

Awareness Month
April 2025



LOMRs for Engineers
Maryland Flood Awareness Month
April 2025

Agenda



- Welcome and Housekeeping
- Role of Floodplain Manager
- LOMR Basics
- Available Resources
- MT-2 Requirements
- Common Issues
- Questions

Letters of Map Change (LOMCs)



Amendments (MT-1s)

- Specific Structure/Property
- Effective BFE
- FEMA issues letter/document

Revisions (MT-2s)

- General Area of Floodplain
- New analysis to change BFE
- FEMA issues letter/document & revision to FIS/FIRM

➤ Issued LOMCs can be found on FEMA's Map Service Center:

- <https://msc.fema.gov/portal/home>

➤ Location of issued LOMCs can be seen on mdfloodmaps.net

Letters of Map Change (LOMCs)



Amendments: MT-1s

- Letter of Map Amendment – LOMA
- Letter of Map Revision Based on Fill – LOMR-F
- Conditional LOMA and Conditional LOMR-F (CLOMA/CLOMR-F)

Revisions: MT-2s

- Letter of Map Revision – LOMR
- Conditional Letter of Map Revision – CLOMR

LOMR



Letter of Map Revision (LOMR)

What is a LOMR?

- Shows changes in BFEs, floodplains and floodways.
- Revises the FIRM/FIS report, but does not republish the effective FIRM Panel and FIS report
- Basis of LOMR request
 - More detailed analysis
 - Reflect constructed project
 - Natural changes
 - Update/Error correction

Page 1 of 2 Issue Date: March 28, 2012 Effective Date: August 10, 2012 Case No.: 19-09-0120P LOMR APP

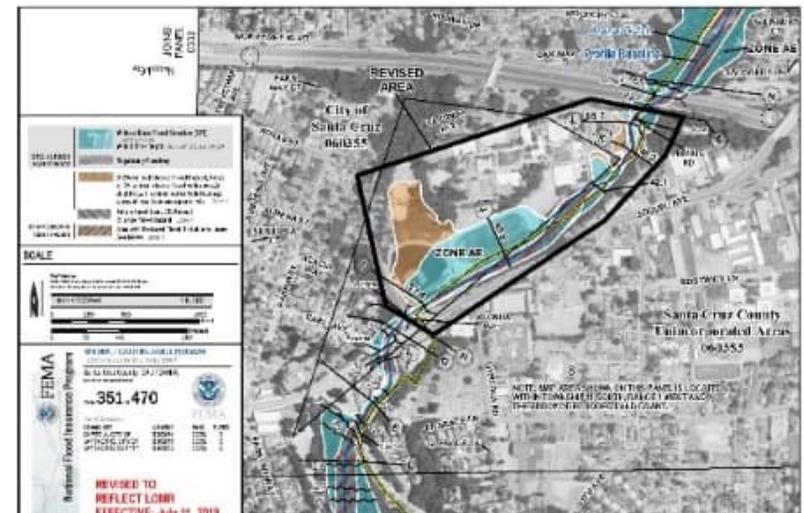
Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT**

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASES OF REQUEST
COMMUNITY	City of El Mirage Maricopa County Arizona	NO PROJECT	HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
COMMUNITY NO.:	040241		
IDENTIFIER	Lower El Mirage Urban/Sport Road	APPROXIMATE LATITUDE & LONGITUDE: 32.936, -112.243	SOURCE: USGS GTOPO30 V.2 EXTENT: NAD 83
ASSOCIATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM	NO: 061030A, DATE: October 04, 2010	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: November 04, 2010 ACTION: LOMR	

Comments: Please check for spelling errors affected by this request.
FIRM: 19-09-0120P Date Issued

FLOODING SOURCES & REVISED FLOODLINE
Cover: El Mirage Street - from approximately 1,100 feet downstream of West of Grand Street to just downstream of Grand Street

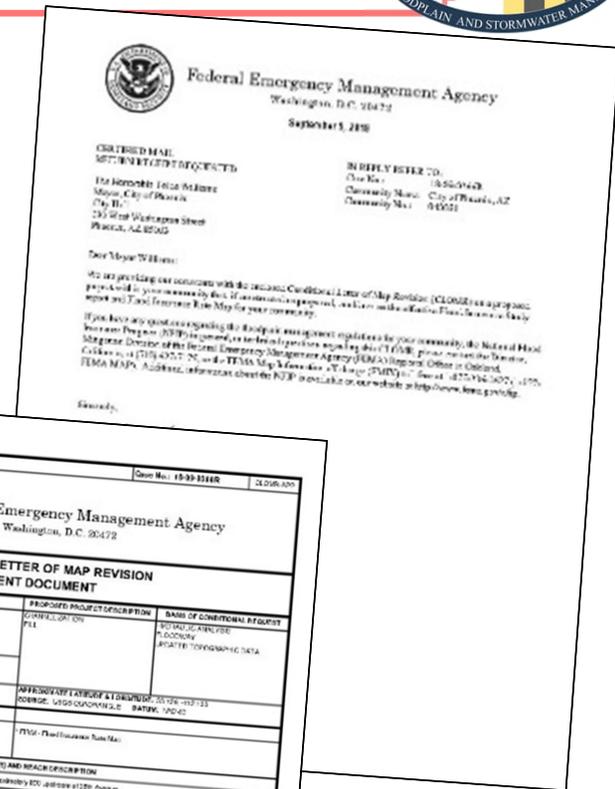


CLOMR



Conditional Letter of Map Revision (CLOMR)

- CLOMRs are for proposed projects
- FEMA's comment on the effects that a proposed project would have on the FIRM
- Does not revise FIRM
- Must be followed by a LOMR request when project is complete
- Not a permit



Page 1 of 2 Issue Date: September 5, 2018 Form No.: 19-99 (2018) CLOMR

Federal Emergency Management Agency
Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT

COMMUNITY INFORMATION		PROPOSED PROJECT DESCRIPTION	BASE OF CONDITIONS REQUEST
COMMUNITY	City of Phoenix Maricopa County Arizona	CONCRETE PAVEMENT	TO REVISION/REPLACE FLOODPLAIN DATE: 10/15/2018
STATE/FIPS	Arizona		
APPLICABLE MAP PANELS		APPROXIMATE LOCATION & FORWARDING INFORMATION	
DATE: 10/15/2018	NO. 08110201A DATE: 08/14/2013	SOURCE: 1820 CONCRETE PAVEMENT	
FLOODING SOURCE(S) AND REASON DESCRIPTION			
Floodplain Hazard - Floodplain Hazard 200 feet & within of 200 feet to secondary 200 feet to 200 feet			
FLOODING SOURCE		PROPOSED PROJECT DESCRIPTION	
Waterway: Urban	Proposed Project: Concrete Paving	Location of Proposed Project: From secondary 200 feet to secondary 200 feet to 200 feet	
SUMMARY OF IMPACTS TO FLOOD HAZARD DATA			
Waterway: Urban	Review: Floodplain	Proposed: Floodplain	Revised: Floodplain
Jul 14 AZ	2018	2018	2018
Floodway	Floodway	Floodway	Floodway
Yes	No	No	No
Yes	No	No	No
Yes	No	No	No
Yes	No	No	No
COMMENT:			

CLOMR Requirement - Zone AE



44 CFR 60.3(c)(10)

- Zone AE
- No Floodway
- BFE increase > 1.00 foot



Must consider the cumulative effect of the proposed development, when combined with all other existing and anticipated development

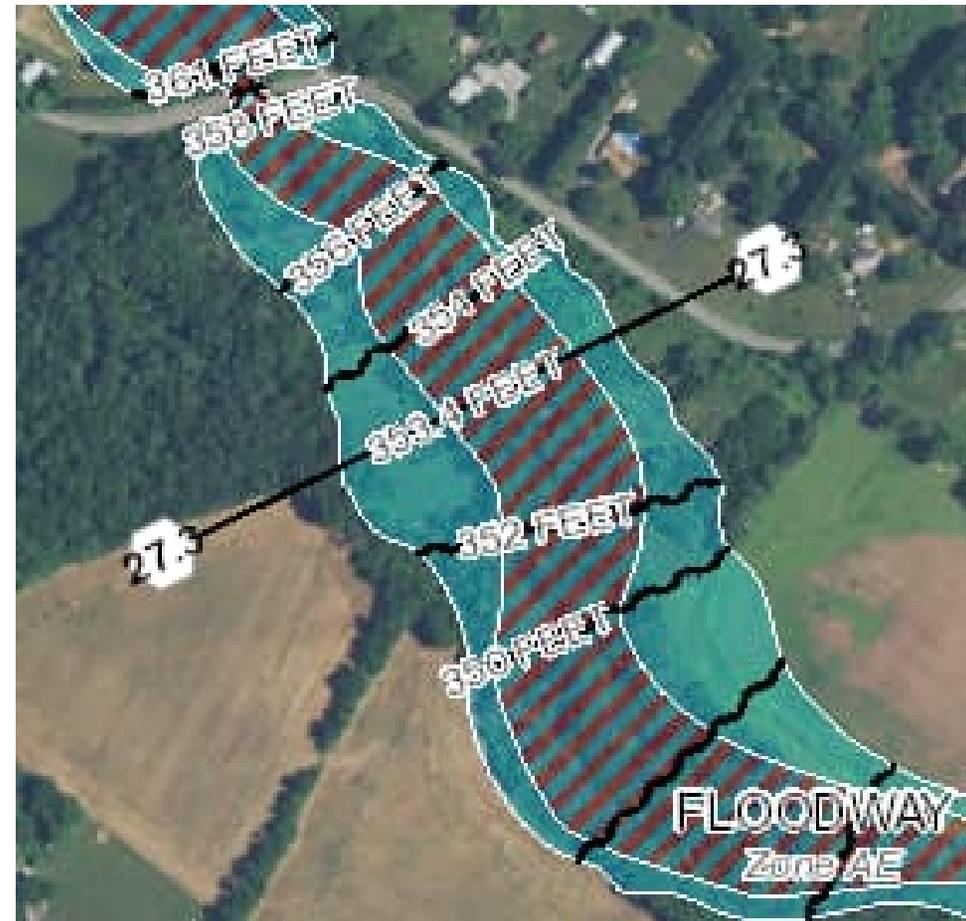


CLOMR Requirement - Floodway



44 CFR 60.3(d)(3)

- Encroachment in Floodway
- BFE increase > 0.00 foot



Maryland Hydraulics Panel Report



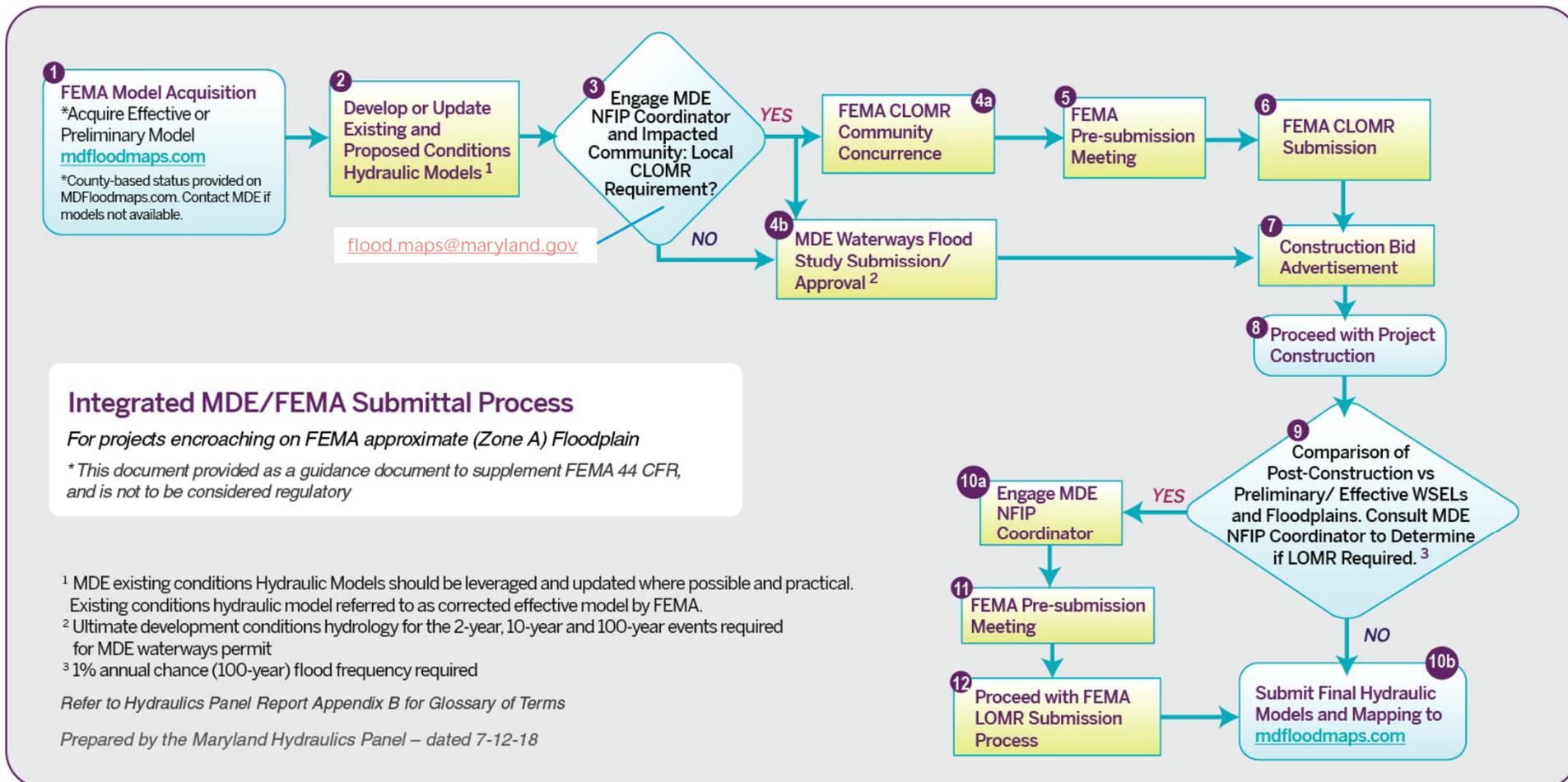
Recommendations for Hydraulic Analysis in FEMA Special Flood Hazard Areas in Maryland, October 2018



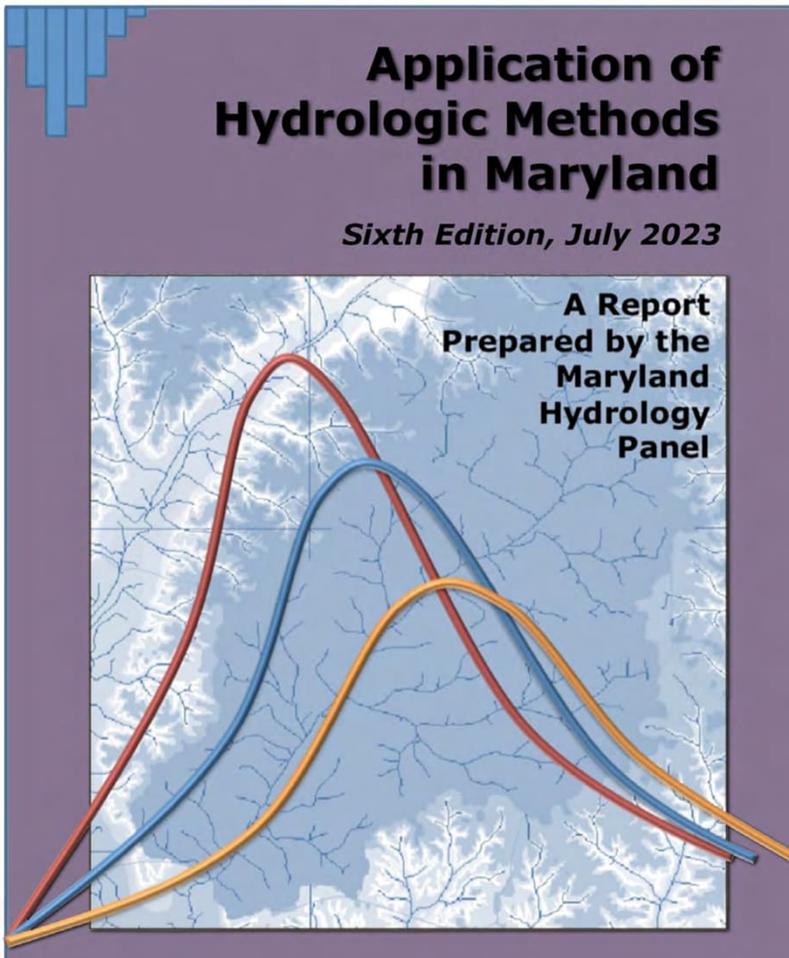
Maryland
Department of
the Environment

http://www.gishydro.eng.umd.edu/hydraulics_panel.htm

Maryland Hydraulics Panel Report



Maryland Hydrology Panel Report



<http://www.gishydro.eng.umd.edu/panel.htm>

- GISHydroWEB
 - <https://maps.roads.maryland.gov/gishydro/>



MT-2 Application Forms and Instructions

**INSTRUCTIONS FOR COMPLETING THE APPLICATION FORMS
FOR CONDITIONAL LETTERS OF MAP REVISION
AND LETTERS OF MAP REVISION**

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Online Letter of Map Change Tool

The Federal Emergency Management Agency (FEMA) has developed the Online Letter of Map Change (LOMC) Tool to allow applicants to submit their requests electronically. This tool is a convenient way for applicants to upload all information and supporting documentation and check the status of their request online. Users can submit requests through this tool instead of filing the paper form via mail. You can find additional information about FEMA's Online LOMC Tool at <https://www.fema.gov/change-flood-zone-designation-online-letter-map-change>.

MT-2 REVISION REQUEST SUBMITTAL CHECKLIST

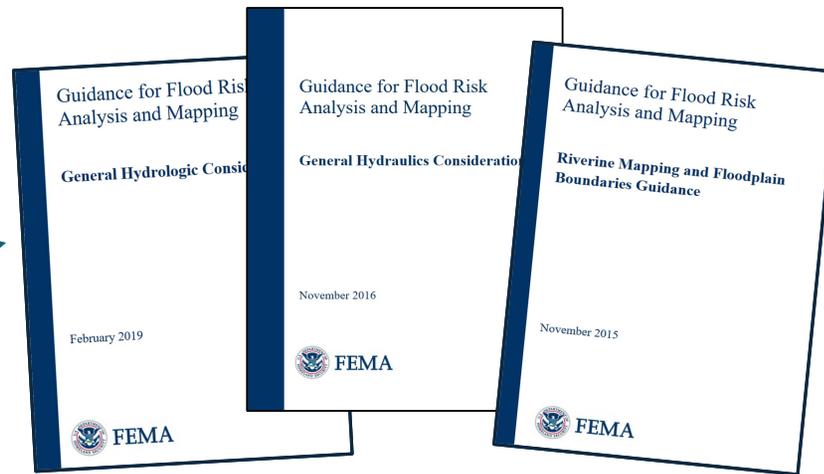
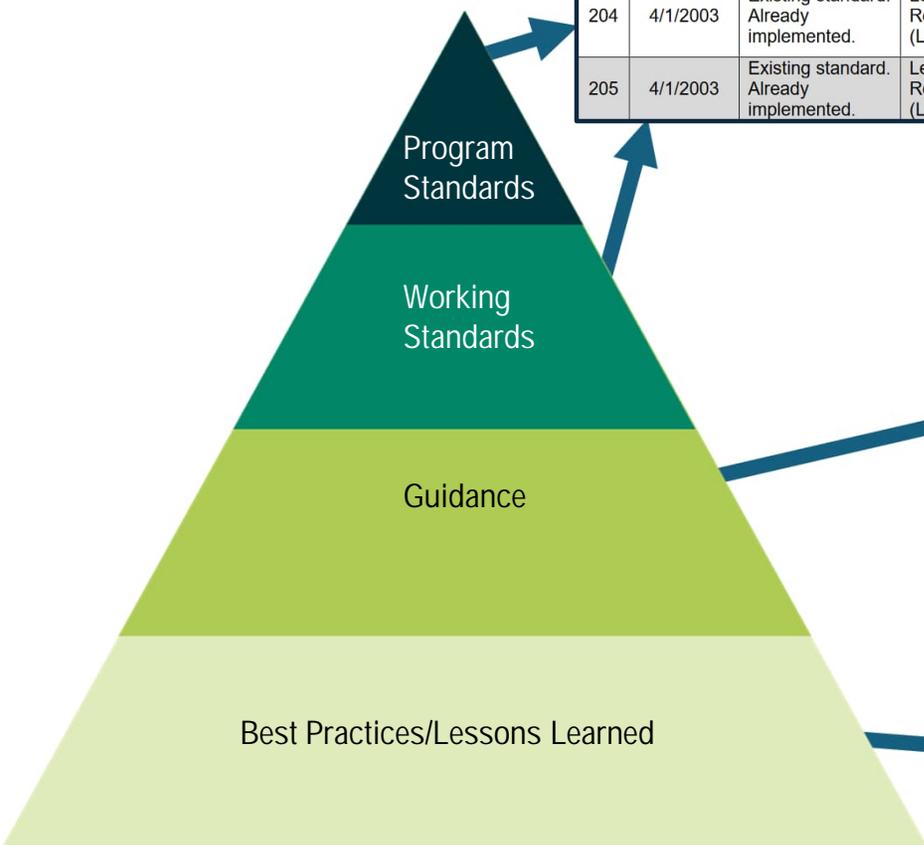
PART A: GENERAL REQUIREMENTS

ELEMENTS	Yes	N/A
NARRATIVE: Please provide a written description of the purpose of the request, the scope of the proposed/as-built project, and the methodology used to analyze the project effects.		
MT-2 APPLICATION FORMS: Please provide completed forms applicable to your request. Ensure that MT-2 Form 1 was signed by the requester, certifying engineer, and each community affected by the revision.		
HYDROLOGIC ANALYSIS: If applicable, please provide a FEMA-acceptable hydrologic analysis in digital format, a drainage area map, and associated backup information (e.g., calculations used to determine lag time, CN, and loss values, as well as land use and soil maps). FEMA-acceptable models can be accessed at https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping-numerical-models-meeting-minimum-requirements .		
HYDRAULIC ANALYSIS: Please provide a FEMA-acceptable hydraulic analysis in digital format. Information on FEMA-acceptable models can be accessed at https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping-numerical-models-meeting-minimum-requirements .		
CERTIFIED TOPOGRAPHIC WORK MAP: Please provide a certified topographic work map that meets the mapping requirements outlined in MT-2 Form 2. If available, please provide spatially referenced Geographic Information System (GIS) data. If GIS data are not available, you may submit digital Computer-Aided Design (CAD) data.		
ANNOTATED FIRM: Please submit a revised Flood Insurance Rate Map (FIRM), at the scale of the effective FIRM, which shows the revised boundary delineation of the base (1-percent-annual-chance) floodplain, 0.2-percent-annual-chance floodplain, and regulatory floodway and how it ties into the boundary delineation shown on the effective FIRM at the downstream and upstream ends of the revised reach.		
REVIEW FEE PAYMENT: Please include the appropriate review fee payment. The current fee schedule is available on the FEMA website at https://www.fema.gov/flood-map-related-fees .		
MEET 65.10 REQUIREMENT: If you intend to show that a berm/levee/floodwall reduces the flood hazard, please submit all the NFIP data requirements outlined in Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations (44 CFR §65.10).		
OPERATION AND MAINTENANCE PLAN: If the request involves a berm, levee, floodwall, dam, and/or detention basin project, please submit an officially adopted operation and maintenance plan.		
PROPOSED/AS-BUILT PLANS: Please submit proposed/as-built plans, certified by a registered Professional Engineer, for all project elements for which this applies.		
FLOODWAY NOTICE: If the revision results in changing or establishing regulatory floodway boundaries, please provide a floodway public notice or a statement by your community that it has notified all affected property owners, in compliance with the National Flood Insurance Program (NFIP) regulations at 44 CFR §65.7(b)(1).		
PROPERTY OWNER NOTIFICATION: If the revision results in any widening/shifting/establishing of a base floodplain and/or any increasing/establishing of Base Flood Elevations (BFEs), please provide copies of the individual legal notices sent to all property owners affected by increased flood hazards.		

- Forms and Instructions available at: <https://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms/mt-2>
- Submit applications online at: <https://hazards.fema.gov/femaportal/onlinelomc/signin>



SID #	Effective Date	Implementation Description	Category	Standard Type	Standard
202	4/1/2003	Existing standard. Already implemented.	Letter of Map Revision (LOMR)	Working Standard	All LOMRs including new grading or structures must include certified as-built construction plans, grading plans, or survey data.
203	4/1/2003	Existing standard. Already implemented.	Letter of Map Revision (LOMR)	Working Standard	If the discharges in the effective FIS Report are not used in the LOMR or CLOMR submittal, the revision requester shall provide sufficient data to support the use of the new discharges for the 1-percent-annual-chance flood and other published flood frequencies.
204	4/1/2003	Existing standard. Already implemented.	Letter of Map Revision (LOMR)	Working Standard	A LOMR or CLOMR in riverine areas must submit a model duplicating the effective hydraulic model (multiple profile and floodway if appropriate). The revision requester shall use it to establish the baseline condition unless an existing conditions hydraulic model is required.
205	4/1/2003	Existing standard. Already implemented.	Letter of Map Revision (LOMR)	Working Standard	For a LOMR or CLOMR, an existing conditions hydraulic model is required if the duplicate effective model does not reflect the floodplain conditions prior to the start of the project.



Any method, in addition to guidance, that helps to meet or exceed Risk MAP standards.

FEMA Guidelines and Standards

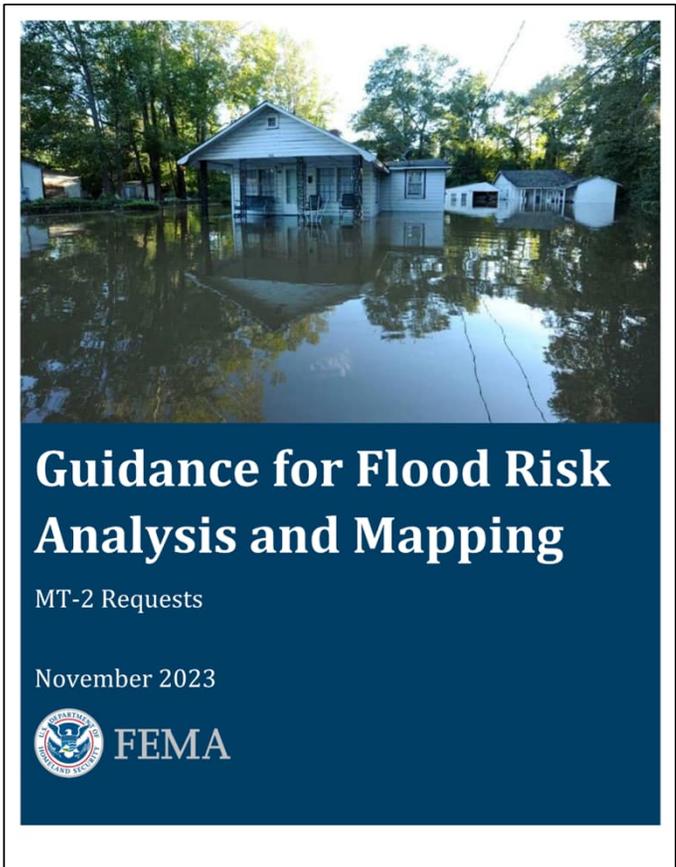


- **Guidelines and Standards:**

- <https://www.fema.gov/flood-maps/guidance-reports/guidelines-standards>

- **MT-2 Guidance:**

- https://www.fema.gov/sites/default/files/documents/fema_rm-mt-2_requests_guidance_nov_2023.pdf



MT-2 Submittal Requirements



Project Narrative

- Describe the project area & what work was done
- Describe the objective of this LOMC (ex: establish BFEs in a previous Zone A)
- Explain engineering judgement, including model input variables, model progression (effective » pre-project » post-project), unique/complex aspects of analysis, etc.
- Provide explanation for any fee exemption or special response requested on MT-2 Forms



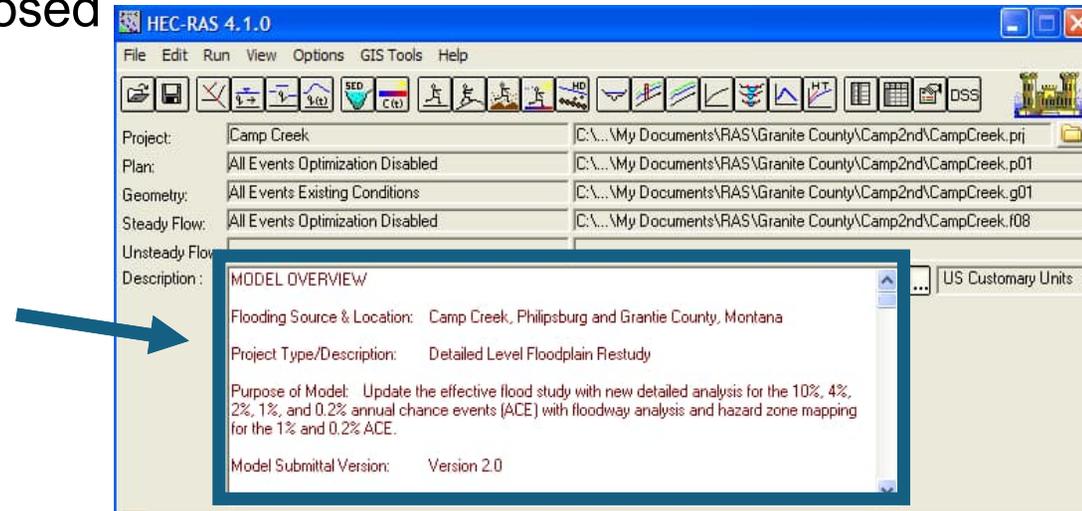
Failure to provide a sufficient narrative, including modeling methods and assumptions, may lead to a misunderstanding by the reviewer and delay the approval.

Submittal Requirements



Hydrologic/Hydraulic Models:

- Provide digital (executable) version of the model
- Document input variables in the report (ex: manning's-n, vertical datum conversions, soil types, rainfall depths, etc.)
- Submit appropriate as-built or proposed plans to verify structures in model (certified & datum listed)
- Recommended to list vertical datum and details in the description box



MT-2 Submittal Requirements



FEMA Accepted Models

- Hydraulics:

- <https://www.fema.gov/hydraulic-numerical-models-meeting-minimum-requirement-national-flood-insurance-program>

- Hydrology:

- <https://www.fema.gov/hydrologic-models-meeting-minimum-requirement-national-flood-insurance-program>

Before you start, ensure you are using a model on the list of FEMA approved models

MT-2 Submittal Requirements



Hydraulic Model Requirements

- CFR 44 § 65.6(a)(2): When BFEs established, a revised analysis **must tie-in vertically within 0.5-ft** at upstream and downstream ends.
- CFR 44 § 65.6(a)(7)&(8): A revision must study the **same recurrence intervals as studied in the effective FIS** (e.g., 0.2%, 1%, 2%, 10%).
- Revisions should be made in the **same model type as the effective.**
- Revision should be incorporated into the effective model and not truncated to the revision area.
 - Obtain effective modeling from FEMA:
https://www.fema.gov/sites/default/files/documents/fema_flood-insurance-study-data-request-form.pdf

MT-2 Submittal Requirements



Hydraulic Model Progression

- Duplicate Effective Model:
 - A reproduction of the Effective model covering the area of revision. (Contact FEMA engineering library or community)
- Corrected Effective Model:
 - Used to correct errors in the Duplicate Effective model. Incorporate updated terrain and additional cross sections. Must not reflect any man-made physical changes since the date of the Effective model
- Existing/Pre-Project Conditions Model:
 - Add any existing projects not captured in the corrected effective model, if applicable.
- Revised/Proposed/Post-Project Conditions Model:
 - Incorporates the subject project into the model.

Recommended to describe changes between models in Project Narrative

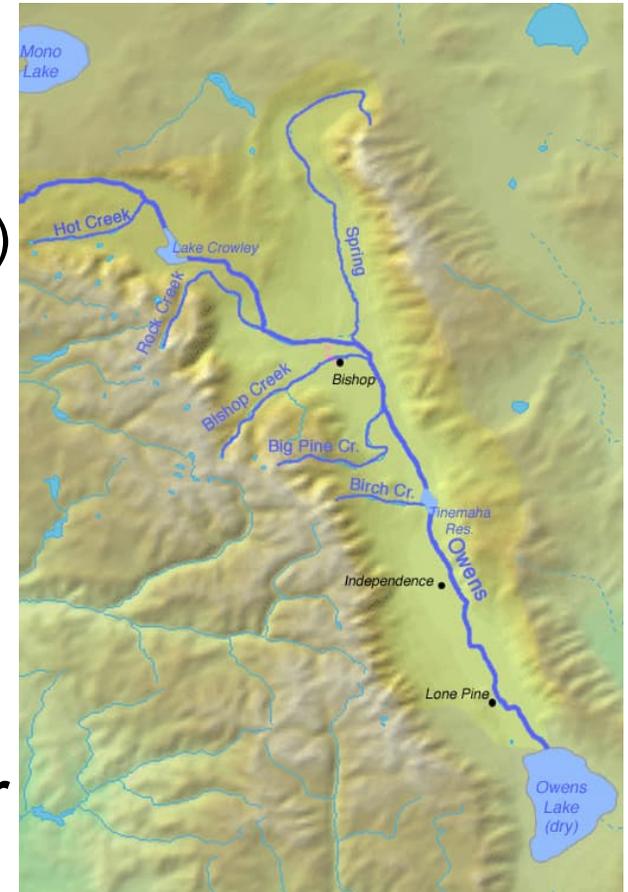
MT-2 Submittal Requirements



Hydrologic Analyses

- All backup calculations (T_c , CN, etc.)
- Supporting data (soil types, land use, gage data)
- Certified topographic drainage area map
- Ensure change in hydrology is significant
- Appropriate level of detail:
 - Gage analysis
 - Rainfall Runoff
 - Regression

Revised hydrology should be as good or better than the effective analysis

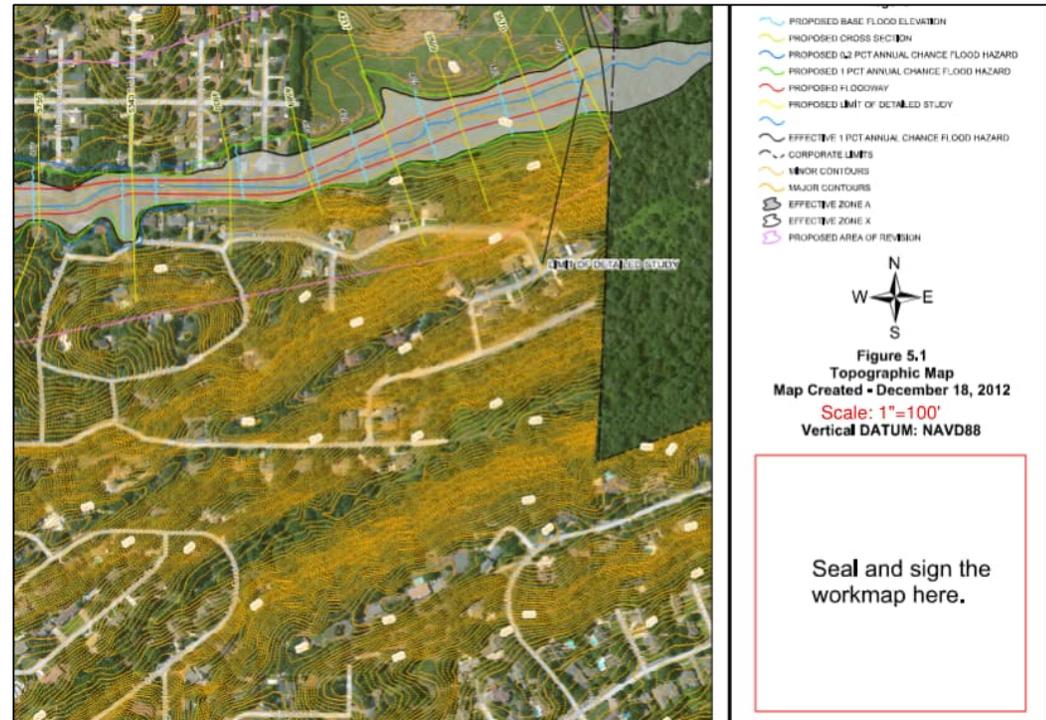


MT-2 Submittal Requirements



Topographic Work Map

- Certified (signed, sealed, dated)
- Effective floodplain delineations
- Revised floodplain delineations
- Graphical tie-in
- Topography: Use best available. Must be as detailed or better than effective.
- Vertical Datum, Scale, North
- Digital mapping files associated to work map (GIS or CAD)

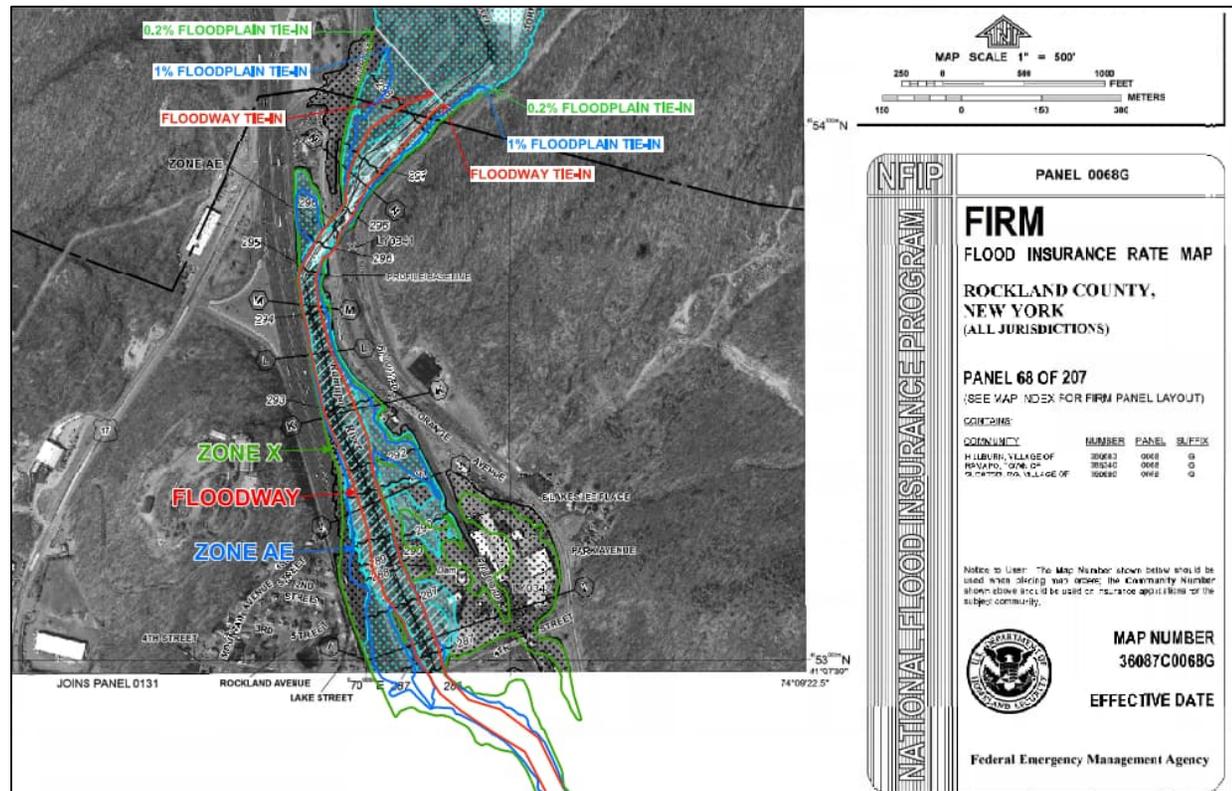


MT-2 Submittal Requirements



Annotated FIRM

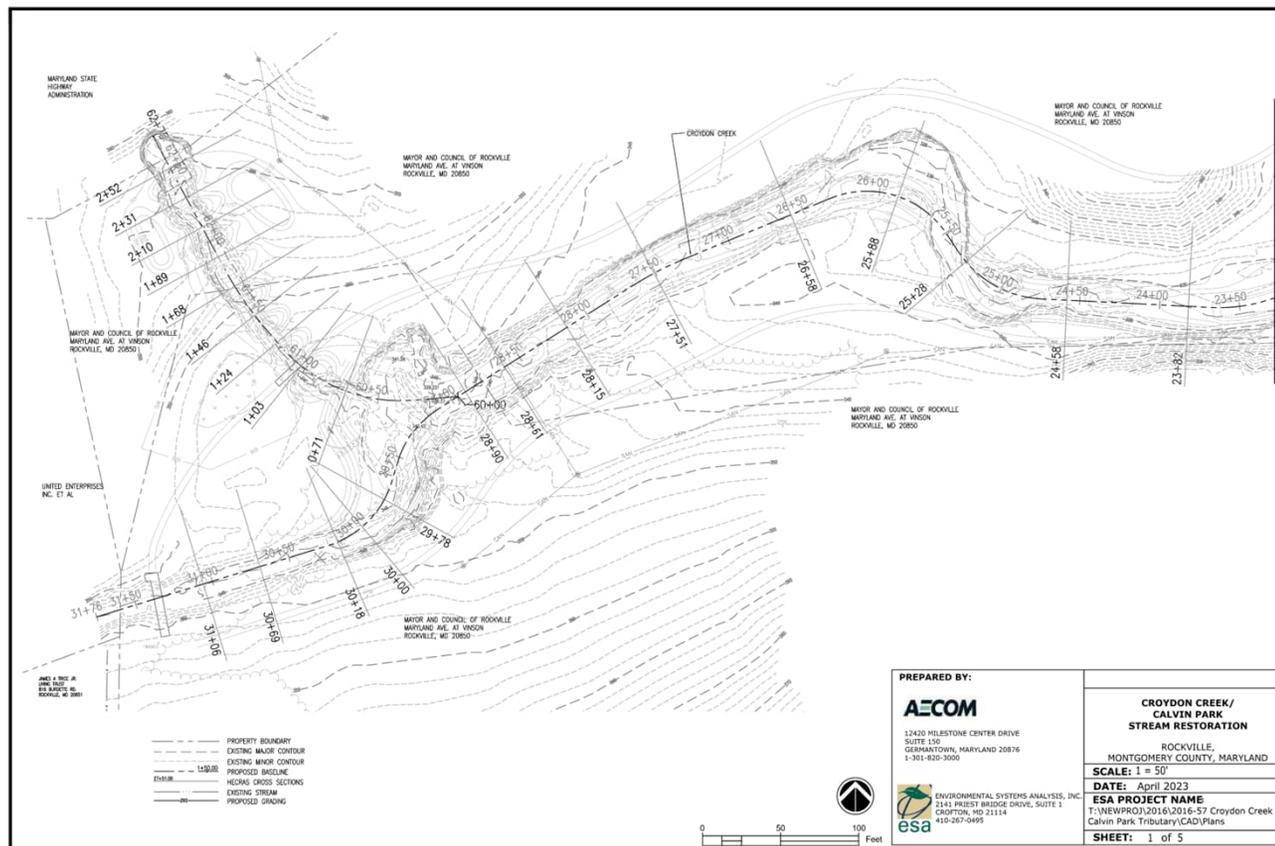
- Obtain effective FIRM
- Overlay revised delineations
- Show floodplain tie-in
- Maintain scale and title block of FIRM



MT-2 Submittal Requirements



As-built / Design Plans



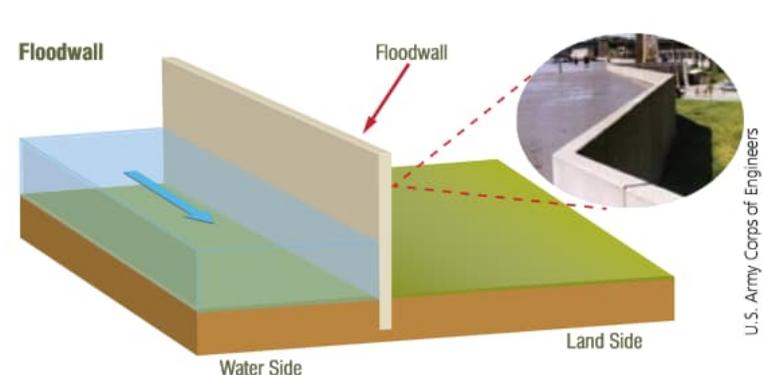
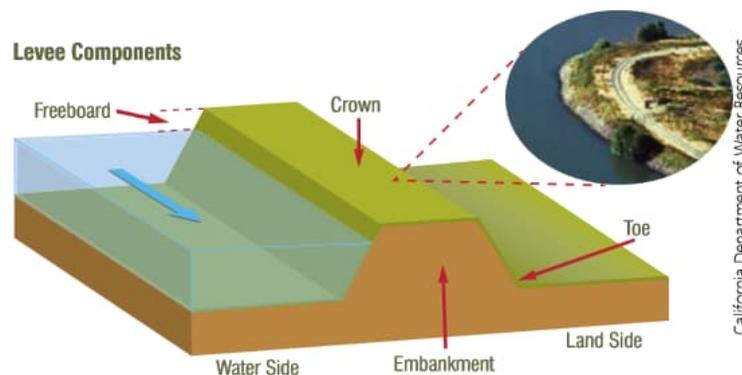
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MT-2 Submittal Requirements

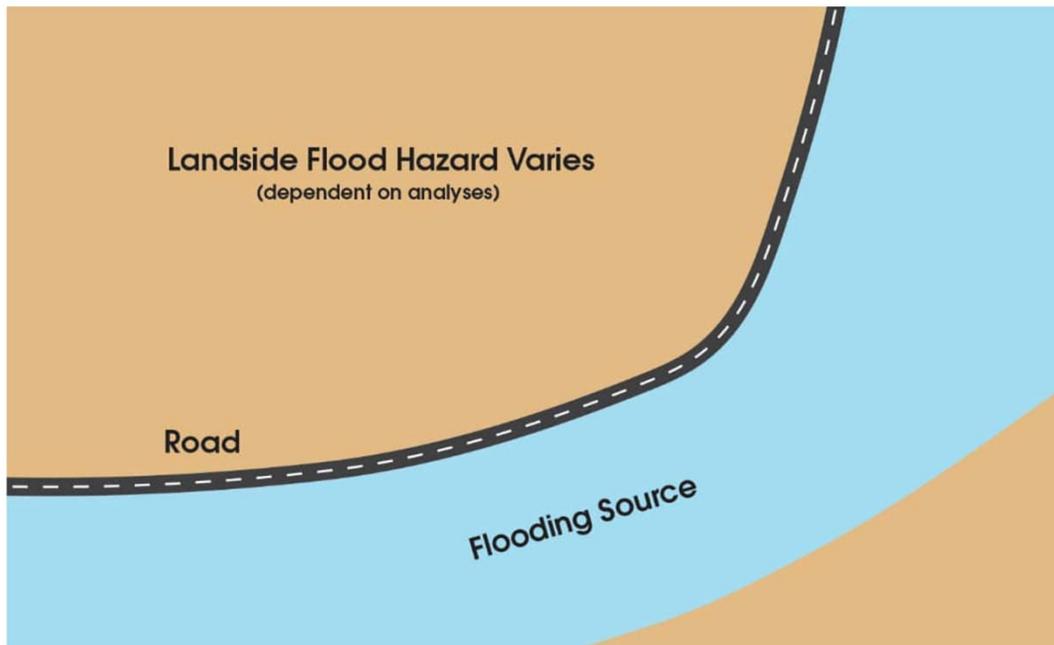


Levee Accreditation Requirements - Listed in 44 CFR 65.10

- 65.10(a) – General Requirements
- 65.10(b) – Design Requirements
- 65.10(c) – Operations Plans
- 65.10(d) – Maintenance Plans
- 65.10(e) – Certification Requirements



MT-2 Submittal Requirements



Non-Levee Features

- Roads, railroads, etc.

MT-2 Submittal Requirements



Property Owner Notification

- Notification may take the form of individual notifications, or newspaper notifications.

Floodway

For floodway revisions, individual notifications must either be sent on community letterhead, or a statement provided by community official that everyone affected by floodway revisions has been notified.

*Newspaper notification still acceptable.

CLOMR

If 65.12 is required, **individual notifications are mandatory.**

- **Property owner notification templates available in MT-2 Instruction package**

MT-2 Submittal Requirements



65.12 Requirements

- CLOMR Only
- When proposed projects are not in compliance with 60.3(c)(10) or 60.3(d)(3)
 - An evaluation of alternatives that would not have caused the BFE increase
 - Individual legal notice to all impacted property owners
 - Certification that no structures are impacted by the BFE increase
- Items required in Zone A when increase > 1.0'

MT-2 Submittal Requirements



Endangered Species Act (ESA)

- CLOMRs and CLOMR-Fs Only
- If Federal Action Agency:
 - “No Effect” made or concurred by the fed. agency
 - “Not Likely to Adversely Affect” determination with concurrence from the Services
 - Biological opinion with “no jeopardy” determination
 - A copy of the federally issued permit
- If no Federal Action Agency:
 - No potential for “Take” exists. The requester will be responsible for the potential for take determination.
 - If a “Take” will or has a potential to occur, they can consider contacting the Services to discuss potential project revisions to eliminate the “Take.”
 - Incidental Take Permit



MT-2 Submittal Requirements



Community Concurrence

The MT-2 Overview and Concurrence form includes a:

Community Concurrence signature from a community official, typically the Floodplain Manager, who acknowledges the LOMR or CLOMR request. And based on the community's review, finds that the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, that all necessary Federal, State, and local permits have been or will be obtained, and for CLOMRs, that the applicant has documented Endangered Species Act (ESA) compliance.

Most FPAs cannot do this alone, based on their typical background, and should ensure that the project or change has been review by appropriate disciplines within the town, including the Town Engineer, Building Code Official, Environmental Committee, etc.

MT-2 Submittal Requirements



Review and Processing Fees

REQUESTS FOR MAP CHANGES REQUIRING SPECIAL TECHNICAL REVIEW	PAPER FORM FEE	ONLINE LOMC FEE
CLOMR based on new hydrology, bridge, culvert, channel or combination thereof	\$6,750	\$6,500
CLOMR based on levee, berm or other structural measures	\$7,250	\$7,000
LOMR based on bridge, culvert, channel, hydrology, or combination thereof	\$8,250	\$8,000
LOMR based on levee, berm or other structural measures	\$9,250	\$9,000
LOMR based on as-built information submitted as a follow-up to a CLOMR	\$8,250	\$8,000
LOMR based solely on submission of more detailed data	Free	Free
LOMR/CLOMR based on structural measures on alluvial fans	\$7,250	\$7,000

Common Issues



Hydrology

- Model/method not FEMA approved
- Drainage area map missing or inadequate
- Backup data/calcs not submitted

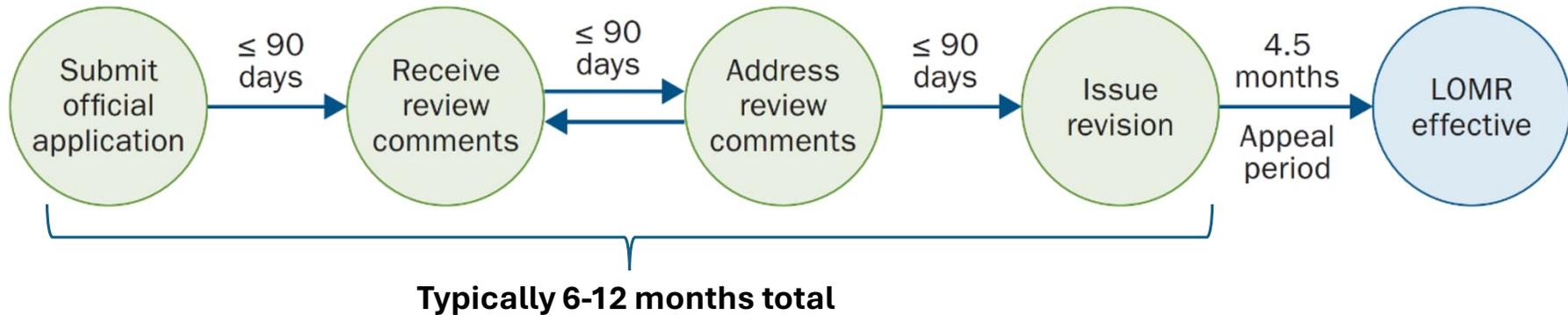
Hydraulics

- Boundary conditions
- Structures not matching plans
- Floodway issues (encroachments, surcharges)
- BFE tie-ins

Mapping

- Doesn't match model results
- Insufficient topo
- No tie-in
- Missing key item(s)

Review and Processing Time



Why submit?



Accurate and up to date flood hazard data

Consequences of not completing the CLOMR/LOMR process

- Inaccurate maps and data
 - Floodplain management decisions
 - Insurance requirements
- Future LOMCs denied/delayed
- Compliance issues with FEMA and MDE



Awareness Month
April 2025



Questions?