

# Guidance for Flood Risk Analysis and Mapping

## **Technical Support Data Notebook and Flood Elevation Determination Docket**

May 2016



**FEMA**

Requirements for the Federal Emergency Management Agency (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) Program are specified separately by statute, regulation, or FEMA policy (primarily the Standards for Flood Risk Analysis and Mapping). This document provides guidance to support the requirements and recommends approaches for effective and efficient implementation. Alternate approaches that comply with all requirements are acceptable.

For more information, please visit the FEMA Guidelines and Standards for Flood Risk Analysis and Mapping webpage ([www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping](http://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping)). Copies of the Standards for Flood Risk Analysis and Mapping policy, related guidance, technical references, and other information about the guidelines and standards development process are all available here. You can also search directly by document title at [www.fema.gov/library](http://www.fema.gov/library).

## Document History

Affected Section or Subsection	Date	Description
First Publication	May 2016	Initial version of new transformed guidance. The content was derived from the <u>Guidelines and Specifications for Flood Hazard Mapping Partners</u> , <u>Procedure Memoranda</u> , and/or <u>Operating Guidance</u> documents. It has been reorganized and is being published separately from the standards.

## Table of Contents

1.0	Introduction .....	1
2.0	Post Preliminary Timeline .....	1
3.0	Compiling the TSDN and FEDD File.....	3
3.1	TSDN.....	3
3.2	FEDD File.....	5
4.0	TSDN and FEDD File Submittal and Archiving.....	6
4.1	Final Submittal.....	6
4.2	Final Archiving.....	7

## List of Figures

Figure 1: PPP Timeline .....	2
------------------------------	---

## List of Tables

Table 1: TSDN Submittal Requirements.....	3
Table 2: FEDD File Components: Stakeholder Engagement Components .....	6

## 1.0 Introduction

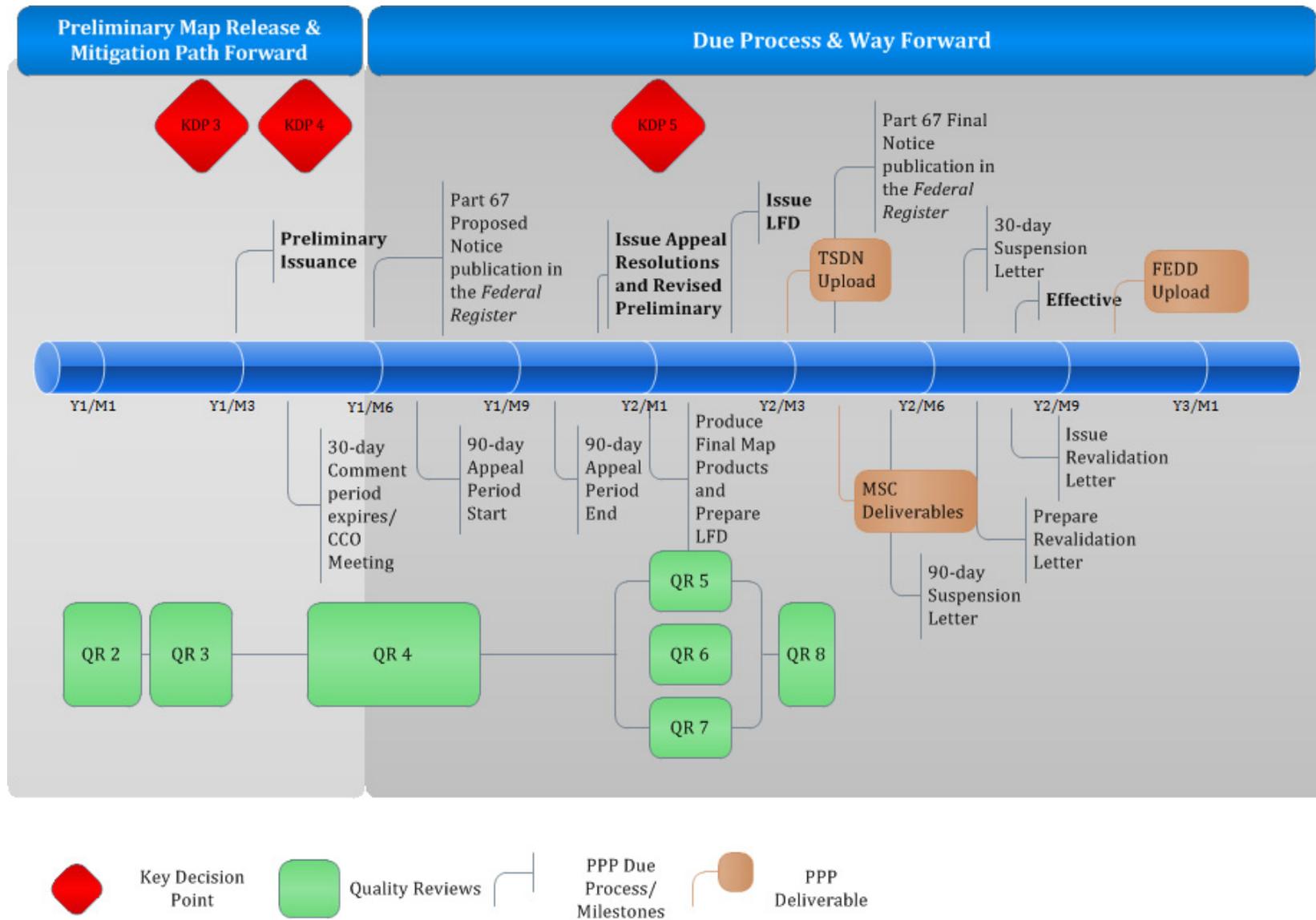
The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is mandated to manage and document flood studies for the National Flood Insurance Program (NFIP). This documentation is used to support future flood study updates, amendments and revisions to effective maps, Freedom of Information Act (FOIA) requests, Congressional inquiries, and governmental policy. It is therefore extremely important that all data associated with these studies are complete and readily accessible through the submittal of the Technical Support Data Notebook (TSDN). Additionally, in accordance with Part 67.3 of the NFIP regulations, FEMA is required to establish and maintain a Flood Elevation Determination Docket (FEDD) file for communities affected by a newly created or updated Flood Insurance Rate Map (FIRM). The documentation in the FEDD file is evidence that FEMA has provided due process to communities impacted by new or updated flood hazard information, and is a component of the overall TSDN.

The purpose of this guidance document is to identify the various data components, both technical and administrative, and provide a consistent structure for submittal and archiving of the TSDN and FEDD file so that study materials are searchable and discoverable via the Mapping Information Platform (MIP) File explorer and/or Flood Risk Study Engineering Library in the MIP. These data components form the scientific, technical, and administrative basis for a Flood Risk Project and are needed in the future to address challenges or changes to the maps. The data are developed throughout the duration of a Flood Risk Project and are submitted to the MIP at the appropriate workflow step and as defined in the [Data Capture Guidance](#) documents, and should be retained by the Mapping Partner as specified in their contract.

## 2.0 Post Preliminary Timeline

Figure 1 depicts the overall Post Preliminary Processing (PPP) timeline of Flood Risk Projects to demonstrate where the TSDN and FEDD file actions occur.

Figure 1: PPP Timeline



## 3.0 Compiling the TSDN and FEDD File

### 3.1 TSDN

The TSDN is defined as the complete set of the most up-to-date engineering and mapping data associated with a Flood Risk Project accompanied by the applicable Flood Risk Project administration and/or process documentation (e.g. Project Narratives, project correspondence, FEDD file, TSDN checklist, certification, Engineering Data, etc.). This definition replaces the previous working definition of the TSDN as a hardcopy notebook that was submitted at the end of each mapping project, as well as partial digital TSDN submissions. For the purposes of this guidance document, specific information related to the FEDD file will be referenced separately in Section 3.2.

The bulk of the TSDN (i.e., the engineering and mapping data and narratives describing them) is developed and captured throughout the duration of the project and is submitted to the MIP at the appropriate workflow step. Additional TSDN data, such as appeal data received, Correspondence, Discovery (Scoping), FEDD file, Floodplain Boundary Standards Reports, and any Supporting Artifacts, may also be submitted at the end of the Flood Risk Project.

Related guidance on data capture and deliverables related to the TSDN, which defines the folder structure, type and format of the data required, upload steps, and procedures to follow for any data revisions, and is provided in Table 1.

The TSDN checklist template, which includes all of these components, is available at [www.fema.gov/media-library/assets/documents/32786?id=7577](http://www.fema.gov/media-library/assets/documents/32786?id=7577)

**Table 1: TSDN Submittal Requirements**

<b>Flood Risk Project Phase</b>	<b>Guidance or Reference Document</b>
<b>Discovery</b>	<ul style="list-style-type: none"><li>• <a href="#">Data Capture Technical Reference</a></li><li>• <a href="#">Data Capture Guidance</a></li><li>• <a href="#">Data Capture - Workflow Details Guidance</a></li><li>• <a href="#">MIP Guidance</a></li><li>• <a href="#">Guidance for Stakeholder Engagement: Discovery Phase</a></li><li>• <a href="#">Guidance for Stakeholder Engagement: Data and Product Development Phase</a></li></ul>
<b>Data Development</b>	<ul style="list-style-type: none"><li>• <a href="#">Data Capture Technical Reference</a></li><li>• <a href="#">Data Capture Guidance</a></li><li>• <a href="#">Data Capture - Workflow Details Guidance</a></li><li>• <a href="#">MIP Guidance</a></li><li>• <a href="#">Coastal Data Capture Guidance</a></li></ul>

Flood Risk Project Phase	Guidance or Reference Document
	<ul style="list-style-type: none"> <li>• <a href="#"><u>Coastal Study Documentation and Intermediate Data Submittals Guidance</u></a></li> <li>• <a href="#"><u>Levee Seclusion Guidance</u></a></li> <li>• <a href="#"><u>Quality Management Guidance</u></a></li> <li>• <a href="#"><u>Quality Review Guidance</u></a></li> </ul>
<b>Preliminary/Revised Preliminary</b>	<ul style="list-style-type: none"> <li>• <a href="#"><u>Data Capture Technical Reference</u></a></li> <li>• <a href="#"><u>Data Capture Guidance</u></a></li> <li>• <a href="#"><u>Data Capture - Workflow Details Guidance</u></a></li> <li>• <a href="#"><u>MIP Guidance</u></a></li> <li>• <a href="#"><u>Preliminary Distribution and Revised Preliminary Guidance</u></a></li> <li>• <a href="#"><u>Floodplain Boundary Standards (FBS) Guidance</u></a></li> <li>• <a href="#"><u>Quality Management Guidance</u></a></li> <li>• <a href="#"><u>Quality Review Guidance</u></a></li> </ul>
<b>Post Preliminary</b>	<ul style="list-style-type: none"> <li>• <a href="#"><u>Data Capture Technical Reference</u></a></li> <li>• <a href="#"><u>Data Capture Guidance</u></a></li> <li>• <a href="#"><u>Data Capture - Workflow Details Guidance</u></a></li> <li>• <a href="#"><u>MIP Guidance</u></a></li> <li>• <a href="#"><u>Post-Preliminary Deliverables Guidance</u></a></li> <li>• <a href="#"><u>Floodplain Boundary Standards (FBS) Guidance</u></a></li> <li>• <a href="#"><u>Quality Management Guidance</u></a></li> <li>• <a href="#"><u>Quality Review Guidance</u></a></li> </ul>
<b>Notice to User Revisions</b>	<ul style="list-style-type: none"> <li>• <a href="#"><u>Data Capture Technical Reference</u></a></li> <li>• <a href="#"><u>Data Capture Guidance</u></a></li> <li>• <a href="#"><u>Data Capture - Workflow Details Guidance</u></a></li> <li>• <a href="#"><u>MIP Guidance</u></a></li> <li>• <a href="#"><u>Notice-to-User Revisions Guidance</u></a></li> </ul>

Flood Risk Projects include non-regulatory Flood Risk Products for watershed and coastal projects. Submittal of data for these types of products is also defined in the guidance documents referenced above.

## 3.2 FEDD File

The FEDD file (one PDF file per community), a component of the TSDN, is a file maintained by FEMA that includes all correspondence between FEMA and the community concerning a flood study (reports of meetings held among FEMA representatives, community representatives, the State NFIP Coordinator, private citizens, FEMA and community contractors, or other interested parties; relevant publications, etc.).

The FEDD file checklist template, which includes all of these components, is available at [www.fema.gov/media-library/assets/documents/32786?id=7577](http://www.fema.gov/media-library/assets/documents/32786?id=7577).

Related guidance on data capture and deliverables for the FEDD File is provided in the following documents:

- [Data Capture Technical Reference](#),
- [Data Capture Guidance](#),
- [Data Capture - Workflow Details Guidance](#),
- [MIP Guidance](#),
- [Post Preliminary Deliverables Guidance](#),
- [Guidance for Stakeholder Engagement: Discovery Phase](#),
- [Guidance for Stakeholder Engagement: Data and Product Development Phase](#)
- [Guidance for Stakeholder Engagement: Preliminary National Flood Insurance Program Map Release Phase](#).

As part of Section 216 of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW12) as amended by the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA), FEMA is required by Congress to implement requirements that have updated the FEDD file components identified in the Post Preliminary Deliverable Guidance and are identified below in Table 2.

**Table 2: FEDD File Components: Stakeholder Engagement Components**

FEDD Component	Description
<b>Before Data and Product Development Phase</b>	
<b>Stakeholder Engagement: Mapping Processes and Modeling Correspondence</b>	Before commencing the analysis and mapping activities that take place during the Data and Product Development Phase of a flood risk study, Project Teams shall provide a written notification to community Chief Executive Officer and Floodplain Administrator that explains selected mapping processes and modeling, explains why chosen processes and models are appropriate.
<b>Data and Product Development Phase</b>	
<b>Stakeholder Engagement: Data Submission Correspondence</b>	Prior to completion of Quality Review 1, Project Teams shall transmit a copy of the draft FIRM database and other contributing data as requested to the affected community Chief Executive Officers and Floodplain Administrators, provide a 30-day period during which the affected communities may provide data to FEMA that can be used to supplement or modify the existing data, and incorporate any data that are consistent with prevailing engineering principles. This will include correspondence that is sent to the communities as well as what is received from the community.
<b>Preliminary and Due Process Phases</b>	
<b>Stakeholder Engagement: Flood Map Revisions and Appeals Processes Correspondence</b>	During the Preliminary NFIP Map Release and Due Process phases of the lifecycle for a flood risk study, the Project Team shall work with the FEMA Regional Office of External Affairs, other FEMA staff, community officials, and local radio and television outlets to further educate property owners about flood map revisions and appeals processes.

## 4.0 TSDN and FEDD File Submittal and Archiving

### 4.1 Final Submittal

The TSDN must be submitted throughout the duration of the project by the designated Mapping Partner responsible. Key Decision Point 4, which occurs after preliminary issuance and prior to initiation of an appeal period, requires the TSDN be prepared and available if requested by a potential appellant. The designated Mapping Partner must complete and upload the TSDN Checklist and Project Completion Certification form to the MIP as soon as possible, but no later than 30-days after the LFD has been issued. Mapping Partners should include all MIP Study Case Numbers that are part of the Flood Risk Project, including regulatory as well as any Flood Risk Product case numbers or any case numbers associated with Revised Preliminaries.

If a Mapping Partner is only funded to complete portions of the Flood Risk Project, as per Standards #82 and #174, a Project Completion Certification is required to be submitted, as outlined in Data Capture – General Guidance, along with a completed TSDN Checklist identifying all data components that the Mapping Partner has been scoped to submit.

All mapping partners must submit the FEDD file (one PDF file per community) to FEMA HQ (or its designee) for review during Quality Review 6 (60 days before the LFD is scheduled to be issued), along with the FEDD file checklist. Any deficiencies found in the due process steps discovered through the FEDD file review may result in a cancellation of the LFD.

FEMA HQ (or its designee) will maintain the FEDD file beginning with the issuance of the LFD and will add copies of all correspondence issued after that date.

TSDN and FEDD file checklist templates as well as the Project Completion Certification form are available at [www.fema.gov/media-library/assets/documents/32786?id=7577](http://www.fema.gov/media-library/assets/documents/32786?id=7577).

## **4.2 Final Archiving**

The complete TSDN, including FEDD file, for each community will be archived to the MIP by FEMA HQ (or its designee) no later than 60-days following the FIRM effective date. Data components that are added by FEMA HQ or their designee after Letter of Final Determination (LFD) is issued include correspondence and tracking documentation of LFD Letters and Final Summary of Map Actions (SOMA), Suspension Letters, where applicable, that have been mailed, and Revalidation Letters, where applicable, that have been mailed.

The guidance provided in this document is designed to help Mapping Partners upload a complete set of the most up-to-date data, both technical and administrative, associated with a Flood Risk Project. This will ensure that all study materials are searchable and discoverable via the MIP File Explorer and/or the Flood Risk Study Engineering Library in the MIP and that data duplication is minimized. This is an important responsibility for all Mapping Partners and Mapping Partners must certify they have successfully delivered all project documentation.