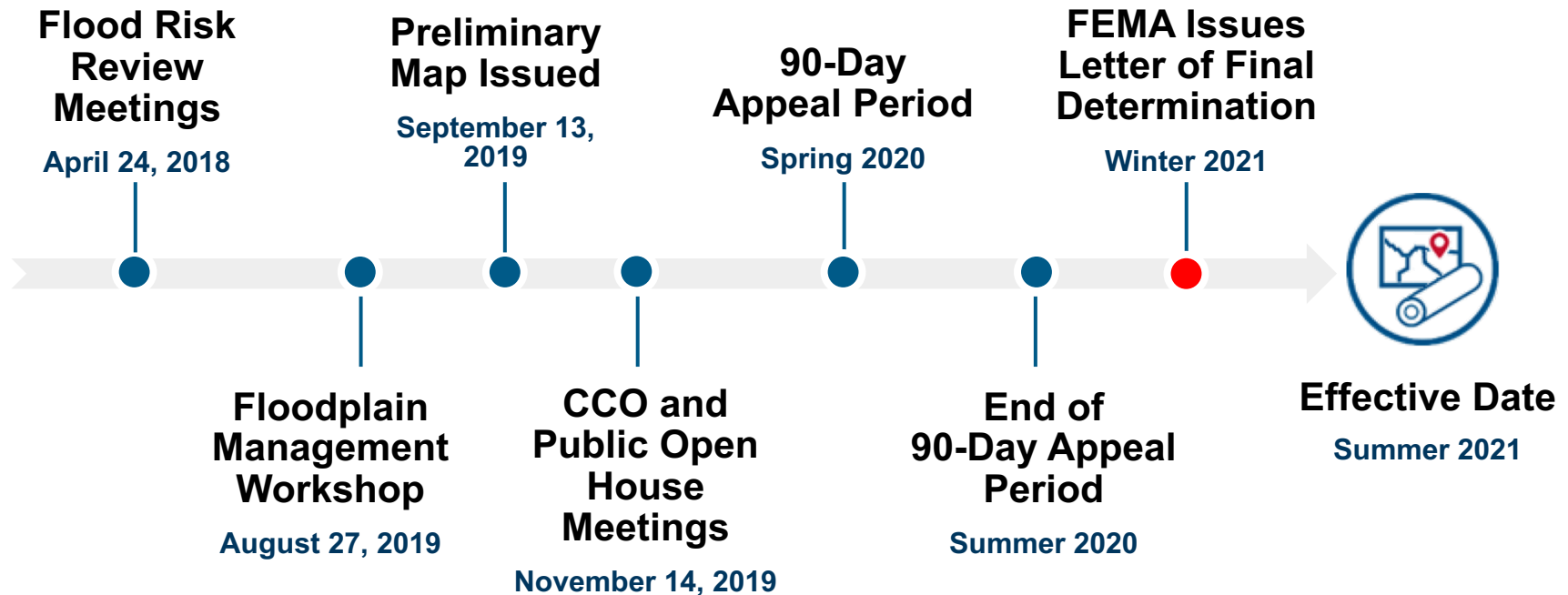


#3: Appeal Process

- ▶ **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



Understanding Floodplain Management Ordinance Requirements



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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 before 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)**
- ▶ **In Michigan, pursuant to the Stille-DeRosset-Hale Single State Construction Code Act of 1972, the Michigan State Building Code applies throughout the state.**
- ▶ **With the community ordinance referencing the applicable FIRM and FIS, the Michigan Building Code meets NFIP minimum floodplain standards.**
 - 2015 I-Codes checklist: <https://www.fema.gov/media-library/assets/documents/100537>
 - 2018 I-Codes checklist: <https://www.fema.gov/media-library/assets/documents/156934>

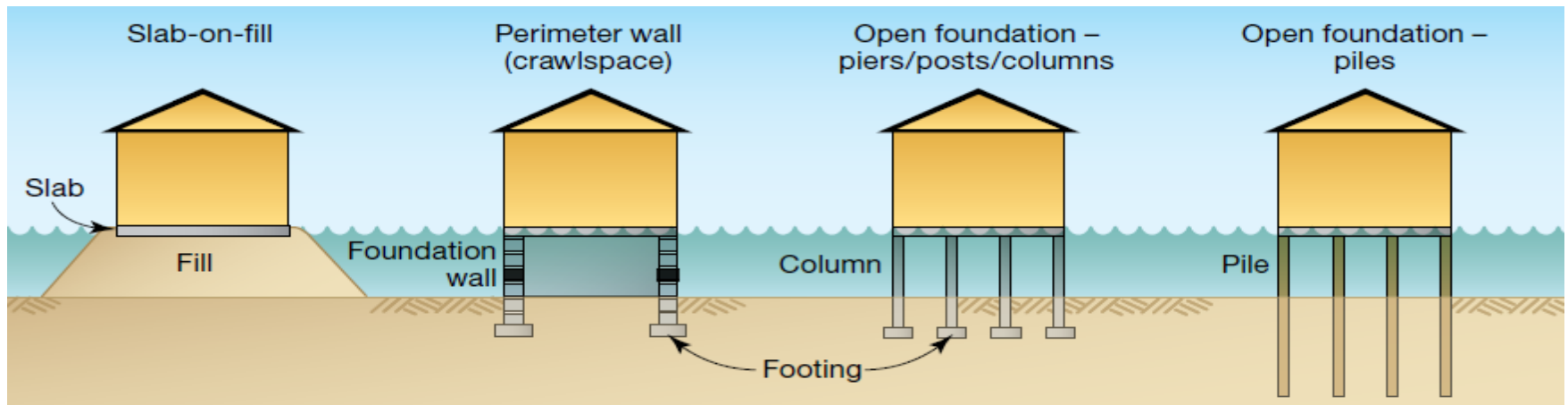
Differences in Development Requirements

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 to 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.



Understanding Flood Insurance



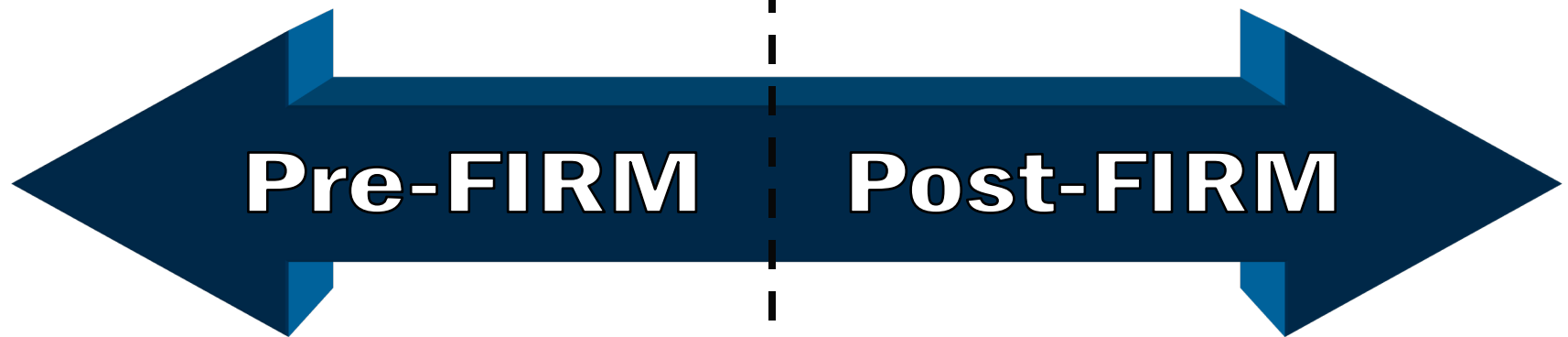
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Flood Insurance Basic Concepts

- 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



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 and through a map change
- Built in compliance
 - **Post-FIRM ONLY**
 - Built in compliance with the map at the time
 - Not substantially improved later

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)

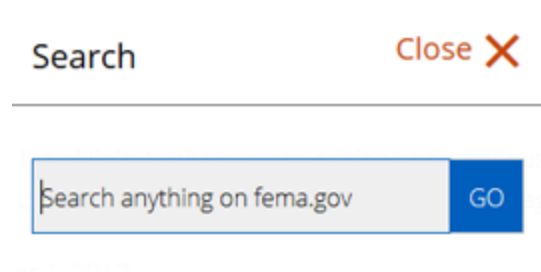
▶ Exceptions

- Can't have a lapse in coverage
- Building can't be altered or substantially improved

Resources for Insurance

▶ Floodsmart.gov

▶ FEMA.gov



A screenshot of the FEMA.gov search interface. At the top, the word "Search" is on the left and "Close X" is on the right. Below this is a search input field with the placeholder text "Search anything on fema.gov" and a blue "GO" button to its right.

- Grandfathering
- Newly Mapped PRP
- Flood Insurance Reform

▶ Flood Insurance Manual

- <https://www.fema.gov/flood-insurance-manual>
- General Rules
- Newly Mapped
- Rating

▶ Flood Insurance Rate Maps

- www.msc.fema.gov

NFIP Floodplain Management and Insurance

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Michigan EGLE
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Hazard Mitigation Planning



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What is Hazard Mitigation?

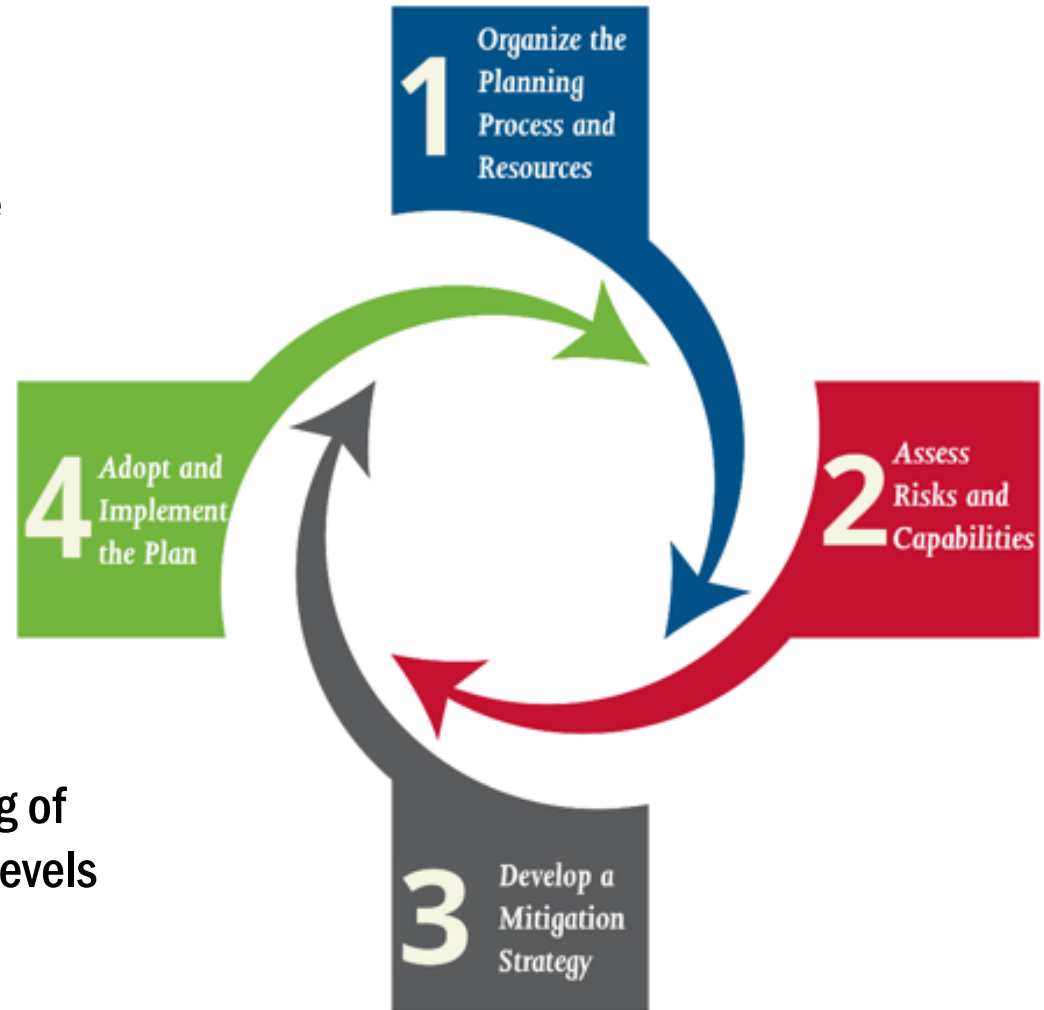
Any sustained action taken to reduce long-term risk to people and property from hazards and their effects.

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 to all levels of government and 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.

EMHSD Mitigation Contacts and More Information

Web: https://www.michigan.gov/msp/0,4643,7-123-72297_60152---,00.html

Phone: (517) 284-3745

Matt Schnepf
State Hazard Mitigation Officer
(517) 284-3950
schnepfm1@Michigan.gov

Mike Sobocinski
State Hazard Mitigation Planner
(517) 284-3947
SobocinskiM@Michigan.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:

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



Mapping Resources

➤ FEMA Flood Map Changes Viewer

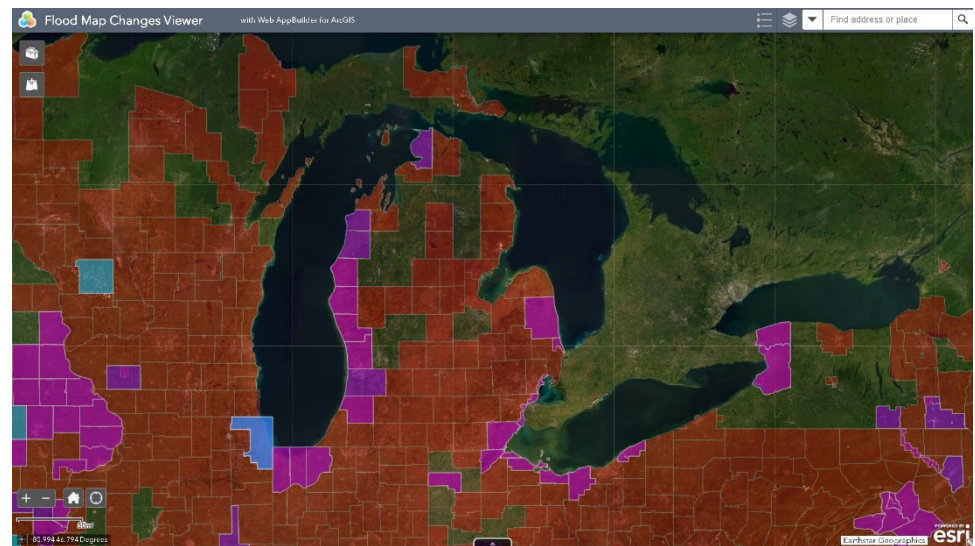
www.msc.fema.gov/fmcv

➤ Preliminary Flood Hazard Data

www.fema.gov/view-your-communitys-preliminary-flood-hazard-data

➤ Steady State Program

www.msc.fema.gov



Questions and Additional Information

Visit:

www.greatlakescoast.org

www.fema.gov/preliminaryfloodhazarddata

FEMA Region V

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Ken.Hinterlong@fema.dhs.gov

STARR II (Contractor)

Fred Knight

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fknight@dewberry.com

NFIP Region V BSA Manager

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Question & Answer Session



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**We Hope You Will Stay for
the Open House**



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